

California Energy Perspectives

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Key California Energy Policies & Goals

Assembly Bill 32	2006 legislation reducing GHG emissions to or below 1990 levels by 2020.
Executive Order S-3-05 GHG Emissions	Issued by Gov. Schwarzenegger, establishes goal to reduce GHG emissions to 80% below 1990 levels by 2050.
Energy Action Plan's Preferred Loading Order	Issued in 2003 and 2008, prioritizes cost effective investments in: 1st) EE and DR; 2nd) renewables and DG; and 3 rd) clean fossil fuel sources and infrastructure improvements
Clean Energy Jobs Plan	Established in 2010 by Gov. Brown, directs production of 20 gigawatts (GW) of new renewables by 2020, 12 GW of distributed energy, and 6.5 GW of CHP.
Senate Bill X1-2	2011 legislation requiring all electricity retailers to meet 33% of retail sales with renewable energy resources by 2020.
CPUC Energy Efficiency Strategic Plan	Sets efficiency goals, including zero net energy (ZNE) goals for new homes by 2020, and for new commercial buildings by 2030
Executive Order B-18-2012 Green State Buildings	Issued by Gov. Brown, directs efficiency improvements in new or renovated state buildings larger than 10,000 square feet; sets ZNE and GHG reduction goals.
Governor Brown's ZEV Executive Order (B-16-2012)	Issued by Gov. Brown, sets long-term target of reaching 1.5 million zero-emission vehicles (ZEV) by 2025; establishes goal to reduce GHG emissions from <i>transportation sector</i> to 80% below 1990 levels by 2050.
Governor Brown's Inaugural Address January 2015	By 2030: 1) Increase from one-third to 50 percent our electricity derived from renewable sources; 2) Reduce today's petroleum use in cars and trucks by up to 50 percent; and 3) Double the efficiency of existing buildings and make heating fuels cleaner.

AB 32



- Requires California to reduce its GHG emissions to 1990 levels by 2020
- ARB reports the current goal nearly met already
 - Californian efforts have put the state on course the near-term 2020 emissions limit, and have created a framework for ongoing climate action
 - ✦ Building efficiency standards were updated in 2013 and are now 25 percent more efficient for residential construction and 30 percent more efficient for non-residential construction

Current Clean Energy Targets



- 33 percent renewable electricity by 2020(RPS)
- 3,000 MW of new solar by end of 2016
- 8,000 MW large-scale renewables and 12,000 MW of small-scale renewables by 2020
- In his 2015 Inauguration Address, Governor Brown identified climate and energy goals the state would seek to accomplish by 2030:
 - Increasing the amount of electricity produced from renewable resources to 50%
 - Doubling the energy efficiency of existing buildings
 - Reducing petroleum use in cars and trucks by 50%
- Executive Order B-30-15, Interim GHG and other state agency actions (40% below 1990 levels by 2030)

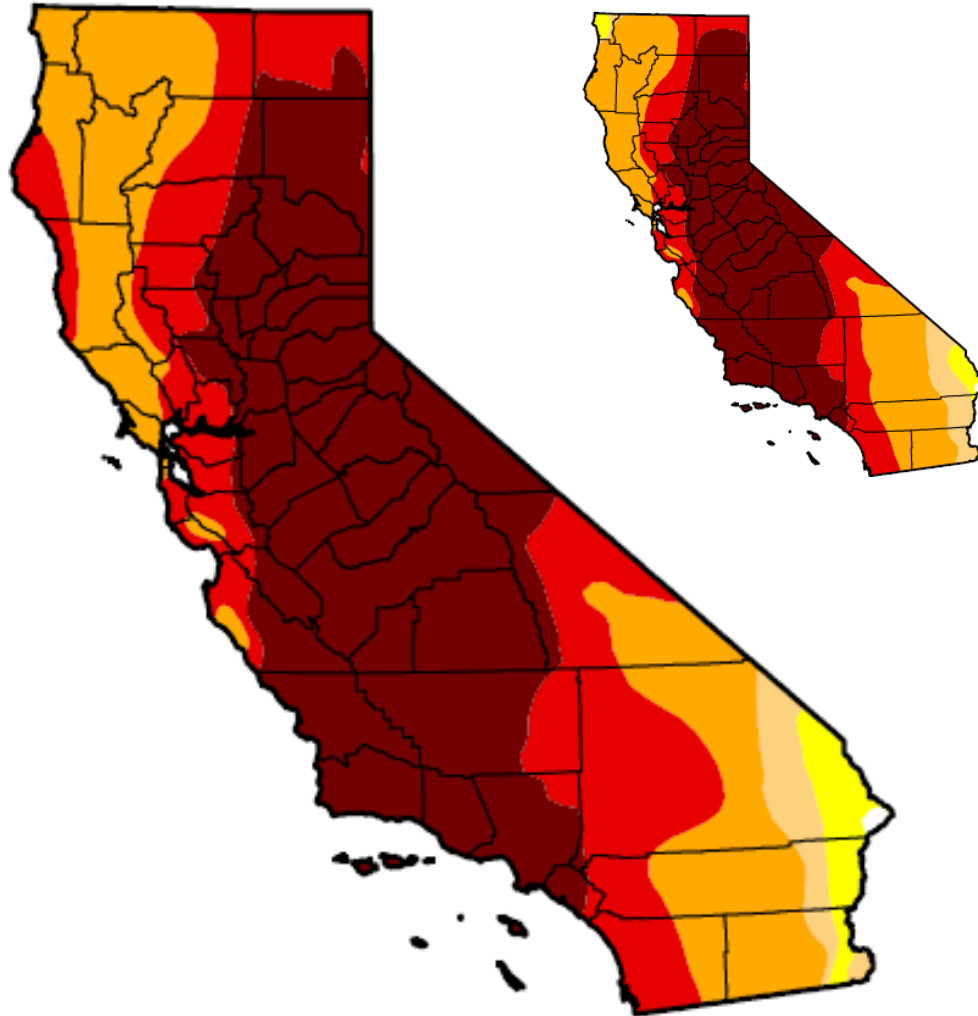
U.S. Drought Monitor California

July 21, 2015

(Released Thursday, Jul. 23, 2015)

Valid 8 a.m. EDT

May 19, 2015



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.14	99.86	97.35	94.59	71.08	46.00
Last Week 7/14/2015	0.14	99.86	98.71	94.59	71.08	46.00
3 Months Ago 4/21/2015	0.14	99.86	98.11	93.44	66.60	46.77
Start of Calendar Year 12/30/2014	0.00	100.00	98.12	94.34	77.94	32.21
Start of Water Year 9/30/2014	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago 7/22/2014	0.00	100.00	100.00	100.00	81.89	36.49

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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<http://droughtmonitor.unl.edu/>

The Drought and Energy



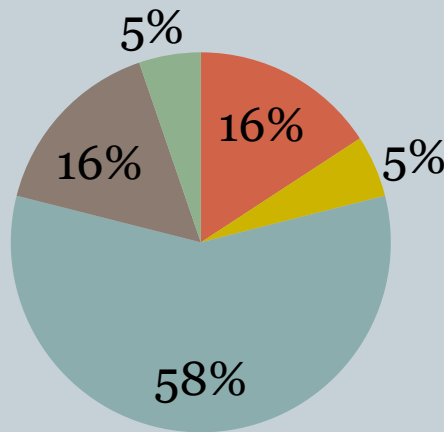
- Reduced snowpack and water supply results in reduced hydro electric power generation, mostly for Northern Ca Utilities but utilities across the state are looking for ways to diversify.
- Renewables added in 2013 and 2014, especially solar, helped make up about 55 percent of diminished hydrogeneration

Energy Efficiency & Water



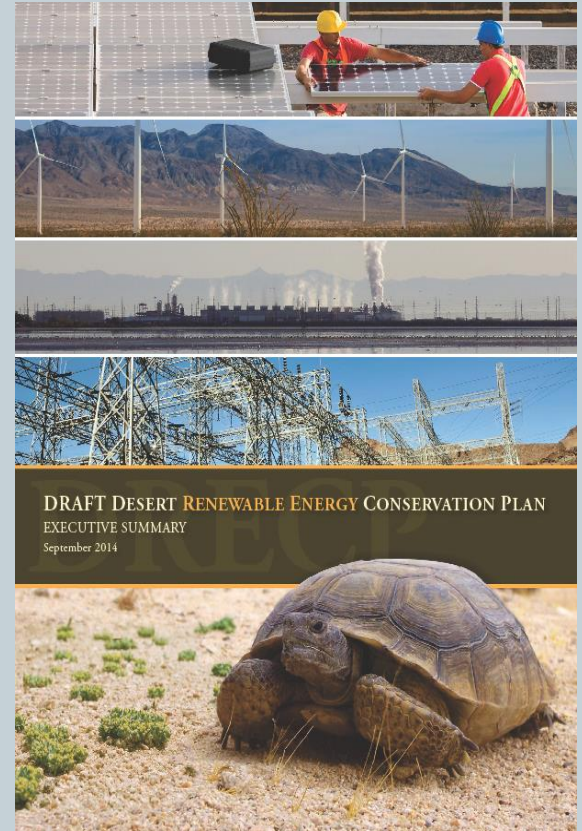
Water-Related Energy Use in California

- Agricultural End-Use
- Agricultural Water Supply and Treatment
- Residential, Commercial and Industrial Water End-Use
- Residential, Commercial and Industrial Water Supply and Treatment
- Wastewater Treatment



Desert Renewable Energy Conservation Plan

- Identify preferred areas for renewable development
- Reduce costs/time to permit renewable generation and transmission in California desert
- 22.5 million acres in DRECP area
- Extensive collaborative effort with local governments, state agencies, federal agencies, environmentalists, other stakeholders
- Implemented in phases starting with public lands



Wrap up of Work in 2015



- Research alternatives for implementing the Governor's 50/50/50 Goals
- What is the mix of strategies to meet the Interim GHG reduction target?
- What are the implications of Drought on the Energy Sector and how can we be more efficient with transfer, treatment, delivery of water in CA.
- Continue to work on DRECP & Landscape-scale planning
- Continue to work with Military and Local Governments on energy development/land use and mission compatibility.
- Continue to partner with Branches of the Armed Services, DOD, OSD and Installations on energy development, smart grids, energy efficiency, new technology.....