

AB 32: The California Global Warming Solutions Act of 2006. A law to lower green house gas (GHG) emissions to 1990 levels by the year 2020 by voluntary and mandatory actions of government, industry, commerce. This would mean emissions reduced about 25% below expected emissions from “business as usual”. The AB32 Scoping Plan provides specifics. See the California Air Resources Board site at <http://www.arb.ca.gov/cc/cc.htm> and the Scoping Plan at <http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>. See also Proposition 23 which seeks to halt AB32 legislative programs. See http://www.lao.ca.gov/ballot/2010/23_11_2010.aspx

ARRA: American Recovery and Reinvestment Act of 2009. A Federal program created by Congress in 2009 to provide \$787 Billion to Federal, State, City and private businesses to stimulate the economy in short and long term by generating “green jobs”, funding “shovel ready” projects, funding innovative transportation, demonstrating sources of new energy, and investing in educational requirements. For our purposes, the most relevant program is the Energy Efficiency and Renewable Energy Community Block Grants (or EERE CBG). Cities are given an amount determined by formula (largely daytime population) and can spend it on projects that meet specific criteria such as the number of jobs created, the amount of GHG reduction, amount of energy saved, and the adequacy of their result measurement plans. For example, the City of Irvine has a \$2.28 million allocation. The applications are due to the Dept. of Energy (DoE) on June 25, 2009. By September these funds, if approved by DoE, will become available for contracting. The funds need to be spent within 36 months. See www.recovery.gov and www.transparency.gov.

Biodiesel: Non-fossil fuel produced from plants and fats using alcohol to alter the chemistry to make a fuel that works in all diesel engines.

Blackout: A temporary loss of electric power by a home or business. A rolling blackout is a strategy by a utility company to solve a peak load problem..

Building Codes: Mandatory standards for building safety, energy efficiency and usability. These standards are adopted and applied by each City. The State Building Code Commission sets minimum requirements, based upon the International Code Council and other sources. These standards are updated, with public comments, on a three year cycle. New this year (2010) is a Chapter on Green Building requirements and an effort called CalGreen to replace LEED and Build It Green Ratings with a California “free” energy-sustainability ratings.

See the Building Standards Commission site at <http://www.bsc.ca.gov/default.htm> and for the 2010 timeline see http://www.documents.dgs.ca.gov/bsc/prpsd_chngs/2009/2009timeline.pdf Also see the California Home Energy Rating System Program (HERS) requirements for computer modeling of plans. <http://www.energy.ca.gov/HERS/index.html>

Climate Action Plans: (See Packet page 2, Developing a Plan and City of Irvine for a local Plan). To coordinate the separate California departments’ initiatives, a Climate Action Team and Portal was created. See http://www.climatechange.ca.gov/climate_action_team/index.html

Carbon credits: A market-based emissions (non-tax) approach to reducing climate change. A “credit” is provided to Greenhouse Gas emitters that can be sold or used to meet GHG reduction targets.

Carbon footprint calculator: A measure of the net GHG emissions that an individual or a business generates. For your individual household Carbon footprint see <http://www.coolcalifornia.org/article/carbon-calculator>

Carbon neutral: A net zero carbon footprint, or the amount of carbon created is offset by planting trees or replacing existing fossil fuel emissions by non-emitting sources, such as new solar panels.

Cap and Trade: A strategy for reducing GHG by setting a limit on emissions by a specific organization to encourage innovation in business practices and technology to reduce emissions. These reductions then can be traded to other organizations thru a Carbon market. See Renewable-Energy Credits (REC)

CEQA: California Environmental Quality Act. A state law administered by the California Air Resources Board. For general information see <http://ceres.ca.gov/ceqa/> and for an interactive process flow chart see <http://ceres.ca.gov/ceqa/flowchart/index.html>

CFL: Compact Fluorescent Lighting (uses about 25% of the electricity for an equivalent incandescent bulb).

Cleantech: An organizational project that uses technologies and concepts such as renewable energy, waste minimization, climate change mitigation. See <http://en.wikipedia.org/wiki/Cleantech>

Climate change: Disruption of global climate patterns caused by humans generating greenhouse gases. Disruptions include water scarcity or flooding, increased storm intensity, sea level rise, significant changes in types of animal and plant habitats, and resulting food disruptions and infectious disease patterns. See CEC Climate Impacts 16 page document at <http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF>

Cogeneration: Capturing and using the heat created in the generation of electricity to make power production more efficient.

Demand Management: or Demand Response. A strategy to reduce Peak Capacity needs through voluntary reduction of energy consumption during peak periods of the day, usually motivated by reduced electricity costs. <http://www.cpuc.ca.gov/PUC/energy/Demand+Response/>
See Smart Grid topics at the California Public Utility Commission:
<http://www.cpuc.ca.gov/PUC/energy/smartgrid.htm>

EIR: Environmental Impact Report documenting the significance of a proposed development on environmental factors. Typically a City (or other lead agency) compares the proposed development plan against the City’s General Plan and Plan Elements to categorize impacts

according to a format required by the Governor's Office of Planning and Research (OPR). For more information on the OPR see <http://opr.ca.gov/index.php?a=ceqa/index.html> and for a University of California description of the contents see http://www.ucop.edu/facil/pd/CEQA-Handbook/chapter_03/3.3.html

Fuel cell: Production of power using electrochemical reactions rather than combustion.

General Plans: Cities in California are required to adopt a General Plan meeting criteria set by the Governor's Office of Planning and Research. The purpose of these plans is to provide guidance for the "coherent and intelligent" long range (5-25 year) integrated development of transportation, sewer systems, electricity, water, housing services within a market based economy often focused upon short run objectives. In California, the EIR process was created in the mid 1970's to get enough objective data on the table so that environmental impact conversations can occur between diverse interests and stakeholders. The City of Huntington Beach's General and Specific Plans can be found at: <http://www.ci.huntington-beach.ca.us/government/departments/planning/gp/>

This documents states "The General Plan is the fundamental policy document of the City of Huntington Beach. It provides the framework for management and utilization of the City's physical, economic and human resources. By providing a basis for rational decision-making, this document guides civic decisions regarding land use, the design and/or character of buildings and open spaces, the conservation of existing housing and the provision of new dwelling units, the provisions of supporting infrastructure and public services, the protection of environmental resources, the allocation of fiscal resources, and the protection of residents from natural and human-caused hazards."

This document contains a link to the General Plan Guidelines published under Gov. Pete Wilson in Nov., 1998 - <http://www.ceres.ca.gov/planning/genplan/gpg.pdf>. Important improvement in data technology since 1998 is provided by the Land Use Planning Information Network (LUPIN) and other state agencies at <http://ceres.ca.gov/planning/>.

Green Building: The design, construction, maintenance and demolition of structures to lower energy, water, and material costs while providing a healthy environment for occupants and residents. Increasingly, City Building Codes reflect the pioneering work done by the US Green Building Council, the National Institute of Building Sciences (NIBS), and the International Code Council. Case studies now show that life cycle costs are significantly lower in well designed "Green" buildings. This has not always been the case, and a reason is the lack of effective commissioning standards and performance during the commissioning cycle. See the HB City website page on Green Building at http://www.huntingtonbeachca.gov/residents/green_city/ And for more information on Commissioning see <http://www.cacx.org/> ; for NIBS see http://www.nibs.org/index.php/nibs/newsevents/news/Entry/72110_testimony ; for the buildingSMART Alliance see <http://www.buildingsmartalliance.org/>

Greenhouse gas emissions: The production and release into the atmosphere of gases such as carbon dioxide, methane, etc. that trap heat in the atmosphere and contribute to climate change.

Greenwashing: Misleading product marketing claims by organizations. See the Six Sins of Greenwashing and the FTC requirements. Legitimate green claims by advertisers are often backed up by testing labs providing labels such as the Sierra Club's GreenHome site <http://www.sierraclubgreenhome.com> For an entertaining survey of practices see <http://www.terrachoice.com/>

Grey Water: Reusable water that can be used for irrigating plants. This excludes toilet water (black water). See <http://www.oasisdesign.net/greywater/law/>

Grid: The national and local networks of electric power production and distribution (managed in California by the Independent Service Operator (ISO)). (See Smart Grid and ARRA-CPUC) The US electric power grid is brittle and will be increasingly vulnerable to outages. Using remote sources of renewable energy could place greater stress on this grid. Since a failure in one part of the network impacts many other parts, the National Institute of Standards and Technology, among other parties, is recommending major changes. Net Zero Energy is one facet of a solution, and cities can play an important role in distributed supply and demand implementation.

Home Energy Rating System (HERS): A Federal and State mandated Home Energy Rating System created to make each California home comparable to a standard. The Federal EPA site is http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_HERS. Which directs you to ResNet <http://resnet.us/>. For California HERS certification, see <http://www.energy.ca.gov/appliances/forms/>.

Kyoto Protocol: An international treaty (United Nations) adopted in Kyoto, Japan in 1997. It created the European Union Emission Trading Scheme and the Clean Development Mechanism to reduce GHG emissions. The US Senate did not ratify this treaty. Currently international negotiations for a new treaty are underway, leading up to a December 2009 meeting in Copenhagen which disappointed many individuals by the lack of action. See Wikipedia description at http://en.wikipedia.org/wiki/Kyoto_Protocol

LEED: Leadership in Energy and Environmental Design. One of a dozen third party building rating systems. LEED, developed by the US Green Building Council (US GBC), generally tries to exceed California's Title 24 requirements by 15%. Especially relevant are the Commercial Interior criteria and the new Neighborhood Development criteria. See <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=222> for details.

The Orange County Chapter of the US GBC is active and holds monthly Green Bag lunch session of value to the EB. <http://www.usgbc-oc.org/>

LED: Light Emitting Diodes (uses about 10% of the electricity for an equivalent incandescent bulb).

Organic: A form of crop production that avoids synthetic chemicals and fertilizers.

Photovoltaic (PV): Use of the Sun's energy to produce electricity using silicone-based panels. This is one of the major alternative energy sources in California's energy policy portfolio for

2007 http://www.energy.ca.gov/2007_energypolicy/index.html and for 2009 (open for public review and comments) at http://www.energy.ca.gov/2009_energypolicy/index.html .

Peak Oil: Since the world's supply of accessible oil and natural gas is limited, the peak production amount has been or soon will be reached. This means that, if demand for oil and gas does not drop, the producers costs and the consumer prices, will become very high, making every use of oil extremely expensive, whether it for gasoline, fertilizers or plastics. There will continue to be some oil, but the costs of obtaining it will make the cost prohibitive. See the Association for Study of Peak Oil – USA at <http://aspo-usa.com/>

Renewable energy: Energy produced using natural resources that are constantly being replenished. This excludes coal, natural gas, oil, and nuclear power sources, and includes solar power, wind power, biofuels, wave energy, and geothermal power sources. See David MacKay's Sustainable Energy – without all the hot air (Free download). <http://www.withouthotair.com/>

SB 375: is a 2009 California state law (Steinberg) which, in concert with AB 32 (See above) requires the California Air Resources Board to develop GHG emissions by integrating transportation planning with housing and urban development planning. See So. Calif. Assn of Governments description at <http://www.scag.ca.gov/sb375/index.htm>

Scenarios: A technique for thinking about alternative futures. The IPCC has used a basic set of 6 scenarios, including a Business as Usual (BAU) to provide frameworks for forecasting the impacts of reducing or not reducing GHG emissions. See <http://www.ipcc.ch/pdf/special-reports/spm/sres-en.pdf>

Smart Grid: Application of web based technologies and equipment sensor technologies to improve utility and consumer awareness of energy usage and provide ways to reduce peak power demand to avoid blackouts. See <http://www.nist.gov/smartgrid/> for a Federal Standards approach and for a Calif. Public Utilities Commission approach see <http://www.cpuc.ca.gov/PUC/energy/smartgrid.htm>

Sustainability and Sustainable Design: True sustainability means that present consumption of resources will not decrease the ability of present and future generations of humans, animals and plants to survive to enjoy current climatic conditions and availability of resources. This means that we are challenged to create and guide new institutional designs such that no net drain of planetary resources, nor any net impact on the climate occurs. Unfortunately, during the last two hundred years, humans have consumed at least half the planet's reserves of oil, coal and natural gas, leaving the remainder to be recovered through very expensive and environmentally damaging technologies. So many billions of tons of carbon dioxide and other greenhouse gases have been emitted that the CO₂ concentration has risen from 280 ppm to 383 ppm, causing an irreversible global temperature rise of at least 4°F, even if we stopped all emissions today. Some of the many other climatic impacts are mentioned elsewhere in this glossary.

Water and Electricity: The relationships between water and electricity are important. Water is increasingly in short supply (there have been years drought in California and the Rocky Mountains, source of the Colorado River). This means that the common belief that “Water is

Free” no longer applies. The State Water Portfolio acknowledges that almost 17% of the electricity produced in California is used to pump water from North to South. Wasting water is wasting electricity.