

## POLICY WATCH – February 2019

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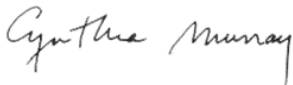


As we end February, current events make it evident that the year ahead will be filled with turbulence, change and challenge. In this issue, we tackle one of the most compelling challenges, not just of 2019, but of this century: climate change and how we prepare and adapt for all that it promises to impact in our lives, economy and environment. We are getting more data from scientists that action needs to be taken now as the accelerated timeline requires our urgent attention. Please read this issue for a deep dive into what we know, what we can do now and going forward, and the need to build strong coalitions to make change happen to minimize the damage of inaction.

Climate change adaption can be a unifying force to bring all the factors that matter into a collective response. We need to look with a new lens that provides a cohesive, integrated approach to ensure that what matters lasts and thrives. New construction, infrastructure improvements, the future of work, healthcare, equity, energy and emergency preparedness all must be guided by the imperative of addressing climate change.

NBLC looks forward to being a part of that coalition and working together to ensure the future prosperity and resiliency of the North Bay!

Best,



Cynthia

### California's Future Threatened by Climate Change

NBLC is elevating fighting climate change as a priority in 2019. If you read the following information, we hope that you will join with us in addressing this true national emergency. The Public Policy Institute of California (PPIC) has taken a deep dive into the impacts of climate change on California's future and what needs to be done to limit the damage. In their report **Climate Change Threatens California's Future** (January 2019, PPIC.org), they found:

"Global emissions of greenhouse gases (GHGs) are raising air and water temperatures as well as sea levels, with serious consequences for California. California's four warmest years on record have all occurred since 2014, and warming is expected to continue over the century. Sea level is predicted to rise 20 to 54 inches on California's coast by 2100, and the frequency of extreme events such as droughts, heat waves, wildfires, and floods is expected to increase. Higher temperatures result in more precipitation falling as

rain (and less as snow), which will increase both the frequency and magnitude of flooding and diminish water reserves in the Sierra snowpack. Even if all GHG emissions ceased today, some of these changes would be unavoidable because the climate system changes slowly.”

“In the face of these threats, California has emerged as a leader in global efforts to reduce GHG emissions. Starting in 2006 with AB 32 (the Global Warming Solutions Act), the state has set increasingly ambitious emission reduction goals. In 2018, Governor Brown—nearing the end of his tenure—issued an executive order that called for California to become carbon neutral by 2045.”

PPIC claims that there is a “twofold policy challenge: finding cost-effective ways to reduce GHG emissions and preparing for the climate changes that are expected even if global emissions are reduced. The California Air Resources Board (CARB), which is responsible for implementing the Global Warming Solutions Act, reported that the state’s emissions in 2016 were already below the 2020 target. CARB updated its Scoping Plan in 2017 to establish a framework for meeting the 2030 target.”

Here’s what PPIC says is underway in California:

- Reducing transportation emissions is key.

The transportation sector is the state’s largest source of GHG emissions (41% statewide in 2016, but as high as 60% in the North Bay). Emissions from transportation have been on the rise since 2013, after having declined significantly from 2007–11. Policies to reduce GHGs include low-carbon fuel standards that aim to lower the carbon intensity of fuels by 10 percent by 2020; a plan to add 1.5 million zero-emission vehicles—or electric vehicles—to roadways by 2025; SB 375, which would reduce vehicle miles traveled by integrating land-use and transportation investments; and a plan to reduce emissions from public transit and freight vehicles.

- The state is increasing its reliance on cleaner energy.

With the enactment of SB 100 in 2018, California is committed to providing 100 percent of its electricity from renewable and carbon-free sources by 2045. This bill also increased the 2030 target for renewable energy to 60 percent. California is well on its way to meeting its 2020 goal of providing one-third of electricity from renewable sources—32 percent of retail electricity sales were served by renewable facilities in 2017. Achieving the goals for 2030 and 2045 will require additional shifts away from natural gas.

- A statewide cap-and-trade program brings flexibility to efforts to reduce GHG emissions.

California was the first state to enact a GHG cap-and-trade program. Adopted in 2011, the program was extended to 2030 in 2017. By allowing businesses to trade emissions permits, cap and trade allows market forces to help determine the cost of reducing emissions. Permit auctions now cover 85 percent of the state’s GHG emissions. The auctions began in 2012 with electric utilities and large industrial emitters; transportation and heating fuels were added in 2015.

- New policies target methane and other potent GHGs.

Short-lived climate pollutants—methane, black carbon, and most fluorinated gases—are powerful climate-warming gases and harmful air pollutants. Together, they account for 14 percent of all GHG

emissions, with methane the largest source at 9 percent. SB 1383 (enacted in 2016) mandates cutting methane and hydrofluorocarbons by 40 percent and black carbon by 50 percent below 2013 levels by 2030, following a strategy proposed by CARB. The proposal could significantly affect California's dairy industry, which is responsible for more than half of the state's total methane emissions.

- Forests, farms, and wetlands provide opportunities to capture and store carbon.

Carbon dioxide can be removed from the atmosphere by plants and stored in vegetation or in soils. The state is developing a strategy to align traditional environmental and economic benefits of natural and working lands with potential carbon storage, using integrated land use approaches. This could create financial incentives to support forestry, grazing, and healthy soils.

Here's a status report from the recently released Fourth Climate Change Assessment, which provides the scientific foundation for understanding climate-related vulnerability:

- The effects of climate change are already evident.

The mountain snowpack is melting earlier; the spring 2015 snowpack was the lowest on record. Average annual temperatures are rising and wildfires are increasing. Warming and more severe droughts are threatening some plants and animals with extinction.

- Air quality will worsen and extreme events will increase.

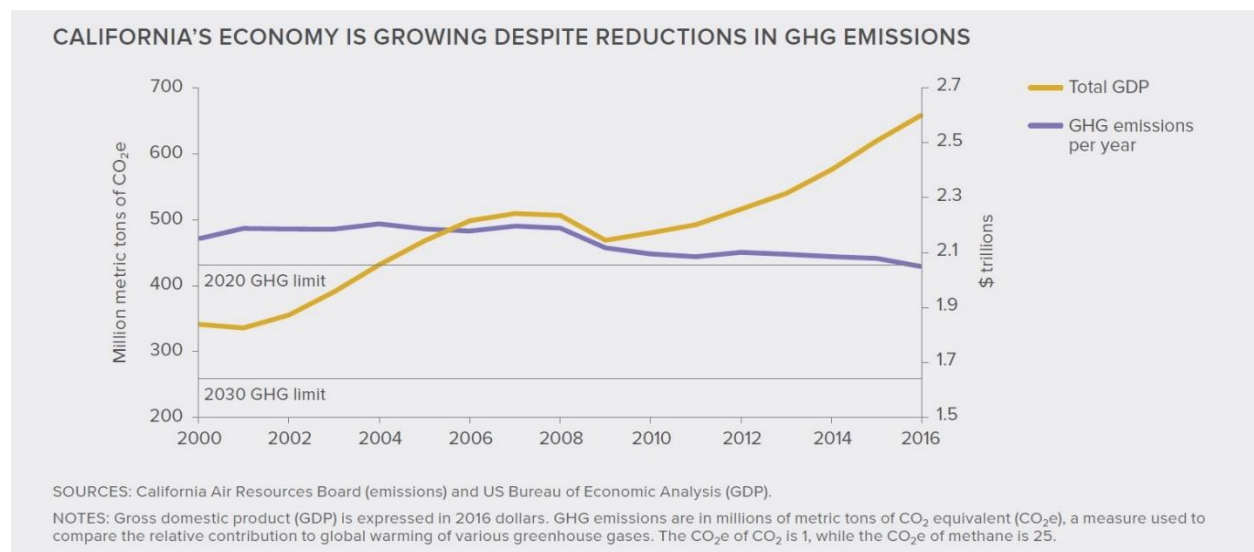
As rising temperatures increase the intensity and spread of smog, the state will probably need additional pollution controls to meet air quality standards. An increase in extreme events—heat waves, wild- fires, and floods—will also threaten public health and challenge the state's health care and emergency preparedness systems.

- Sea level rise threatens coastal infrastructure, homes, and habitat.

Seventy-five percent of California's population lives in coastal counties. By 2040, more than 1,500 miles of roads and 100 miles of railroads will be at risk of flooding. Seaports, airports, power plants, and sewage treatment plants have already experienced climate-driven flooding. Coastal habitat is highly vulnerable to increases in sea level.

- Climate change is increasing wildfire risks.

The scale of wildfires—and the length of the wildfire season—has been growing, with three-quarters of California's 20 largest wildfires sea level rise Inundation with 55-inch sea level rise



- Water management faces challenges.

Climate pressures will make it harder to simultaneously store water for droughts, manage flood risk, and protect freshwater ecosystems. Warming reduces snowpack water and makes drought more severe, while more intense winter storms threaten flood-control structures. Sea level rise threatens the fragile levees of the Sacramento–San Joaquin Delta, which are important for the state’s water supply. The 2017 crisis at Oroville Dam highlighted the risks from aging infrastructure.

- Agriculture will have to adapt to changing conditions.

Reduced water supply reliability and higher temperatures will pose challenges for crop management. Research on heat- and drought-tolerant crops and tools such as localized climate information can help farmers adapt.

- Native biodiversity is under threat.

Climate change places added burdens on many of the state’s plants and animals. As temperatures rise, many species will need to migrate to more hospitable areas, but development patterns could hinder this movement. During the latest drought, hot, dry conditions—similar to those expected in future droughts—put 18 native fish species at high risk of extinction.

- Readiness to cope is variable.

Water and electric utilities have begun to factor climate change into their long-range planning, the state has developed an adaptation strategy for its agencies, and some local governments are developing adaptation plans. But in areas such as ecosystem and flood management, institutional and legal frameworks are ill-equipped to prepare for change.

- The state is providing online adaptation tools for local governments.

Cal-Adapt, the California Adaptation Planning Guide, and the California Local Energy Assurance Planning Tool can help local governments understand their vulnerabilities and prepare for change.

<b>PPIC recommends policy changes to:</b>
Achieve near-term greenhouse emission reductions. Large reductions are needed soon to avoid the most severe effects of climate change. Efforts to accelerate clean energy and transportation can make the greatest impact.
Use land use planning to reduce the effects of climate change. For example, considering climate change in current land use planning could facilitate migrations of species. Limiting development in flood risk areas will avoid future costs.
Review adaptation plans for critical infrastructure. For infrastructure such as dams, aqueducts, and power plants, response plans and funds for upgrades are required to protect public safety and maintain reliable services.
Spend cap-and-trade revenues in priority areas. Cap-and-trade auctions have made large sums available for programs to reduce GHG emissions. In the 2017–18 fiscal year alone, cap and trade provided nearly \$3 billion. Some of these funds are earmarked for programs in economically disadvantaged communities, which are often more vulnerable to climate impacts. Some funds are also supporting innovative projects with limited access to other funding, such as improving forest management to store carbon and helping dairies transform methane into electricity with biodigesters.

Continue to play a leadership role. California's targets to reduce GHG emissions and increase carbon-free electricity reinforce the state's commitment to combating climate change and encourage other governments to take action.

Much of what is recommended is controversial and expensive. But as we look ahead at the burgeoning costs to our infrastructure, health, economy and more, it is time to move into action or the costs will only increase.

## Costs of Climate Change Rising – And the Models Are Flawed in Projecting those Costs Accurately

In CNN's **Climate change will shrink US economy and kill thousands, government report warns**, Jen Christensen and Michael Nedelman, ([Link](#)), report that "the costs of climate change could reach hundreds of billions of dollars annually, according to the report. The Southeast alone will probably lose over a half a billion labor hours by 2100 due to extreme heat."

And then they list the litany of coming ills:

- Farmers will face extremely tough times. The quality and quantity of their crops will decline across the country due to higher temperatures, drought and flooding. In parts of the Midwest, farms will be able to produce less than 75% of the corn they produce today, and the southern part of the region could lose more than 25% of its soybean yield.
- Heat stress could cause average dairy production to fall between 0.60% and 1.35% over the next 12 years -- having already cost the industry \$1.2 billion from heat stress in 2010.
- When it comes to shellfish there will be a \$230 million loss by the end of the century due to ocean acidification, which is already killing off shellfish and corals. Red tides, or algae bloom that deplete oxygen in the water and can kill sea life -- like those that triggered a state of emergency in Florida in August -- will become more frequent.
- Wildfire seasons -- already longer and more destructive than before -- could burn up to six times more forest area annually by 2050 in parts of the United States. Burned areas in Southwestern California alone could double by 2050.
- Dependable and safe water for Hawaii, the Caribbean and others are threatened by these rising temperatures.
- Along the US coasts, public infrastructure and \$1 trillion in national wealth held in real estate are threatened by rising sea levels, flooding and storm surges.
- Energy systems will be taxed, meaning more blackouts and power failures, and the potential loss in some sectors could reach hundreds of billions of dollars per year by the end of the century, the report said.

- The number of days over 100 degrees Fahrenheit will multiply; Chicago, where these days are rare, could start to resemble Phoenix or Las Vegas, with up to two months' worth of these scorching-hot days.
- Sea levels have already gone up 7 to 8 inches since 1900. Almost half that rise has been since 1993, a rate of rise greater than during any century in the past 2,800 years. Some countries are already seeing land underwater.

And those costs seem grim, In **We Are Almost Certainly Underestimating the Economic Risks of Climate Change**, by David Roberts, ([Vox Link](#)), we learn that the models that “inform climate policymaking are fatally flawed.” For example, one of the more famous models, DICE, shows that “a 6-degree rise in global average temperature, which the physical sciences characterize as an unlivable hellscape, would only dent global GDP by 10 percent.”

The lack of good models is stunting the policymaking as it is hard to set proper priorities without data. Models need to be able to be current with changing technology costs. The need to look beyond the electricity sector is stymied “because the transportation sector and especially the industrial sector are resistant to carbon prices. Research is needed to disaggregate those sectors and find the places where policy can gain traction.”

Models often “omit or undercount social benefits like health improvements and reductions in premature mortality from lower air pollution, and reductions in disaster management costs.”

The article concludes that unless and until the models are improved the “economic damages from climate change may not be correctly assessed and could be off by as much as “an order of magnitude.”

The following chart is hopefully based a good model, but it depicts is a scary picture of how income might change due to climate change. Note that our coastal areas are depicted to be increasingly worse off. Now that is a change!

## Climate-related costs by 2080-2099

Estimated income change compared to 2012, by county

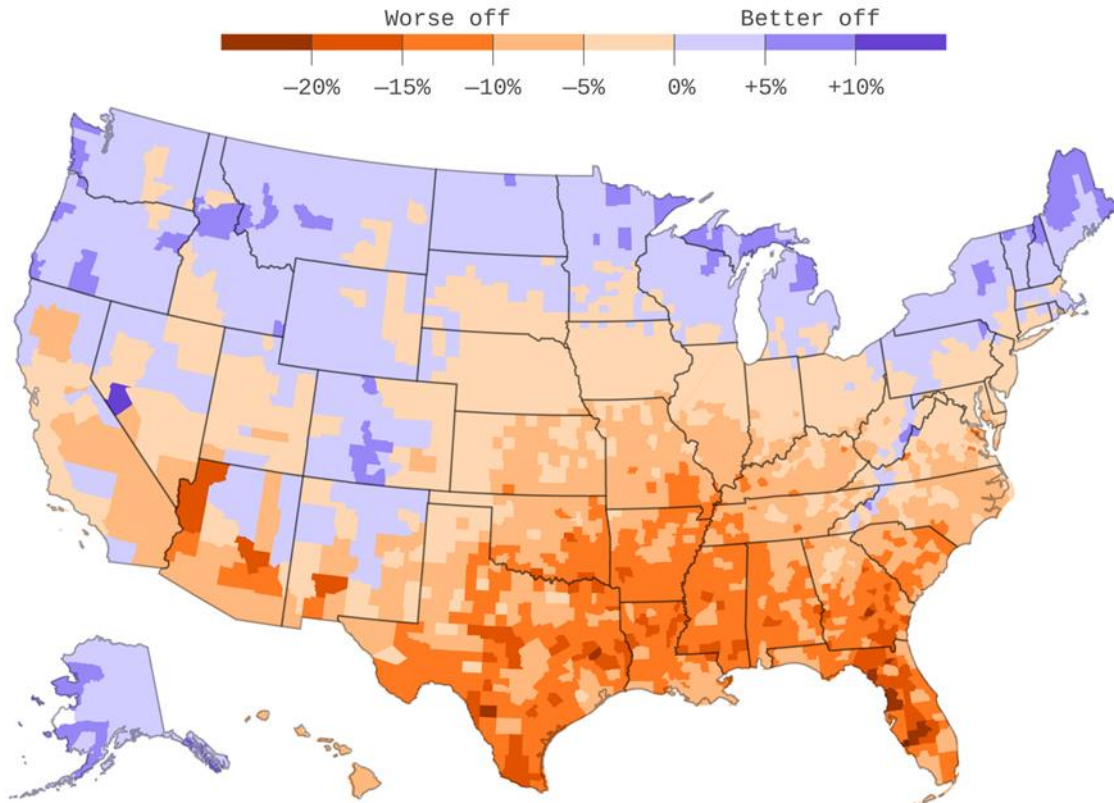


Chart: Chris Canipe/Axios - [Link](#)

### Upcoming Events

**Business Edge Breakfast Briefing – Kara Goldin Built a Company to Last – Her hint: Start with a Healthy Purpose!**

March 5 @ 7:30 am - 9:00 am

**Talent Summit 2019**

March 7 @ 9:00 am - 1:00 pm

**Growth Tour: North Bay**

March 27 @ 1:00 pm - 6:00 pm

## Members in the News

### **Arrow Benefits Group Launches BenefitsTV**

Two young thought leaders from a family-run brokerage outside San Francisco kicked off 2019 by creating and posting content for a new YouTube and Instagram channel featuring short videos related to employee benefit plans.

### **Comcast's 2018 Highlights**

Supporting California Communities in Need.

### **Sonoma Raceway Makes NBC's NASCAR Top 5!**

The 2019 NASCAR season is one of significant change.

### **Kaiser Permanente Grants \$250K to Sonoma Community Resilience Collaborative**

Furthering its commitment to support the post-wildfire healing and recovery of the Santa Rosa community, Kaiser Permanente awarded a \$250K grant to the Sonoma Community Resilience Collaborative.

### **Midstate Residential Construction, Inc. Recently Completed Construction of The District**

Midstate Residential Construction, Inc recently completed construction of The District, a luxury condominium community in San Francisco, CA for owner KB Homes.

### **Sonoma Raceway Raises More Than \$23,000 at John's March**

More than 350 walkers, runners and four-legged friends took to the Sonoma Raceway road course on Saturday for the 8th annual John's March Against Stomach Cancer, the West Coast's only fundraising walk for No Stomach for Cancer.

### **Nelson Releases its 2019 Advisor and Salary Guide for California Employers**

To ring in the New Year, Nelson announces the release of our annual Advisor and Salary Guide.

### **Comcast, Intel to Redefine Home Connectivity, New Immersive Experiences**

We're excited to share details of an exciting collaboration with Intel to redefine connectivity and deliver groundbreaking new experiences to customers.

### **Woodruff Sawyer names Zac Overbay Chief Operating Officer**

Woodruff Sawyer, one of the largest insurance brokerages in the US, today announced Zac Overbay has been named Chief Operating Officer (COO), effective immediately.

### **Woodruff Sawyer Names Norman Allen Chief Revenue Officer**

Woodruff Sawyer, one of the largest insurance brokerages in the US, today announced Norman Allen, Esq. has been named Chief Revenue Officer (CRO) effective immediately.



**Wells Fargo, Scholarship America Invite Veterans to Apply for Scholarships, Emergency Grants**  
Wells Fargo & Company (NYSE: WFC) and Scholarship America announced they are accepting applications for the 2019 Wells Fargo Veterans Scholarship and Wells Fargo Veterans Emergency Grant Programs.

**WBE Teaches Kids About Electromagnetism at NBSDD**

For the second year in a row, WBE has sponsored a booth at the North Bay Science Discovery Day located at the Santa Rosa fairgrounds.

**College of Marin (COM) Board of Trustees Welcomed Suzanne Brown Crow as its Newest Member**

College of Marin (COM) Board of Trustees welcomed Suzanne Brown Crow as its newest member.

Read more online at [www.northbayleadership.org/news](http://www.northbayleadership.org/news)



**Who We Are**

Over twenty five years ago, business leaders founded the North Bay Leadership Council on a simple premise: We can accomplish more by working together. Today, the Council includes 54 leading employers in the North Bay. Our members represent a wide variety of businesses, non-profits and educational institutions, with a workforce in excess of 25,000. As business and civic leaders, our goal is to promote sound public policy, innovation and sustainability to make our region a better place to live and work. For more information: Call 707.283.0028 / E-mail [info@northbayleadership.org](mailto:info@northbayleadership.org)  
[www.northbayleadership.org](http://www.northbayleadership.org)