

## 1: California's Energy Future: The View to | California Council on Science & Technology (CCST)

*Major change at the federal level and increasing pressure from demographic and economic forces are pushing California into uncharted territory. Wide-ranging critical issues—our environment, our health care, the future of our immigrant populations—are prompting state leaders to rethink California's role in national and global communities.*

Flames from a wildfire leap above traffic on Highway north of Ventura, Calif. California burning again. What are the solutions? Get the best you can, at true replacement cost. Richard Halsey, the executive director of the California Chaparral Institute, points out that homes in Australia, where wildfires are common, have sprinkler systems that douse buildings with water. And our guest Alex Hall, who directs the Center for Climate Science at UCLA, says the conditions in California that are causing these wildfires tracks with predictions that are being made about global warming. Jaclyn Cosgrove, reporter for the Los Angeles Times. Richard Halsey, executive director of the California Chaparral Institute. Brown Says "Gov. Jerry Brown surveyed the devastation Saturday in Ventura the area hardest hit by firestorms that have displaced nearly 90, people in Southern California calling it "the new normal. In all, blazes from Ojai to Oceanside have destroyed more than structures and burned, acres. Get Insurance Lots Of It "But after the fires are extinguished, thousands of Californians will learn that they are not prepared, because they do not have enough insurance to rebuild their homes. Worse, they may not receive much, if any, assistance from the federal government. FEMA coffers are being depleted from the rising number of annual declared disasters, and federal policy under the current administration seems to change by the day. There are no guarantees. We need to stop having the same conversation over and over again, a conversation laced with non-sequiturs and focused on outdated, ineffective solutions. The devastating loss of life, the destruction of so many family homes, and the dangers faced by those who protect us demand nothing less. Homes, farms and animals incinerated, leaving behind a charred landscape. Governor Jerry Brown says global warming means this is the new reality. But wildfires are nothing new, and some say this is not the result of natural disaster, but of disastrous planning.

**2: Constructing California's Future | CSU**

*California, many say, is the future. A center for creative industries and new technologyâ€”look at its impressive rollout of electric vehicles and autonomous carsâ€”it's also a diverse state.*

The technology to do more with less energy and produce the electricity and fuel we need to get to the 60 percent mark is either in demonstration, or already in use. Pushing on to a full 80 percent reduction in emissions will require significant levels of research, development, invention and innovation, the report states. The total commitment necessary to achieve this accelerated pace will require strong societal and policy backing because there are less than 40 years to make a nearly total change-over to the required technology. Essentially, in this time period, every existing building will either be retrofit to higher efficiency standards or replaced, 60 percent of light-duty vehicles will use electricity, so that the average fuel economy will be roughly 70 miles per gallon. Additionally, the electricity generating capacity of the state will be almost entirely replaced and then doubled, and all with near zero-emission technology. Meanwhile, infrastructure to produce biofuels â€” costing tens of billions of dollars â€” will have to be built, biofuel imports must become available, and fossil fuel use will have to decline dramatically. Getting to the 60 percent mark, on technology either at commercial scale or in development, can be accomplished through four key strategies: Aggressive efficiency measures for buildings, industry and transportation to reduce the need for both electricity and fuel. Electrification of transportation and heat wherever technically feasible to avoid fossil fuel use as much as possible. Developing emission-free electricity production with some combination of renewable energy, nuclear power and fossil fuel accompanied by underground storage of the carbon dioxide emissions, while at the same time nearly doubling electricity production. Finding supplies of low-carbon fuel to supply transportation and heat use which cannot be electrified, such as for airplanes and heavy duty trucks, and high quality heat in industry. The report examines a suite of emission-free technologies, some everyday and others exotic. Stringent energy-efficiency standards for buildings and industry, electric vehicles, electric heat pumps, nuclear, solar and wind power, and biofuels are among commonly known clean energy solutions described in the report. Still other methods include carbon capture and storage for fossil fuel electric generation, and eliminating emissions from hydrogen production. Aggressive new efficiency measures could reduce the demand for electricity by about a third, and for fuel by half. Incentives to electrify transportation and heat production would increase the requirement for electricity, but cut fuel demand by yet another third. Even with these measures, by California would need about twice as much electricity as we use today and still nearly 70 percent of the fuel consumed today. This means that California must couple efforts to increase the amount of renewable energy with another effort to find ways to match supply and demand without burning natural gas. We will need major advances in energy storage and the construction and management of a smart grid to do this. Nuclear power can provide constant, reliable emission-free energy with a much lower and more easily met requirement for load balancing. California could continue to utilize fossil fuel for electricity production if we capture the resulting emissions and pump them underground, and the state has many decades of underground storage capacity for carbon dioxide. The report recommends a balanced portfolio that uses some of each of these sources â€” renewables, nuclear and fossil fuel with carbon capture and storage â€” and a strong commitment to eliminating emissions from load balancing. The report revised upwards estimates of the amount of sustainable biomass available to produce energy in California solely from wastes and crops grown on marginal lands, without fertilizer or irrigation, and estimated how much more might be imported from countries such as Brazil. The report identified a large range in possible amounts of biomass that could be counted on for bio-energy without impacting food or water supplies. If the remaining fuel use is from fossil fuels, the emissions from this source would exceed the target. Consequently, the report concludes that biofuels are an important part of our future, but California should also be looking to alternatives for low-carbon fuel that do not require biomass. The problem of getting from 60 percent to a full 80 percent reduction in emissions from the level will require technologies that are not currently on the market, or even in demonstration. Further, California would require a combination of several strategies to make the target that might include, for

example, new energy storage technology, advances in the smart-grid, advances in biofuel technology, new ways to provide low carbon fuels that are not based on biomass, as well as behavior changes that would reduce demand. California is also a leader in the development of breakthrough, game-changing technology that could dramatically change outcomes, especially beyond The state leads the world in developing fuel from sunlight and in the prospect of using fusion to produce safe energy without producing a large problem with nuclear waste. Bechtel Foundation and the California Air Resources Board and completed by committee of volunteers from major energy research institutions in the state.

**3: California's Future In The Age Of Wildfires | On Point**

*Higher education benefits individuals and the state: college graduates are more likely to be employed and earn higher wages than nongraduates, which boosts state tax revenues and reduces pressure on the social safety net.*

Randolph, California Public Utilities Commission. But the state also has more than 30, MW of existing natural gas-powered capacity that is part of our electricity grid. As we transition away from fossil fuels to GHG-free resources, what is the role of that gas fleet? My Commissioner colleagues and I are examining that question now as we work to determine how California can deploy the existing fleet to help the state transition to a clean energy future, and at the same time seek to reduce the impacts of such plants on disadvantaged communities. Natural gas and The core issue we must grapple with is that even in our most aggressive emissions reduction scenarios, natural gas is very much present in our electric portfolio in How do we know? My fellow Commissioners and I approved an Integrated Resource Planning Process in February of this year that defined an electric sector greenhouse gas ceiling of 42 million metric tons for We also identified a representative portfolio of energy resources that, if operating in the state in , are capable of meeting that target. The resource mix shows that we will likely need approximately 10, MW of new renewable energy and 2, MW of new battery storage over and above the significant amounts of both that we already have planned. And our modeling results show that while new natural gas plants were not needed by , the existing fleet in California nevertheless remains present. The other big-picture elements of include reducing our reliance on carbon-intensive imports from other states, and building enough renewable capacity to meet demand during hours with low solar and wind availability. We know, too, that circumstances may change. But given our need to act today to meet our goals, we are moving ahead assuming the current set of available resources. It happens most often during the spring and fall, when need is also lower, and solar generation can cover a higher percentage of demand. For owners of power plants fueled by natural gas, an efficient daily operation in response to this market, in reality, has meant ramping down to near zero during the middle of the day and being able to ramp up as the sun sets and their capacity is needed for late afternoon and evening loads. This means that during times of abundant wind and solar, these plants have already been largely displaced and are no longer necessary for baseload power. One important conclusion from our modeling results is that for the natural gas fleet to perform this role would not compromise our greenhouse gas emission reduction commitments. Members of these communities are right to question how often they must run, how necessary they actually are for reliability, how much it costs to replace them with resources that do not emit pollution and how California plans to retire them over the long term. In some respects, the trends are already pointing in the direction that we want: The Commission is also committed to engaging with communities on their specific concerns. A new disadvantaged communities advisory board will help ensure that environmental justice concerns are brought forward in Commission activities, and our local government liaisons keep lines of communication open between the Commission and local leaders. Timing such investments is tricky. Premature retirements could necessitate hasty and possibly more expensive resource investments to make up for gaps. At the same time, we do want to see fossil fuel plants retire, to the extent that they are truly no longer necessary for grid reliability at reasonable cost. In California, our ongoing Resource Adequacy analysis will monitor near-term market conditions, while our Integrated Resource Plan planning analysis will examine the long-range picture every two years. With updated assumptions about the resource fleet, transmission improvements, technology advances, air pollutant outputs in local communities and costs, California can authorize new investments as their time comes. The future California has a political accomplishment to be proud of: Now it is our job to manage an affordable, reliable and equitable transition to the day when we not only use natural gas-fired plants less frequently, but when other carbon-free resources can completely replace them. The views expressed here are those of a single Commissioner, and the Commission takes action by majority vote. Statements made here do not necessarily reflect the position of the Commission as a whole.

## 4: Culture of California - Wikipedia

*California Is the Future of American Politics. Trump is the last gasp of the conservative era and will bring down Republican rule. What's coming next is in California right now.*

Amber Manfree The flooding in Houston is a reminder of the great damages that floods can cause when the defenses of an urban area are overwhelmed. It is hard to imagine a flood system that could have effectively contained the historic amount of rain that fell on the region—several feet in just a few days. However, these floods are a stark reminder of the increasing vulnerability of urban areas across the world and the need for comprehensive strategies to reduce risk. The evidence is clear that green infrastructure, as defined below, can increase the resiliency of flood management systems and, when managed for multiple services, can reduce flood risk for many people while also promoting a range of other benefits. Floodplains provides an overview of floodplains and their management in temperate regions. California has a history of large floods, some almost as dramatic as those that have devastated Houston. They occur just infrequently enough that many forget they can be a problem and then complain about cost of flood insurance. During this past winter of record precipitation, California did a remarkable job of containing and diverting the water. Damaging floods were not an issue. Of course, the , citizens of Oroville who had to be evacuated because of the threat of flooding from a broken dam spillway may feel differently. Unfortunately, climate change models tell us that big floods in California may become bigger and more frequent in the future because there will be more rain and less snow as the result of warmer air temperatures. Fortunately, in Central California, part of the solution for dealing with big floods already exists: These huge floodplains fill with flood waters from the Sacramento River and its tributaries that cannot be contained by dams. The floodwater is passed rapidly to the Delta and San Francisco Estuary, and then out under the Golden Gate over weeks and months. Illustrated river-ecosystem concepts from Floodplains. Amber Manfree While flooded, the bypasses provide productive habitat for fish and waterbirds. When not flooded, they are farmed or managed as wildlife areas. There are other examples from all over the world, although hard infrastructure like walls, levees and dams is much more common. In California, the new Central Valley Flood Protection Plan Update emphasizes investment in green infrastructure although it is not called that in the plan as a long-term approach to flood management. We think the world needs a lot more such green infrastructure to meet the forecasted challenges and to support floodplain ecosystems that can also function for farming and recreation. Engineered floodplains are a prime opportunity for multi-benefit outcomes. We have documented this trend, and reasons why green infrastructure works so well, in a new book: Our focus is reconciliation ecology, the science of integrating habitat for wild plants and animals into landscapes dominated by people. The book is based on our many years of studying floodplains in California, which is a leader in using floodplains for flood management. But we also venture to other regions, especially Europe, Australia, and Asia, for new insights. But we have seen more than just glimmers of hope in reconciled floodplains that are diverse and productive. We take heart from the huge flocks of migratory white geese and black ibis that congregate annually on California floodplains and from knowing that, beneath the floodwaters, juvenile salmon are swimming, feeding, and growing among cottonwoods and rice stalks, before heading out to sea. We can envision greatly expanded floodplains that are centerpieces of many regions, protecting people but also featuring wildlands, wildlife, and floodplain-friendly agriculture. Connectivity among floodplains, people and wild creatures is within reach, as is a future in which people work with natural processes rather than continually fighting them. Larsen is a research scientist and fluvial geomorphologist in the Department of Human Ecology at the University of California, Davis. Florsheim is a Researcher in fluvial geomorphology, hydrology, and earth surface processes at the Earth Research Institute, University of California, Santa Barbara.

## 5: Floodplains in California's Future | California WaterBlog

*California Is The Future. The 21st-century hit California first, and the innovative state adapted early and has pioneered a*

*promising new way forward.*

## 6: Select Committee on California's Energy Future | Assembly Internet

*The high-speed train in California, championed by Mr. Brown, a Democrat, and Arnold Schwarzenegger, his Republican predecessor, is the most ambitious public transportation project underway in the.*

## 7: California's Future - Public Policy Institute of California

*Committee Members District Office & Contact Information; Rudy Salas, Jr. (Chair) Dem - Contact Assembly Member Rudy Salas, Jr. Capitol Office, Room*

## 8: California's Transportation Future - Next Generation Vehicles :: Fox&Hounds

*California's Future Looks Depressingly Clear. If we thought California was liberal before, apparently we haven't seen anything yet. [Winning a Democratic primary] means staking out the most.*

## 9: California's Future: Higher Education - Public Policy Institute of California

*As ashes cool on a sequence of wildfires " Delta, Carr, Mendocino Complex and so many more " there's a statewide sigh of relief, a collective sense of gratitude as real as the hand-painted.*

*Discrete choice modelling and air travel demand Newspaper Reporters Overlooked Allies A conversation with Michael B. Oren. Ready-to-Use Egyptian Motifs (Clip Art Series) P. 1 : Isaiah: Hello, my name is Isaiah Tom clancy debt of honour Ing understanding and applying nursing research 4th edition The journals of discourses The curse of the Egyptian mummy Questions. Special mahalo goes to Ms. Carol Whitesell of the Department of XI. Talk and talkers: second paper How to measure angles from foot radiographs Mindfulness and the therapeutic relationship Ministry Gift Error: ZEON THE MESSAGE OF PASCAL Escher : science and fiction C.H.A. Broos Advanced oracle sql programming laurent schneider Book of lairs dnd Neighbourhood Renewal and Housing Markets Rice, slaves, and pirates How we spend our years,W. M. Paxton. Holman heat transfer Dont sleep with Stevens! Energize your paintings with color Church then and now Dimensions of responsibility : a German voice on the Palestinian-Israeli conflict in the post-Shoah era B Theatrum majorum. The Cambridge of 1776: where-in is set forth an account of the town, and of the events Employees are Changing the Speed of Business 94 Legal research workbook and scavenger hunts Grammar practice pearson longman How to draw robots and spaceships The Doctors Secret Child (Silhouette Special Edition No. 1734 (Silhouette Special Edition) Dodos delight, or, Doodle and the state secrets Them and us? : rebuilding the ruins in Liverpool Planet of the Apes Movie Edition The miraculous conception Lotus 1-2-3 Version 2.3 (Irwin Advantage Series for Computer Education) Novena Meditations to Saint Jude They made me a fugitive*