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# ECOUPDATE

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## MONTHLY CALIFORNIA ENVIRONMENTAL LAW & POLICY UPDATE

### ENERGY — ROOFTOP SOLAR

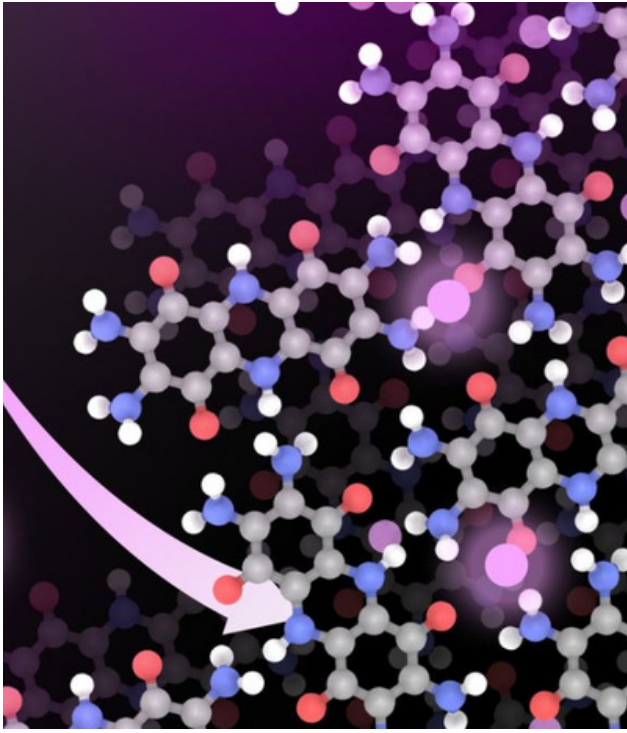
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Applications for residential rooftop solar installations in California declined more than 80 percent during the second half of 2023 compared to the same period a year earlier. The decline appears to be a direct result of the PUC's decision to adopt a new rate structure that cut by 75 percent the rate utilities pay homeowners who install new solar panels. The new rate structure went into effect in April 2023. Reports indicate that most solar installation companies have drastically cut their workforces with an estimated 17,000 lost jobs in 2023.

### CLIMATE — LEGAL CHALLENGES TO SB-253/SB-261

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On January 30, a group of industry and agricultural groups, led by the US Chamber of Commerce, filed suit against CARB in federal court in Los Angeles challenging recent California legislation requiring the disclosure of greenhouse gas emissions data by large companies doing business in California. The complaint argues the legislation compels the affected companies to make burdensome disclosures about their operations in order to stigmatize those companies and shape their behavior. The complaint alleges violations of the First Amendment (forced speech), the Commerce Clause (regulating out-of-state conduct) and the Supremacy Clause (pre-emption by the Clean Air Act).



## ENERGY — COBALT-FREE BATTERIES

On January 18, researchers at MIT published a study in the journal ACS Central Science demonstrating that a cathode made of an organic molecule, bis-tetraaminobenzoquinone (TAQ), performs as well as a cobalt-based cathode in lithium-ion batteries. TAQ is a fused conjugated molecule with a layered solid-state structure (not unlike graphite) with high electrical conductivity, high storage capacity, and complete insolubility in battery electrolytes. TAQ is synthesized from quinone and amine precursors, which are commercially available as commodity chemicals. The new material holds the promise of eliminating the use of cobalt in lithium-ion batteries, which is problematic due to its scarcity and high cost. Lamborghini funded the research effort and has licensed the patent on the technology.

## CLIMATE — CAP AND TRADE

On February 13, the Senate EQ Committee and a Senate budget subcommittee held a joint hearing on the cap-and-trade program which the Legislature has been asked to reauthorize past 2030. CARB intends to substantially amend the program to tighten the overall emissions cap each year from 2025 through 2030 and to lower greenhouse gas allowances that are allocated to industry sectors. During the hearing, legislators focused on the potential for the proposed changes to increase fuel and electricity costs, which may be further exacerbated by CARB's proposed changes to the low-carbon fuel standard; how revenue from the Greenhouse Gas Reduction Fund should be allocated; and options to reduce pollution in disadvantaged communities. CARB Chair Randolph confirmed that CARB intends to adopt changes to the cap-and-trade program by the end of 2024.





## **CLIMATE — FEBRUARY RAINFALL**

From February 4 to 6, downtown Los Angeles recorded 8.51 inches of rain, the second-highest amount of rain in a three-day span since the US Weather Service began keeping records in 1877. In 2022, researchers at the National Science Foundation published a paper in the journal *Science Advances* using high resolution weather modeling and concluding that California is susceptible to very heavy rainfall events, which have historically occurred about every 150 to 200 years, the last being the Great Flood of 1861. The paper concluded that climate change will cause very heavy rainfall events to occur more frequently and be more severe and stated that California faces a broadly underappreciated risk of infrequent, but very severe flooding.

## **ENERGY — LITHIUM EXTRACTION FACILITY**

On January 30, Controlled Thermal Resources broke ground on an integrated lithium extraction and geothermal energy facility on the Salton Sea in Imperial County—the first of its kind in the world. The first phase of the project is expected to produce 25,000 metric tons of battery-grade lithium hydroxide annually. When fully built out, the facility is expected to produce 340,000 metric tons per year. The process involves extraction of hot lithium-containing brine which is used to generate electricity. Lithium is recovered from the spent brine before it is reinjected into the subsurface. The recovered lithium is processed to produce lithium hydroxide or lithium carbonate for use by battery manufacturers.

## **CLIMATE — LOW CARBON FUEL STANDARD**

On February 14, CARB postponed a public hearing to consider major amendments to its low-carbon fuel standard from March 21 to a later unspecified date. CARB's final draft regulatory proposal includes a required 30 percent cut in the carbon intensity of gasoline and diesel by 2030, 52.5 percent by 2035, 75 percent by 2040, and 90 percent by 2045 compared with a 2010 baseline, among many other changes. Over the next several weeks, CARB staff will discuss and reevaluate the carbon intensity benchmarks, including the proposed step-down in carbon-intensity targets and auto-acceleration mechanisms to increase the stringency of the carbon intensity benchmarks when certain regulatory conditions are satisfied. CARB staff plan to hold a workshop in mid-April 2024 to discuss potential refinements of the proposed regulatory amendments.

## ENERGY — HYDROGEN

On February 2, Assembly Speaker Rivas announced plans to create a new Select Committee on Building a Zero-Carbon Hydrogen Economy which will be tasked with reviewing and identifying key policies to decarbonize the state's hydrogen sector and recommending a policy framework for the hydrogen economy. Hydrogen industry and environmental groups disagree on how to define low-or zero-emissions hydrogen. Industry representatives argue that replacing fossil fuel use with hydrogen for a variety of transportation and stationary sources will significantly reduce greenhouse gas emissions and conventional air pollutants, even if the fuel is not generated from 100 percent zero-emission processes. Environmentalists argue that ramping up hydrogen production may increase greenhouse gas emissions, create health and safety risks, and create competition for scarce water resources.



## ENERGY — NUCLEAR POWER

In late January, Microsoft hired a director of nuclear development acceleration and a director of nuclear technologies. The new hires are charged with creating a program to develop micro modular reactors (MMR) and small modular reactors (SMR) to power datacenters as an alternative to fossil fuels. Microsoft and other players in the datacenter sector are looking into nuclear power to move away from fossil fuels and to meet the expanding energy demands of datacenters and AI processing. The moves are viewed as a long-term play and analysts believe deployment of SMRs to power datacenters is 10 to 15 years away.

## CLIMATE — INFLATION REDUCTION ACT

On January 24, David Wallace-Wells, published a NY Times-sponsored newsletter piece arguing that while the Inflation Reduction Act of 2022 is the most consequential legislative achievement of the Biden Administration, the bill has not become a political lightning rod, or even a salient political issue, unlike the Affordable Care Act of 2010, the most consequential legislative achievement of the Obama Administration. The Affordable Care Act sparked a backlash that drove political discussion for the better part of a decade. By contrast, the Inflation Reduction Act has barely created a political ripple—perhaps due to its deceptive name, its general lack of promotion by the Administration or because a large portion of its benefits flow to red states. In addition, national political discourse has become less substantive and more performative and some notable policy initiatives have been adopted with scant notice.

## ENERGY — LNG EXPORTS

On January 26, the White House announced a pause on decisions related to LNG exports to examine the impacts of LNG exports on energy costs, energy security and the environment. In the past ten years, the US has moved from exporting essentially no natural gas to becoming the world's top supplier due to advances in fracking. Europe is the biggest importer of LNG as it moves sharply away from imports of natural gas from Russia. In European capitals, the announcement was seen as further evidence of US unreliability. On February 8, the Senate Energy & Natural Resources Committee conducted an oversight hearing on the issue. The impacts of the pause are uncertain due to strongly divergent estimates of natural gas demand through 2050. The pause does not impact LNG projects under construction which will boost US LNG export capacity from 126 billion cubic meters per year (bcm/y) currently to 232 bcm/y by 2028.

## CLIMATE — HEALTH IMPACTS

On January 16, the World Economic Forum published a report estimating the impacts of climate change on public health. The report indicated negative health impacts would be driven by six types of events: floods, droughts, heat waves, storms, wildfires, and rising sea levels. The report estimated climate change would cause an additional \$12.5 trillion in cumulative economic losses worldwide by 2050. On an average annual basis, this amounts to \$0.5 trillion. The estimated total global economic output for 2023 was \$104 trillion. The report also estimated additional cumulative worldwide health care costs of \$1.1 trillion by 2050 or \$44 billion on an annual basis. Worldwide health care expenditures are about \$10 trillion annually.

## SPECIES — SALMON STRATEGY

On January 30, the Governor's Office published its California Salmon Strategy for a Hotter, Drier Future. The strategy consists of six elements, including: removing barriers to salmon migration; restoring and expanding salmon habitat; protecting water flows and quality in key rivers; and modernizing salmon hatcheries. Salmon populations in California have been declining for decades and fewer than 80,000 Central Valley fall-run chinook salmon returned to spawn in 2022—a decline of 40% from the previous year and the lowest since 2009. Many of the elements of the strategy are already underway or are under the direction of the federal government, tribes and conservation groups. Some stakeholders labeled the strategy a public relations ploy.



## AIR QUALITY — PARTICULATE MATTER

On February 21, researchers at Emory University published a study in the journal *Neurology* which found a significant association between exposure to PM2.5 and clinical markers for Alzheimer disease. The associations were found to be stronger among individuals without a genetic predisposition to the disease. No mechanism of action was proposed for the health effect. Other recent studies have similarly found associations between air pollution and cognitive impairment.



### ABOUT THE AUTHOR

**Clif McFarland has extensive experience in environmental law with a strong science background. As an MIT-trained engineer, Clif helps his clients to resolve difficult legal problems that are intertwined with complex scientific issues.**