


California Economy-Energy Relationship

California enjoys a unique position in the world. If California were an independent country, it would represent the sixth largest economy in the world. Energy, in all its forms, is a key component of our robust economy.

California Energy Commission

The “Nation State” of California

- 6th largest economy of the world
- 5th largest consumer of energy in the world
- Consumes 2% of the world's natural gas production
- Average daily natural gas demand: 6 billion cubic feet (10 billion cubic feet per day in winter)
- Population expected to grow from 36 million now to 45 million by 2025




Pursuing Energy Efficiency & Renewables in Accordance with State of California's Energy Policy

California Energy Commission

2005 Integrated Energy Policy Report

“The health of California’s economy depends upon reliable, affordable, adequate, and environmentally-sound supplies of energy.”


November 2005



California Energy Commission

2005 Energy Report Findings and Conclusions

- No liquefied natural gas terminals are located on the west coast.
- The 2003 *Energy Report* endorsed the need to develop LNG facilities to better serve the natural gas needs of the western U.S.




As the Governor has stated, the key goals of the state's energy policy are to ensure:

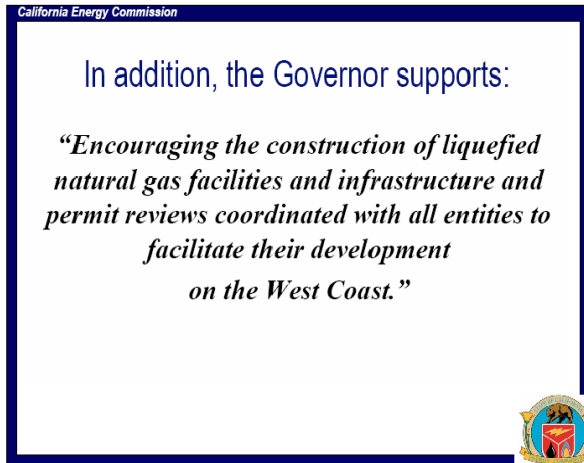
- Adequate and reliable energy supplies when and where needed;
- Affordable energy to households and business; and
- Advanced energy technologies that protect and improve economic and environmental conditions.

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California Governor Schwarzenegger's Direction

*"California's and the nation's use of natural gas is growing beyond the ability of traditional natural gas resource areas to keep pace....
As options are explored, California must increase supply, increase in-state gas storage and enhance the State's import capability to ensure reliable supply and stable prices."*





In accordance with the state's energy policy, California has aggressively pursued energy efficiency improvements and led the way in renewable energy. California's energy efficiency programs, such as appliance and building standards, have reduced natural gas use by more than 50 percent since 1975. California's goals for renewable energy are the most ambitious in the nation. The ongoing success of these programs has not been dampened by the use of natural gas to produce electricity. The California Energy Commission (Energy Commission) has been making every effort towards improving energy efficiency and expanding use of renewables and has directed millions of dollars towards advancing technologies.

There is no question that California must promote and foster continued efficiency improvements and the use of renewable energy to provide electricity to California's growing population. California has enacted, by statute, a Renewable Portfolio Standard (RPS) that requires the state's investor-owned utilities to increase the renewable portion of their energy mix, with a goal of 20 percent renewable energy generation by 2017. The Energy Action Plan adopted by the Energy Commission and the California Public Utilities Commission has accelerated the 20 percent RPS goal to 2010 and set a goal of 33 percent by 2020. As discussed in the *Integrated Energy Policy Report* workshop held on May 12, 2005, the state's investor-owned utilities are unlikely to meet the 20 percent goal by 2010. This fact puts in question whether the other goals will be met in the timeframes indicated.

The Governor has also directed the Energy Commission and its sister agencies to evaluate a goal of 33 percent renewables by 2020 in light of cost-benefit and risk analysis to ensure that consumer costs will not be raised unnecessarily, that this level of renewable assets can be accommodated efficiently into the electric grid, and to ensure that the state has a workable implementation path.

Overseas Natural Gas as a New Natural Gas Source for California


Despite these ambitious steps towards aggressive implementation of energy efficiency and renewables, especially in the area of electricity, natural gas continues to drive the electric generation market. In 2004, more than 40 percent of California's electricity came from natural gas, up from 30 percent in 1990. With the exception of the Salton Sea Geothermal project, every power plant licensed by the Energy Commission in the last ten years has been fueled by natural gas. Natural gas fired generators are currently the state's cleanest option for central station power.

Domestic and Canadian Natural Gas Supply to California

California Energy Commission

California's Natural Gas Situation

- California imports 87% of its natural gas
- U.S. and Canadian sources expected to decline in the future
- California demand expected to grow
- LNG provides another source of natural gas
- Delivery of gas from a West Coast terminal could hedge against supply/price problems in rest of country (e.g., hurricanes)



Most of California's needs are met by importing natural gas from producing basins in the Southwest and Rocky Mountain areas of the U.S. and from Western Canada.

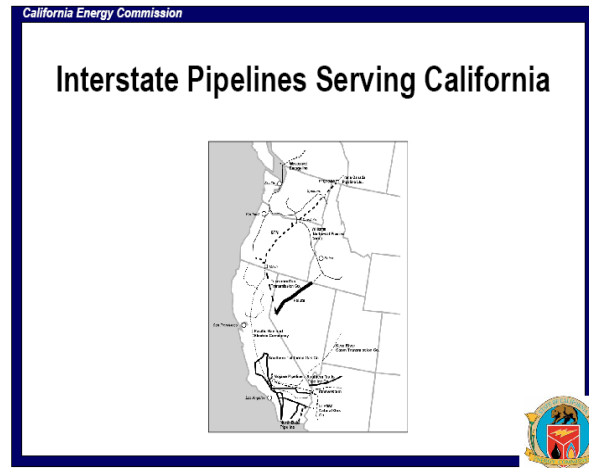
Natural gas is imported into the state through a number of long-haul interstate pipelines. The following figure shows the natural gas serving California. These pipelines include:

(Mcf/d = 1,000 million cubic feet per day capacity)

- Tuscarora Gas (185,000 Mcf/d)
- GTN (2,000,000 Mcf/d)
- El Paso (3,767,000 Mcf/d)
- Transwestern (1,065,000 Mcf/d)
- Kern River Gas (1,735,000 Mcf/d)
- Mojave Pipeline (400,000 Mcf/d)
- North Baja (500,000 Mcf/d)

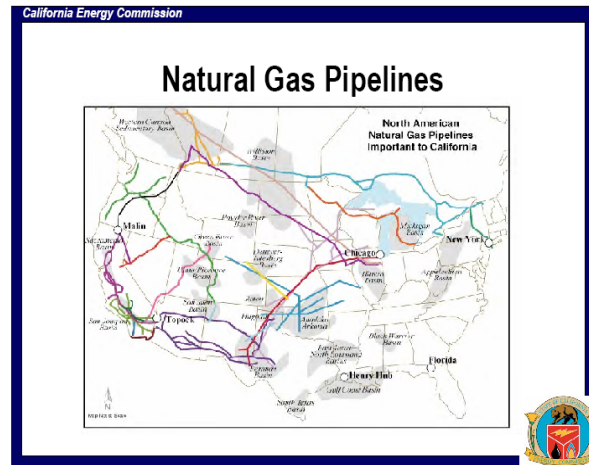
- Southern Trails (80,000 Mcf/d)

In addition, natural gas is also delivered from California to Mexico.

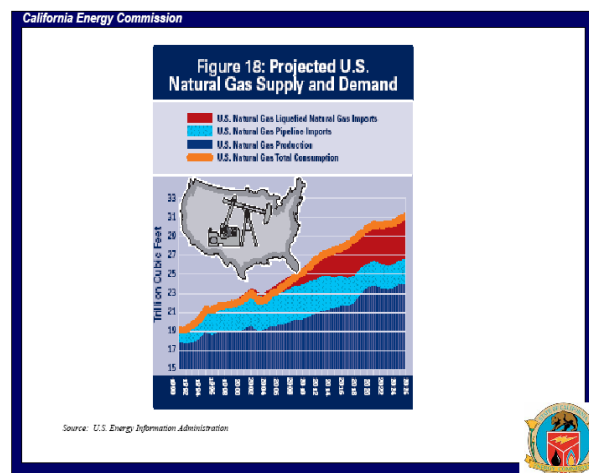


In large part because of our emphasis on efficiency and renewables, California's natural gas demand growth rate is projected to be below that of the United States as a whole, and that of Canada and Mexico. California's demand is projected to grow 0.7 percent per year between 2006 and 2016, while demand in the United States, as a whole, is projected to increase 1.6 percent, in Canada 1.3 percent, and in Mexico 2.9 percent. While this is good news for California's consumers, we must compete for natural gas supplies with other parts of the country whose demand for natural gas is rapidly increasing.

California produces only about 13 percent of the natural gas consumed in the state. The remaining 87 percent must be imported from other parts of the Western United States and Canada. While sufficient pipeline capacity *currently* exists to bring this natural gas to our state, California is at the end of the pipeline and must compete with upstream customers with increasing demand such as Arizona and Nevada.



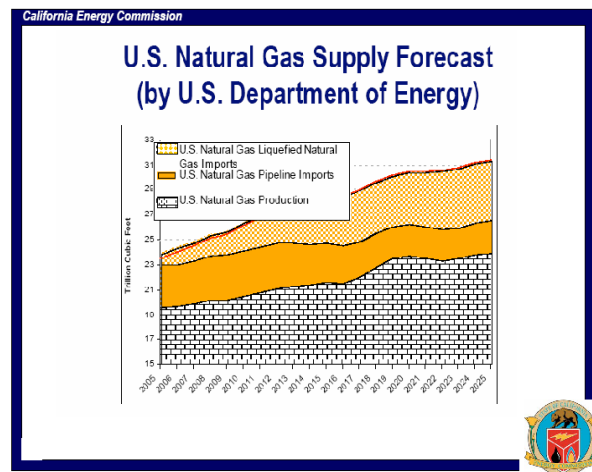
To some extent, this places California at the mercy of demand growth in other regions and to supply fluctuations that can lead to increased prices. Last year California experienced the results of hurricanes in the Gulf of Mexico – a decrease in natural gas production and an increase in the cost of natural gas. Hurricanes in the Gulf of Mexico are likely to cause supply disruptions and price increases again in the future, emphasizing the need for California to diversify its supply sources. To continue to provide its citizens a robust and growing economy, California must assure that abundant sources of reasonably priced natural gas are available to California's businesses and homes.



In terms of natural gas, California's and the nation's use of this fuel is growing beyond the ability of the traditional North American resource areas to keep pace. In 2004, California consumers paid more than \$11 billion for natural gas, and with last year's price increases, that figure is surely higher for 2005. In addition, increased natural gas prices put upward pressure on electricity prices.

To ensure reliable supplies and stable prices, we must explore all options, including increasing supply, increasing in-state natural gas storage, and enhancing our natural gas import capability. We must also continue this state's

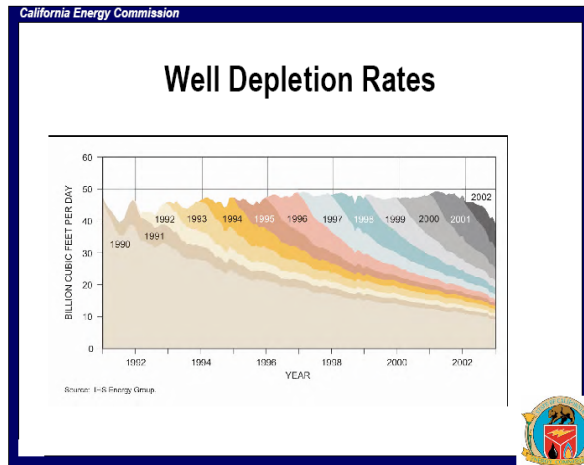
aggressive policies to improve the efficiency of our natural gas and electricity use and encourage expansion of projects to generate natural gas from landfills, biomass, and other renewable resources.



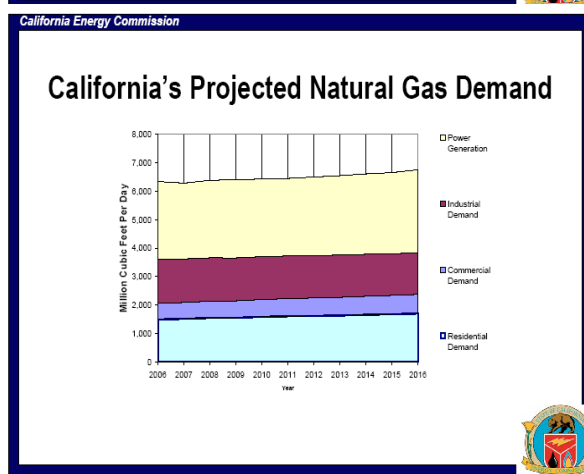
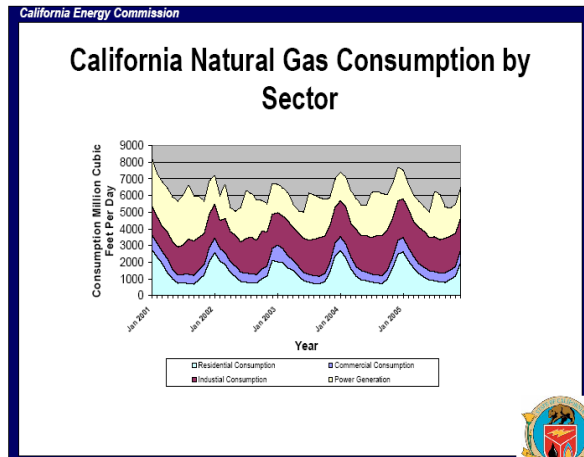
A small volume of natural gas is currently imported into California via tanker truck as LNG for use in the state as an alternative fuel for transit buses, trash haulers, and heavy-duty trucks. As of 2005, there were 30 privately or publicly-owned LNG vehicle fueling stations across the state.

In addition, the Pacific Gas and Electric Company uses LNG to supplement pipeline natural gas during the winter heating season for utility customers in Auburn, California. San Diego Gas & Electric buys and ships LNG to residents of a mobile home park in Borrego Springs, California.

Like the law of diminishing returns, it gets technologically harder and more expensive to extract natural gas from current and future reserves. New potential sources like Alaska and the Canadian tar sands may reverse the decline but it is likely that this natural gas will flow to Chicago, not California. Comments filed in the Alaskan natural gas proceeding suggest that it is speculative to even consider the availability of that natural gas into the lower 48 states, due to the unavailability in the global market of steel to make the required pipeline, and the shortage of skilled labor, which is being employed elsewhere in the world. Many natural gas resources are located either offshore or in sensitive environmental areas. In addition, to the public's opposition to this exploration, Governor Schwarzenegger has indicated his strong opposition to any oil and natural gas drilling offshore California.

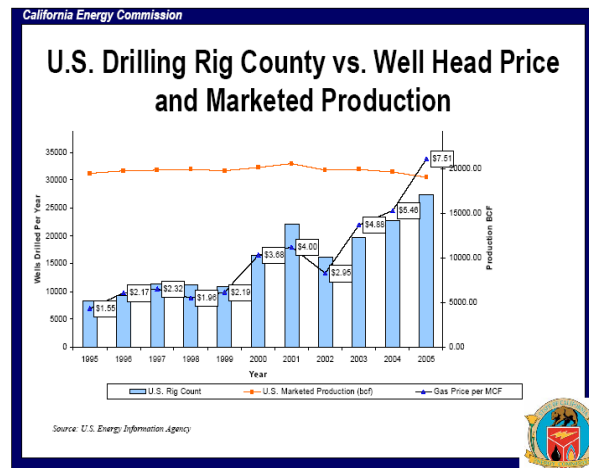


California consumers rely heavily on natural gas for cooking, heating, manufacturing, and generating electricity. Most California residents, businesses, and industries have access to natural gas service.



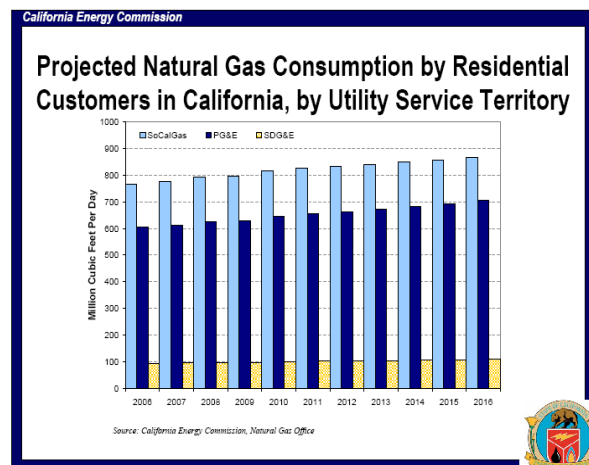
Experts are concerned about the future of North American natural gas production. Total U.S. production has leveled off and conventional sources may

have peaked, despite large increases in drilling activity. Canada's natural gas supplies are not keeping pace with Canada's own demand, so their exports to the U.S. are not likely to increase.



Efforts to Reduce Demand Will Still Fall Short

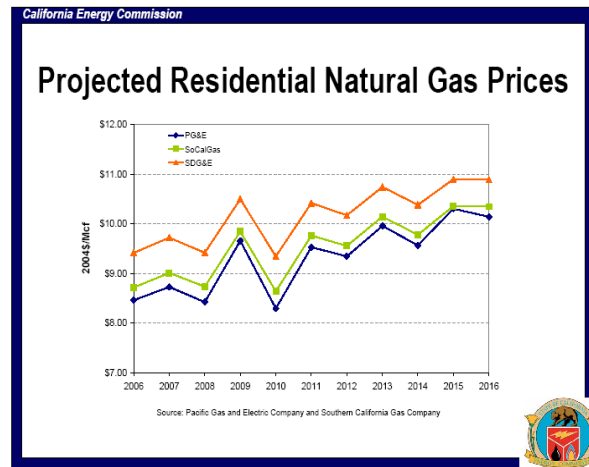
The following figure illustrates the growth in residential natural gas demand over the next ten years in California's three major natural gas utility service territories. California policymakers are giving the highest priority to increasing energy efficiency and adding renewable energy sources of electricity to reduce the demand for natural gas. The costs to implement some energy efficiency and renewable energy programs are paid for by electricity and natural gas consumers through a surcharge in their monthly utility bills, while other public-interest programs are financed by taxpayers as tax credits and exemptions.



While these successful and cost-effective investments have slowed the increase of natural gas demand, California consumers will still have to rely heavily on out-of-state natural gas supplies.

Natural Gas Prices are Rising

Wholesale natural gas prices in California and the U.S. have doubled since July 2001, reflecting the fact that North American natural gas supplies are no longer easy to find and inexpensive to extract. The natural gas supply “bubble” that formed in the 1980s has finally burst. Many new wells must be drilled every year in the U.S. and Canada just to maintain the current levels of production needed to satisfy U.S. natural gas demand. Unless demand falls to a lower level or a technological breakthrough improves the natural gas industry’s ability to find and produce new sources of supply, natural gas prices will likely remain high.




Diversifying Natural Gas Supply Sources for the Future

California Energy Commission

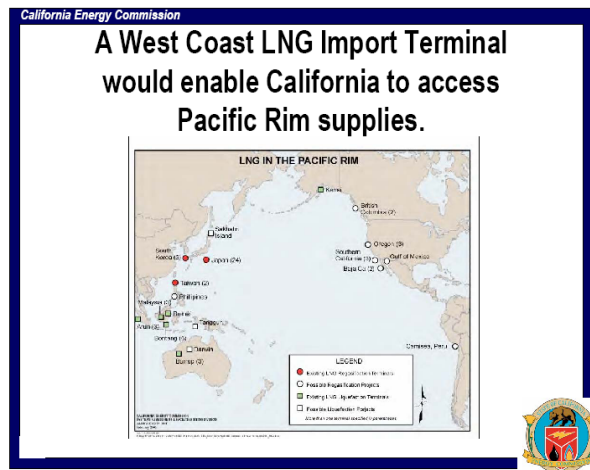
Why Consider LNG?

- California is connected to U.S. NG market
- U.S. NG supply not keeping up with demand
- NG prices are rising very rapidly
- California imports 87% of its supply



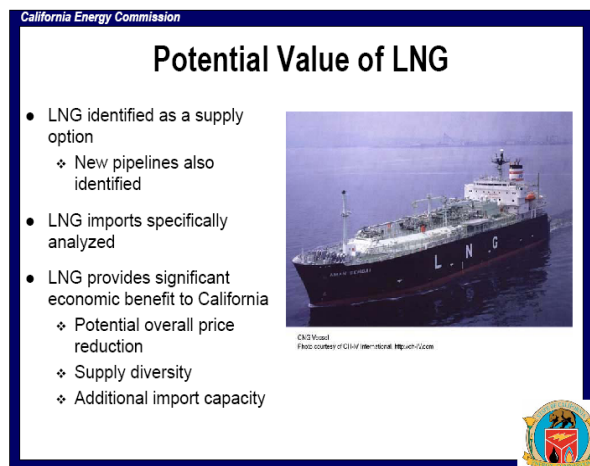
Importing LNG from alternative sources has the potential to increase the diversity of natural gas supplies for California. LNG facilities in the Gulf and East Coast cannot be counted on to meet California’s needs. The Eastern U.S. competes internationally for supplies of LNG that may be diverted to European countries, as was the case in 2005. Most, if not all, of this increased supply will be used to meet the growing demands of users in the Gulf and East Coast regions. Finally,

An LNG facility located on the West Coast could reduce quantity and price risks associated with natural gas supplies to the state by enabling the state to access natural gas from the Pacific Rim.



Many policymakers, including former Chairman of the Federal Reserve Board, Alan Greenspan, are urging the U.S. to increase its ability to import natural gas from overseas. Proponents of this approach contend that increasing such imports serves as a hedge against uncertain North American natural gas production and helps to restore the nation's balance of natural gas supply and demand. Since California continues to rely on significant quantities of imported natural gas, it, too, is considering the need to increase its ability to import natural gas from overseas.

A West Coast LNG terminal would allow California suppliers to purchase natural gas from Pacific Rim countries in addition to its usual North American suppliers. A typical LNG terminal with a capacity of one billion cubic feet (Bcf) could potentially supply one-sixth of California's average daily natural gas demand.



The *2005 Integrated Energy Policy Report* encourages construction of a West Coast LNG facility to help diversify California's sources of imported natural gas. The report, however, does not express a preference for the geographic location of the terminal. Furthermore, the report makes no recommendation on whether the terminal should be located onshore or offshore. LNG could be an important component of California's diversified energy supply if LNG proponents can meet California's safety and environmental concerns.

LNG Interagency Working Group

In considering the LNG projects currently proposed for California, the state must address issues regarding the safety of these facilities, their potential impacts to our coastal environment, along with the quality of the natural gas provided to our state by an LNG facility. To assure that these issues are addressed in a comprehensive and equitable manner, California has established the LNG Interagency Working Group, composed of more than 20 state, local, and federal agencies. This group, coordinated by the Energy Commission, provides the primary interface between California government and LNG developers.

California Energy Commission

LNG Interagency Working Group

Mission

- Establish close communication among and support for agencies potentially involved in the permitting process of any LNG facility in California.

Working group has met monthly since September 2003.




California Energy Commission

LNG Interagency Working Group

Goals:

- Identify permitting responsibilities for various aspects of an LNG project
- Identify potential resources available to the State that can be used to assist the lead and responsible agencies that review an LNG facility application
- Establish a support network to ensure all affected agencies can operate efficiently and complete their work in a timely manner
- Provide clear guidance to potential developers on the State's LNG permitting process
- Serve as an information resource on LNG by offering workshops to agencies or the public and maintaining a website on LNG (<http://www.energy.ca.gov/lng/index.html>)




California Energy Commission

LNG Interagency Working Group

Members include federal, state and local agencies:

- **Federal**
 - U.S. Air Force
 - U.S. Army Corps of Engineers
 - U.S. Coast Guard
 - U.S. Environmental Protection Agency
 - U.S. Marine Corps
 - U.S. Navy
- **State**
 - Air Resources Board
 - Coastal Commission
 - Coastal Conservancy
 - Department of Fish & Game/Office of Spill Prevention & Response

(continued)



California Energy Commission

LNG Interagency Working Group

- **State (continued)**
 - Department of General Services
 - Electricity Oversight Board
 - Energy Commission
 - Governor's Office of Emergency Services
 - Governor's Office of Homeland Security
 - Office of Planning and Research
 - Public Utilities Commission
 - San Francisco Bay Conservation and Development Commission
 - State Lands Commission
- **Local**
 - City of Oxnard
 - County of Ventura
 - Port of Long Beach



California Energy Commission

Different Review Processes for Offshore and Onshore Projects


- Different federal laws and standards
- Different federal agency leads
- Different state agency leads
- Different timelines for review
- Different role for Governor
- Different approaches for modeling risk



California Energy Commission

Permitting Onshore vs. Offshore Different Federal Laws


<p>Onshore:</p> <ul style="list-style-type: none"> ➤ Natural Gas Act <ul style="list-style-type: none"> ▪ Federal Energy Regulatory Commission lead ➤ Exclusive federal authority to approve or deny application ➤ State/local air/water permits ➤ Land lease decisions by port/city 	<p>Offshore:</p> <ul style="list-style-type: none"> ➤ Deepwater Port Act <ul style="list-style-type: none"> ▪ U.S. Maritime Administration & U.S. Coast Guard lead ➤ Governor's decision on issuance of license ➤ US EPA air/water permits ➤ Land lease decisions by State within state waters
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California Energy Commission

California Environmental Quality Act


- ❖ CEQA was adopted in 1970 and is intended to:
 - inform governmental decision-makers and the public about potential environmental effects of a project
 - identify ways to reduce adverse impacts
 - offer alternatives to the project
 - disclose to the public why a project was approved
- ❖ Under CEQA, state or local lead agency prepares a detailed statement known as an Environmental Impact Report (EIR)
- ❖ CEQA provides the primary mechanism in California for public review and comment on the environmental and safety impacts of proposed projects



California Energy Commission

National Environmental Policy Act

- ❖ NEPA was adopted in 1969 and requires federal agencies to integrate environmental values into their decision making by:
 - Considering the environmental impacts of their proposed actions
 - Considering reasonable alternatives to those actions
- ❖ Under NEPA, lead federal agency prepares a detailed statement known as an Environmental Impact Statement (EIS)
- ❖ NEPA process includes opportunities for public review and comment



California Energy Commission

Federal/ State Coordination


- ❖ For LNG projects in California, federal and state lead agencies have been working together to produce joint EIS/EIRs
- ❖ State and local agencies are working to meet the timelines in the federal process



California Energy Commission

Decision Coordination: Offshore projects


Agency	Activity
U.S. Coast Guard and California State Lands Commission	Environmental review under National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) resulting in Joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR)
Federal Process	
U.S. Coast Guard and U.S. Maritime Administration	Federal Hearing/Decision on Deepwater Port License
Other Federal Agencies	U.S. Environmental Protection Agency, air and water permits, etc.
Governor's Decision	
Governor's Decision	Approve, Approve With Conditions, Deny, or No Action (presumed approved)
State/Local Process	
California State Lands Commission	Certify Final EIR
California Coastal Commission	Consideration of lease application for rights of way for proposed pipelines Federal consistency certification Coastal Development Permit (CDP) and/or appeal of local government CDP (see below)
Local Government	CUP for onshore pipeline within coastal zone governed by approved Local Coastal Plan
State Coastal Conservancy	Lease, if applicable
Other state/local agencies	Other state/local permits (e.g. for onshore pipelines)



California Energy Commission

Decision Coordination: Onshore projects

Agency	Activity
Federal Energy Regulatory Commission and CEQA lead agency (e.g. Port of Long Beach for SES)	Environmental review under National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) resulting in Joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR)
Federal Process	
Federal Energy Regulatory Commission	Natural Gas Act Section 3 approval
Other Federal Agencies	Other federal permits (e.g. U.S. Army Corps of Engineers)
State/Local Process	
Local Government (e.g. Port of Long Beach)	Certify Final EIR Coastal Development Permit and/or Harbor Development Permit Local land use permits (e.g. local lease)
California Coastal Commission	Federal consistency certification and Coastal Development Permit and/or appeal of local government CDP, if applicable Approval of Port Master Plan Amendment, if applicable
Other state agencies	Other state permits (e.g. air permits, water discharge permits)



The LNG Working Group's active participation resulted in the production of a safety report in September 2005 on Sound Energy Solution's proposed LNG import terminal at the Port of Long Beach. This Safety Advisory Report identified


over 100 issues related to the safe siting of this proposed facility. These issues are still under consideration at the Federal Energy Regulatory Commission.

California Energy Commission

Safety Advisory Report

A provision of the Federal Energy Policy Act of 2005:


- allows the Governor of a state with a proposed onshore LNG terminal to designate a state agency to consult with FERC regarding applications
- Governor Schwarzenegger designated the Energy Commission under this section
- directs FERC to consult with that state agency regarding state and local safety considerations
- allows the state agency to furnish an advisory report on State and local safety considerations to FERC



California Energy Commission

Safety Advisory Report

- ❖ The Energy Commission prepared a Safety Advisory Report on the Long Beach terminal
 - Coordinated with other agencies in its preparation
 - Submitted September 2005
- ❖ FERC has not responded to the report




The ultimate goal of the Governor and of the LNG Working Group is to assure that any LNG development is consistent with the state's energy policy and addresses environmental protection, public safety, and local community concerns to ensure protection of the state's population and coastal environment.

The Governor plays an important role in the permitting of offshore projects under the federal Deepwater Port Act. For those offshore projects, the Governor has the authority to approve, veto or approve with conditions any project after the project has had its final federal hearing.

California Energy Commission

Governor's Decision on Offshore Projects

- ❖ For offshore projects, federal law allows Governor to:
 - Approve, approve with conditions, or veto
 - No action taken within 45 days of final federal hearing is considered approval of the license
- ❖ LNG Interagency Working Group will provide information to facilitate Governor's consideration of the license application
- ❖ Governor's decision is independent of agency permitting decisions



The Governor will rely on the expertise of the agencies in the LNG Interagency Working Group to help him exercise this authority so that projects can only move forward when the appropriate environmental and safety standards are being met.