



Western States Petroleum Association
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Joe Sparano
President

September 9, 2009

California Energy Commission Dockets Office, MS-4
Re.: Docket No. 09-IEP-1K
1516 Ninth St.
Sacramento, CA 95814-5512
Via electronic mail to docket@energy.state.ca.us

**Docket No. 09-IEP-1K: WSPA Comments on the Joint Committee Workshop on
Transportation Energy Demand and Fuel Infrastructure Requirements**

This letter contains additional comments from the Western States Petroleum Association (WSPA) on the draft transportation energy demand forecasts and fuel infrastructure needs assessments for the 2009 Integrated Energy Policy Report (IEPR). We have also attached the PowerPoint presentation that WSPA used while providing our initial oral comments at the August 24 workshop.

Overall, WSPA continues to advocate for a realistic, science based, and apolitical approach to establishing future requirements for California's transportation fuel supplies. We believe such an approach will recognize the role of petroleum-based fuel products, and provide a realistic, technologically feasible and cost-effective portfolio of alternative fuels.

The Energy Commission (CEC) has recognized the problems and complexities inherent in the state's implementation of the newly adopted Low Carbon Fuel Standard (LCFS) on top of the federal RFS2 program. WSPA continues to be concerned about the challenges facing our member companies in achieving the ambitious goals of these regulations while still ensuring clean, reliable, and affordable fuels are delivered to consumers.

We believe the CEC can play a vital role in addressing these challenges and suggest the issues identified in this transportation report be highlighted in the 2009 IEPR.

E85

During the August 24 workshop, Commissioner Byron requested written comments from WSPA on E85, in particular the challenges inherent in further use of E85 in California. In response, we offer the following observations and comments.

WSPA disagrees with the amount of emphasis CEC staff placed on the analysis of E85. There is no regulatory requirement to mirror the federal RFS in California's fuels, and in terms of the LCFS it appears E85 will likely not be a primary compliance tool due to the reasons cited below.

The analysis projects the number of flexible fueled vehicles (FFV's), E85 pumps and E85 sales that will be required in California just to meet the U.S. EPA RFS2 regulations. However, the analysis does not project the additional E85 and FFV's forecast as required to meet the LCFS, making the E85 projections unrealistic.

Both CARB and the CEC need to address more directly this issue now. The proposed suggestions in the report of listing FFV's by zip code and requiring the posting of energy equivalent prices on E85 pumps will have no measurable impact on increasing E85 availability.

We have provided the following specific comments, many provided by the American Petroleum Institute (API), on the challenges to overcoming the E10 blend wall and associated issues.

Blend wall Issue

EPA regulations limit ethanol in gasoline to a maximum of 10% for all vehicles except FFV's that are approved by EPA to operate on up to 85% ethanol. Since FFV's only comprise about 3% of vehicles on the road today, the volume of 85% ethanol fuel used is very small.

For example, in 2008 the U.S. consumed 9.6 billion gallons of ethanol; however, only 0.1% (12 million gallons) was used by FFV's as "E85" (a blend of 85% ethanol and 15% gasoline).ⁱ

Given current projections of gasoline use, and the biofuels growth mandated by the 2007 Energy Independence and Security Act (EISA), EPA anticipates that the maximum amount of ethanol that can be legally blended in gasoline will be reached in 2013.

After 2013, the volumes of ethanol mandated by EISA will be in excess of the market's capability to absorb the ethanol under current regulations. This is referred to as the E10 blend wall issue. If gasoline demand continues to fall there will be even less gasoline volume to absorb ethanol, and the blend wall issue would impact ethanol use sooner.

Two ideas have been proposed to move beyond the blend wall: E85 and mid-level blends (i.e. blends between E11 and E15). Both proposed solutions raise a number of challenges, as they include new fuels for which our nation's supply, fueling, and vehicle infrastructure have not been designed.

For E11 and E15 blends, testing of the impacts of such blends on the nation's current fleet of vehicles and off-road engines has not been completed. There is an early

indication that for many vehicles and the nation's 500 million off-road engines, higher ethanol concentrations raise performance and safety issues. Research must be completed to prove that the current infrastructure is compatible with the new fuel.

Vehicle Fleet

The majority of today's vehicle fleet has been designed to handle up to 10% ethanol (in fact, vehicles are still certified with 0% ethanol). There is research being done to investigate whether raising ethanol concentrations above current levels will cause problems both with material compatibility (i.e. parts that break down more quickly when in contact with ethanol) and with the way the vehicles burn the fuel and the operation of the emission control devices.

These issues also apply to other uses of gasoline like lawn equipment, power chain saws, and marine engines.

The prospect of expanding the nation's retail infrastructure to include multiple blends of ethanol at each station in order to make higher concentrations available for newer vehicles also contains extensive challenges. Even if infrastructure concerns did not exist, as we have indicated, the prospect for engine damage to motor vehicles and non-road engines may be significant due to mis-fueling.

Before an E11-E15 solution can be used with the current fleet of vehicles, substantial testing needs to be completed to ensure that the entire legacy vehicle fleet is in fact compatible with the new fuel. Long-term material compatibility and emissions system durability are serious concerns.

Failing to prove that compatibility exists in advance of higher volume use could cost automakers and consumers billions of dollars if repairs are required after extended use of the new fuel.

In an E85 solution, the technical concerns of material compatibility and emissions control have already been addressed in the design of the FFV. The first issue is getting enough of these vehicles into the fleet. The second issue is to get owners to actually use E85 as owners increasingly become aware of the relative energy content of gasoline vs. E85.

Even if the domestic automakers meet public commitments to make 50% of their new vehicles as FFV's by 2012, there will be an insufficient number of FFV's in operation to address the E10 blend wall issue. Any proposed solution based on this strategy must be phased in over sufficient years to recognize the nation's fleet turnover rate.

Retail Dispensing

Like the vehicle barriers for E11-E15, equipment at retail sites has only been approved for use with up to 10% ethanol. Because this equipment is heavily regulated (OSHA,

State Fire Marshals, EPA, CARB etc.), there will be several regulatory issues that will need resolution in order to enable retail site owners to maintain compliance.

These regulations are designed to protect consumer and worker safety as well as to protect the environment.

Retail availability of E85 relies on retail site owners voluntarily choosing to invest in E85 dispensing equipment. The cost to retrofit a service station to handle E85 can run from \$20,000 to more than \$200,000, and federal tax credits cover only part of these costs. More than 90% of the nation's 165,000 retail outlets are owned or operated by independent businessmen and businesswomen. The decision whether to sell E85 is made by these independent people.

They must individually assess the economic cost and anticipated return of such a decision. Today, it appears that few can justify investment in E85 even with the available tax credits, because of the small number of consumers that have shown interest in using the product.

Consumer Acceptance

Finally, as mentioned above, there are significant consumer issues associated with E85. FFV's typically experience a 25-30% loss in fuel economy compared to gasoline when they are operated on E85, due to the much lower energy content of the E85.ⁱⁱ

This loss of fuel economy requires consumers to refuel more frequently than with E10. In addition, historically the energy-adjusted cost of E85 has been much higher than E10. It appears that these are at least some of the reasons use of E85 fuel by FFV owners has been low.

U.S. EPA supports this observation. EPA estimates that FFV owners only tapped into about 0.2% of their vehicles' E85 ethanol usage potential last year.ⁱⁱⁱ EPA also estimates that owners with adequate access to E85 fueling stations only fueled with E85 about 5% of the time.^{iv}

Conclusions

There are no easy solutions to the E10 blend wall problem. Stakeholders are actively engaged in the problem-solving process to determine the best solution, and it will take ongoing cooperation of industry, regulators, and legislators to ensure that renewable fuel goals are met without disrupting fuel supplies or adversely affecting consumers.

i US Environmental Protection Agency, May 2009, "Regulation of Fuels and Fuel Additives: Changes to the Renewable Fuel Standard Program," Preamble, p. 249

ii <http://www.fueleconomy.gov/feg/FEG2009.pdf>

iii US Environmental Protection Agency, May 2009, "Regulation of Fuels and Fuel Additives: Changes to the Renewable Fuel Standard Program," Preamble, p. 250

iv Ibid

Biodiesel B5 Blend walls

Similar to the ethanol blend wall issue discussed above, there is also a potential for biodiesel blend walls that would limit the amount of biodiesel that can be blended into the diesel fuel pool. This biodiesel blend wall has multiple layers that need to be addressed.

The first layer is the lack of approved underground storage and dispensing equipment for higher levels of biodiesel. The second layer is the inconsistent coverage by vehicle OEMs and extended warranty companies of biodiesel blends at different levels (i.e. B5, B20). The third layer is the high cost of adding another grade of diesel at the retail level such as B20.

The draft transportation energy demand and fuel infrastructure report acknowledges the E10 blend wall issue but ignores the biodiesel blend wall issue. We believe this oversight should be addressed since the LCFS will apply to both the gasoline and diesel pools.

WSPA also has several specific comments to offer as well on the transportation energy demand portion of the report.

- Some of the data in the report is very current and is from 2009; however some of the data is based on 2007 and 2008 information, such as economic data, vehicle ownership, etc. We question whether this older data is appropriate and still representative based on the significant economic downturn that has occurred and the ongoing fallout from that downturn.
- In Chapter 1 claims the transportation energy demand and fuel price forecasts support several state energy policy and program activities, including the alternative fuel and vehicle technology program, petroleum use reduction and efficiency work, etc.
 - Most of the recent and future demand figures seem to indicate there is, and will be, a continuing decline in petroleum demand (at least for gasoline).
 - Declining petroleum demand raises the question of should the state continue to aggressively push alternative/renewable fuels programs that may raise consumer costs and potentially create fuel supply problems based on prospective alternative fuels that may not be available in the proposed time frames.
- Although we appreciate the effort made by CEC staff to factor the recent economic downturn and lower demand into their forecasts, more information is needed. In order to provide more constructive responsive comments, we ask that CEC provide more details on the basis for their estimates. This would include showing the values for per-capita consumption as well as more detail on LCFS compliance methods in the state.
- In a similar vein, it is difficult to comment on the projected increase in crop yields, as there is no discussion that would help us understand how sustainable this increase may be. Recent growth has come at the expense of greatly increased

water usage. Kansas is threatening to sue Nebraska, alleging the latter state's increased water use has caused a large depletion in an aquifer. And this increase in per-gallon water use to make ethanol has led to postulation as to whether this fuel is sustainable (*Water Embodied in Bioethanol in the United States*, Yi-Wen Chiu, Brian Walseth, and Sangwon Suh, *Environ. Sci. Technol.*, 2009; *Ethanol's Water Shortage*, WSJ, October 17, 2007).

- It also appears the increase in corn yields is coming as a result of increased fertilizer usage; and it is unclear how much of this added fertilizer decomposes to additional N₂O or is washed out of the soil leading to increased water pollution. We believe the CEC needs to include discussion in the document regarding the issues highlighted above.
- WSPA also would like to comment on one of California's objectives in the IEPR - that is, to reduce petroleum dependence – particularly from foreign sources. As it stands now, the LCFS has a low carbon intensity designation for various ethanol pathways from foreign sources. This seems inconsistent with the state's objective.
 - The report does not address the possibility the LCFS may promote the development and use of foreign ethanol and biodiesel.
 - This may create significant problems if these sources cannot meet the market demand for not only California as well as other states' (or federal) programs structured similarly to California's. In such a case, California may find itself with unexpected additional economic impacts that could lead to less resources being available to reduce criteria pollution.
- This case is not restricted to foreign sources of biofuels as the same situation may occur for domestic supplies as other entities, including other countries, compete for these sources.

In closing, I want to thank the CEC staff for all the work that was required to complete the Draft report. It is clear that ensuring the adequacy of California's future cleaner-burning energy supplies should be a top public policy priority.

Sincerely,



Cc: Commissioner Jeffrey Byron
Commissioner James Boyd

Western States Petroleum Association

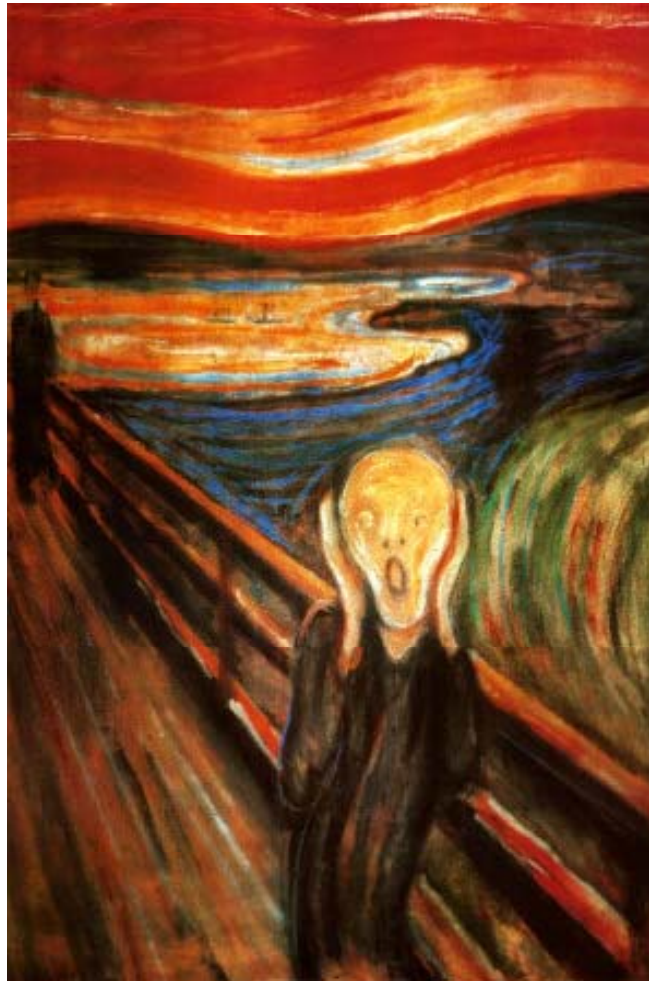
California Energy Commission Transportation Energy Demand and Fuel Infrastructure Requirements Workshop



CEC 2009 IEPR Workshop
Joe Sparano
Western States Petroleum Association
August 24, 2009

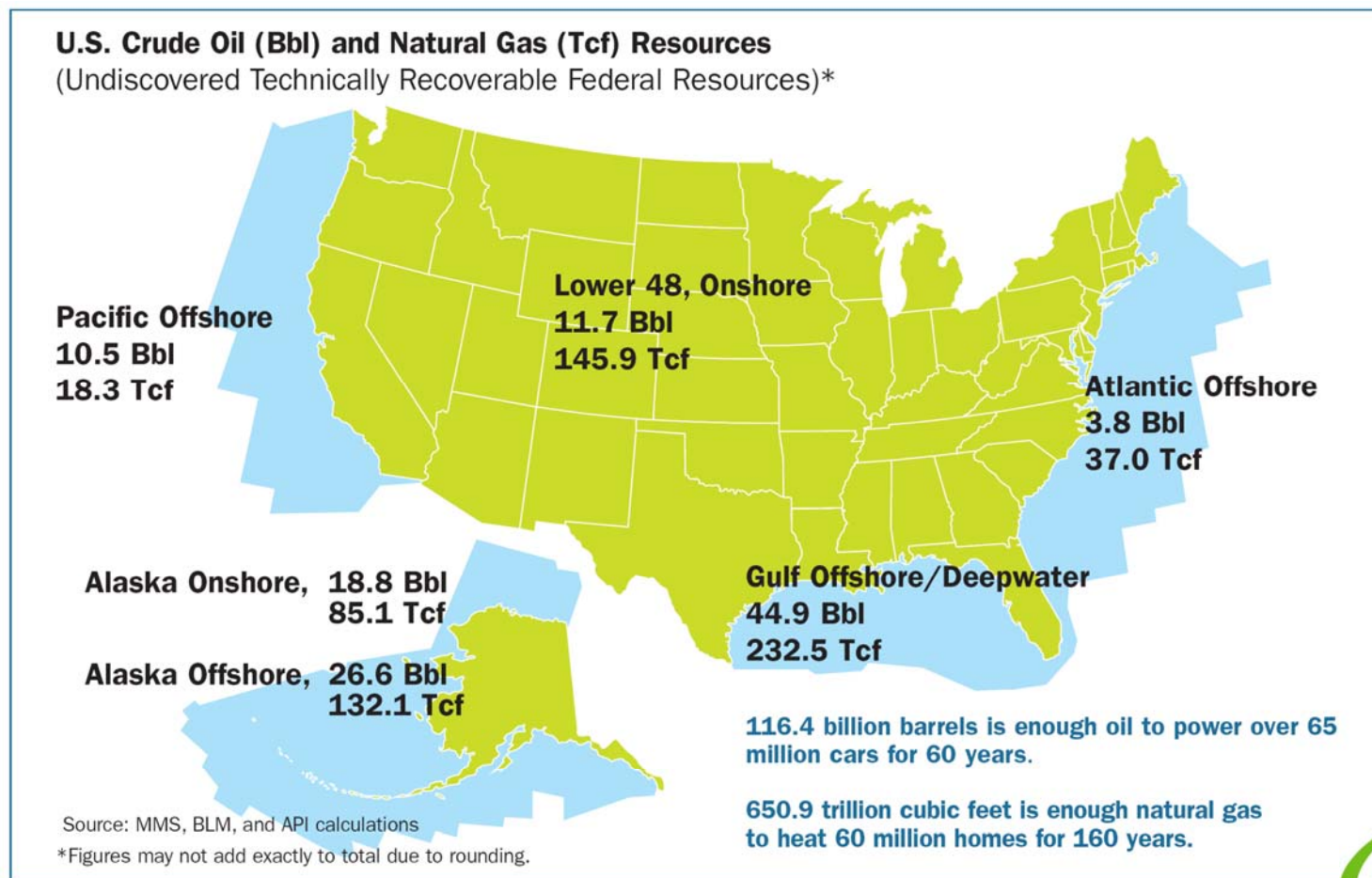
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Myth: The world is running out of oil



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Access to domestic energy resources - petroleum supply constrained by policies



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Access to domestic energy resources - technology reduces footprint, improves safety

**Minerals Management Service
Pacific OCS Region**

Message from the Regional Director

Energy security is on the minds of many Americans. Lately, it seems not a day goes by that we aren't reminded of the far-reaching impact energy has in our daily lives and on our economy. Through close consultation and coordination with West Coast States, other government agencies, and key stakeholders, the MMS Pacific OCS Region is working to seek possible solutions to our Nation's complex energy situation.

To date, the MMS Pacific OCS Region continues to diligently pursue its [mission](#) of effectively and responsibly managing America's offshore energy resources on the Pacific OCS. Led by a [vision](#) based on collaboration, the Pacific OCS Region carries out its day-to-day operations through a diverse and well-trained staff dedicated to working closely with State and local governments, ocean-users and other key stakeholders. Through these working relationships, the Pacific OCS Region obtains a greater appreciation of regional and local issues; this, in turn, provides the agency with insight to better understand and respond to issues of concern while pursuing the Region's core principles of [safety](#), [science](#) and [sustainability](#).

Safety
The Region is committed to ensuring clean and safe energy and mineral operations on the OCS, and protecting coastal and marine environments potentially affected by the activities we regulate. This commitment is demonstrated by our impressive [safety record](#). Since 1970, a total of only 850 barrels of oil have been lost into the marine environment from Pacific OCS operations. This is less than the amount of oil seeping naturally into the ocean from cracks in the seafloor during any given week offshore California.

Our inspectors are offshore 365 days a year, inspecting the 23 OCS platforms for compliance with MMS regulations and various other conditions of operation. Additionally, the Region's inspection protocol includes engineers and environmental scientists, many of whom participate in systemic reviews of the facilities as well as in ongoing and regular inspections. The Region continues to improve its regulations and enforcement procedures to further ensure clean and safe management of OCS resources.

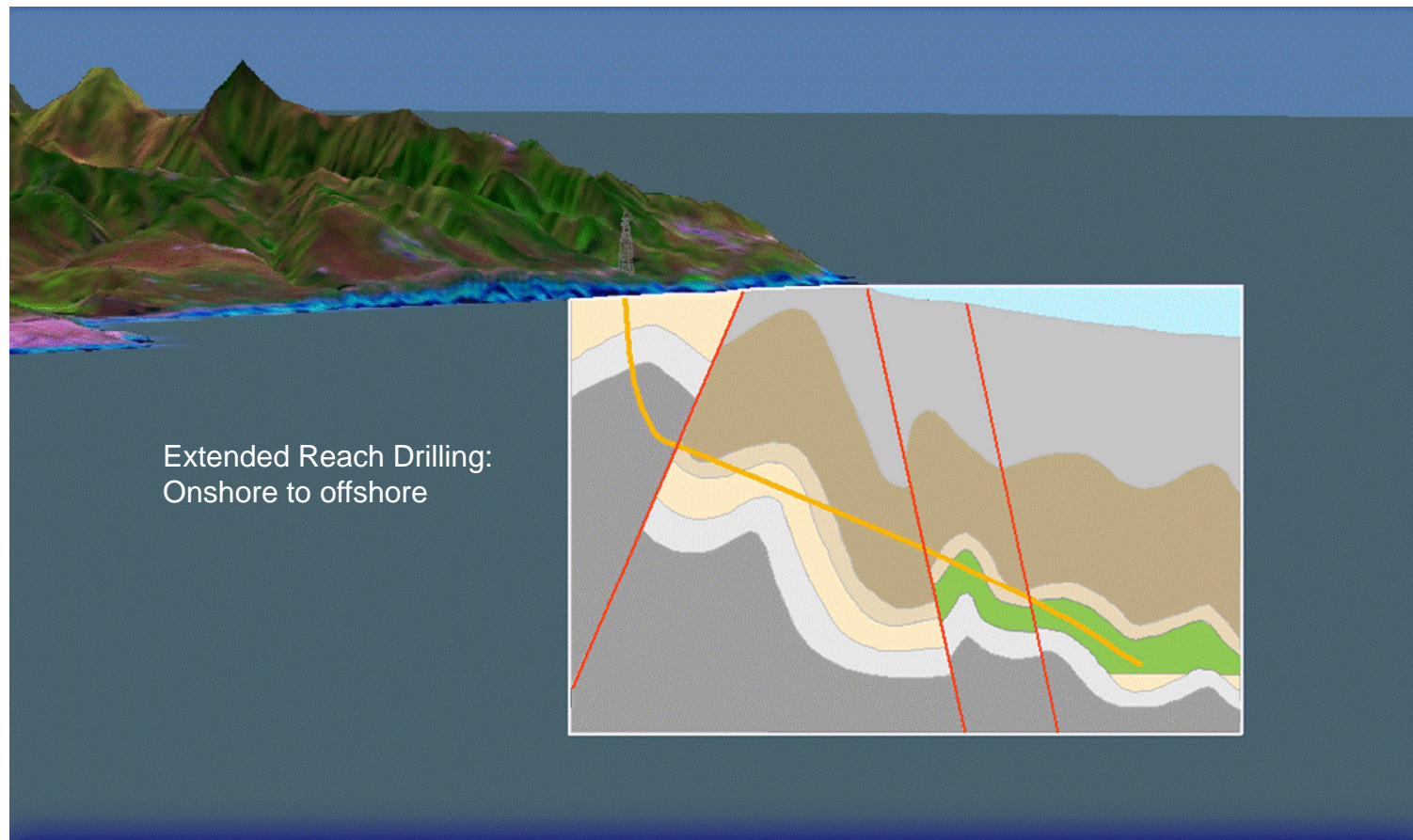
Science
Scientific research and advancement are essential to the success of the Region. From an operational perspective, technological improvements within the energy industry have the potential to increase access to resources while reducing associated adverse environmental impacts. Moreover, since 1973, the MMS [Regional Environmental Studies Program](#) has cumulatively funded 189 studies addressing Pacific OCS issues at a value of almost \$124 million. In many cases, these studies represent pioneering research for the entire California coastline. The scientific information obtained from these studies assists the Region in assessing the impacts of OCS operations on the marine and coastal ecology along California. Information from existing and future studies will become invaluable in understanding the effects of alternative energy development on the OCS.

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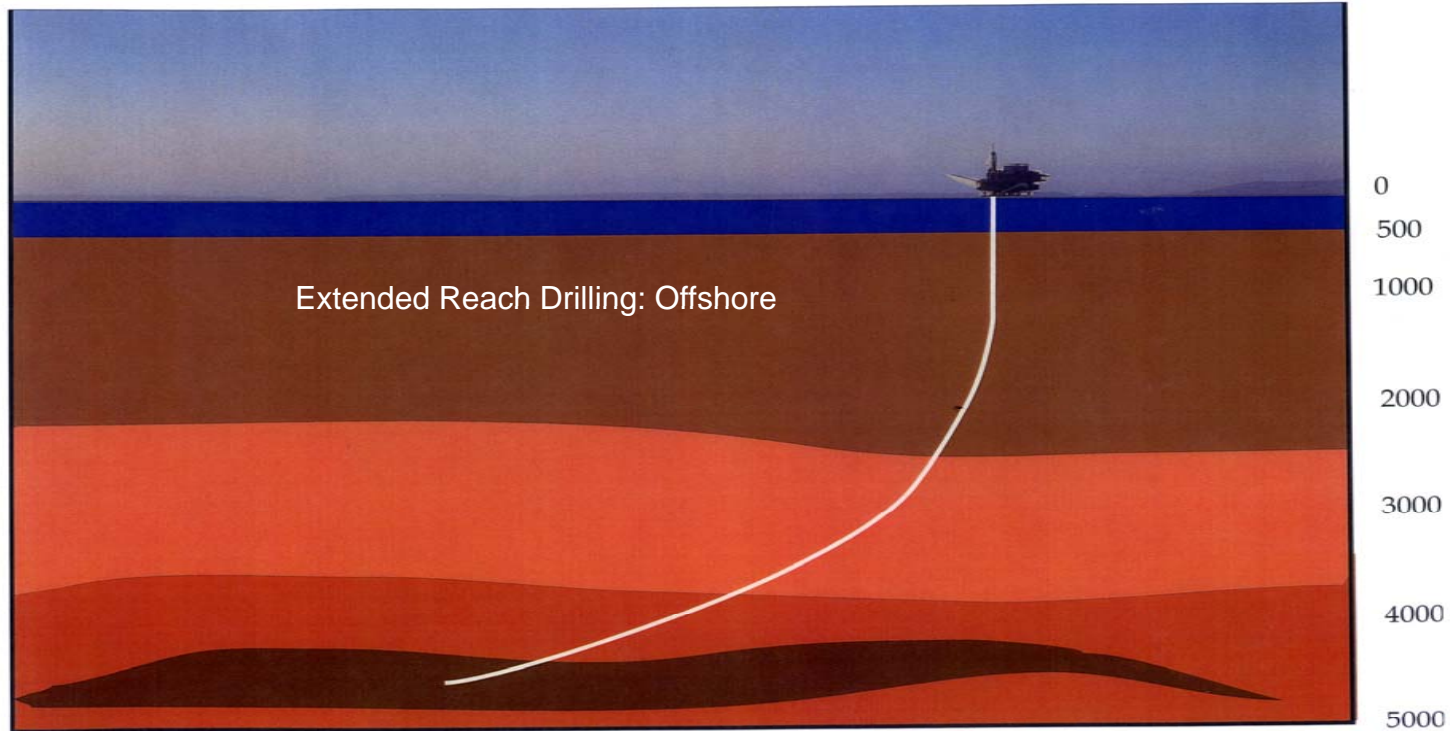
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Technology reduces footprint, improves safety



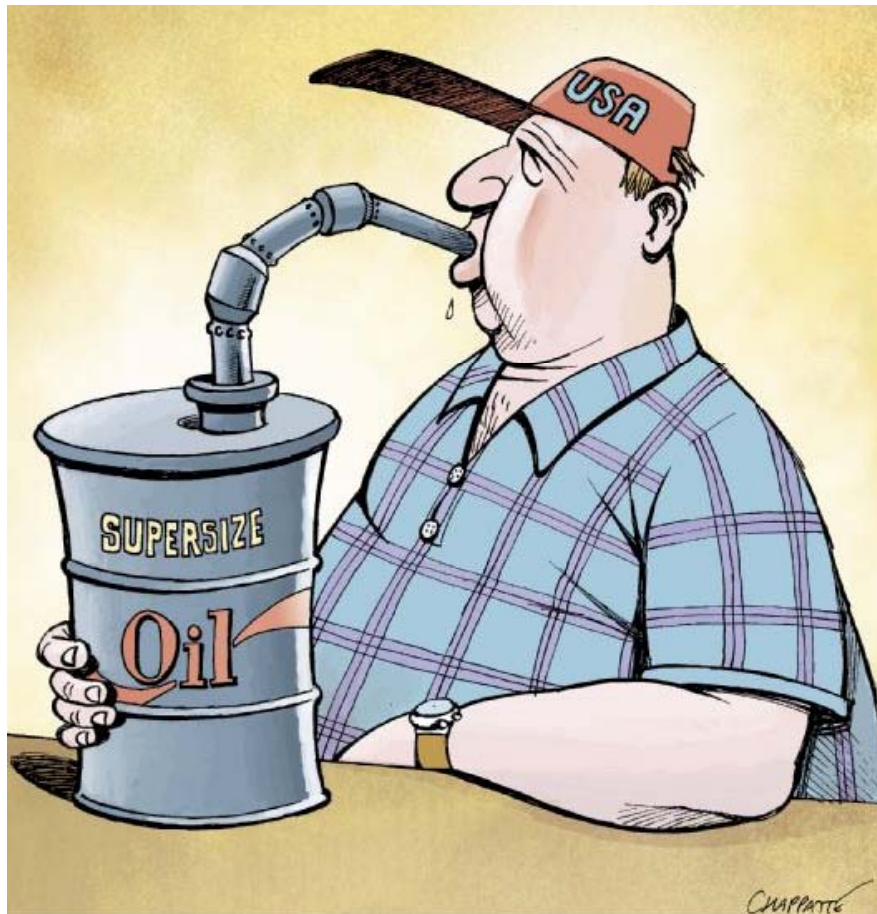
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Technology reduces footprint, improves safety



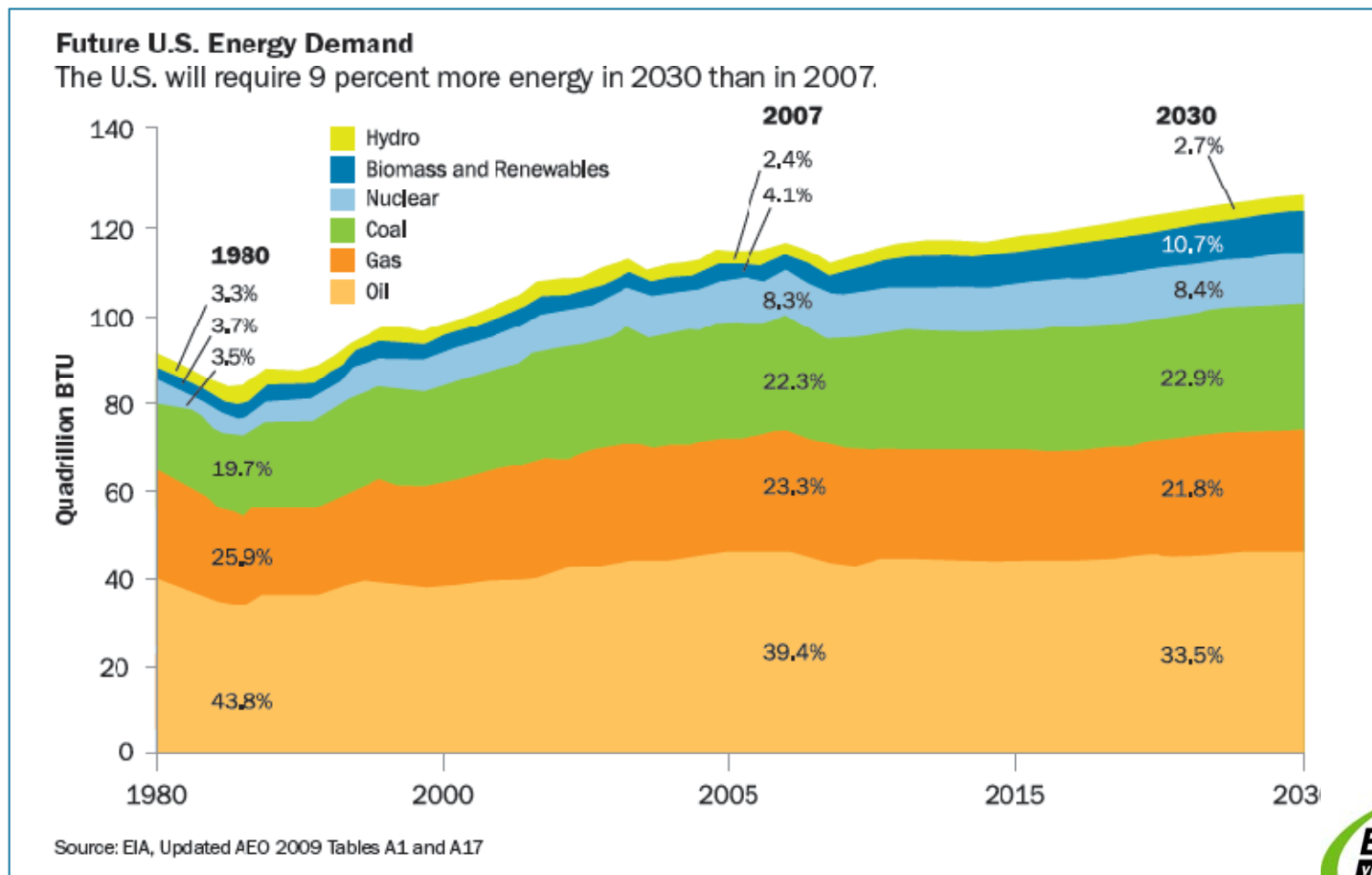
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Myth: We just need to kick our oil addiction and move to alternative energy



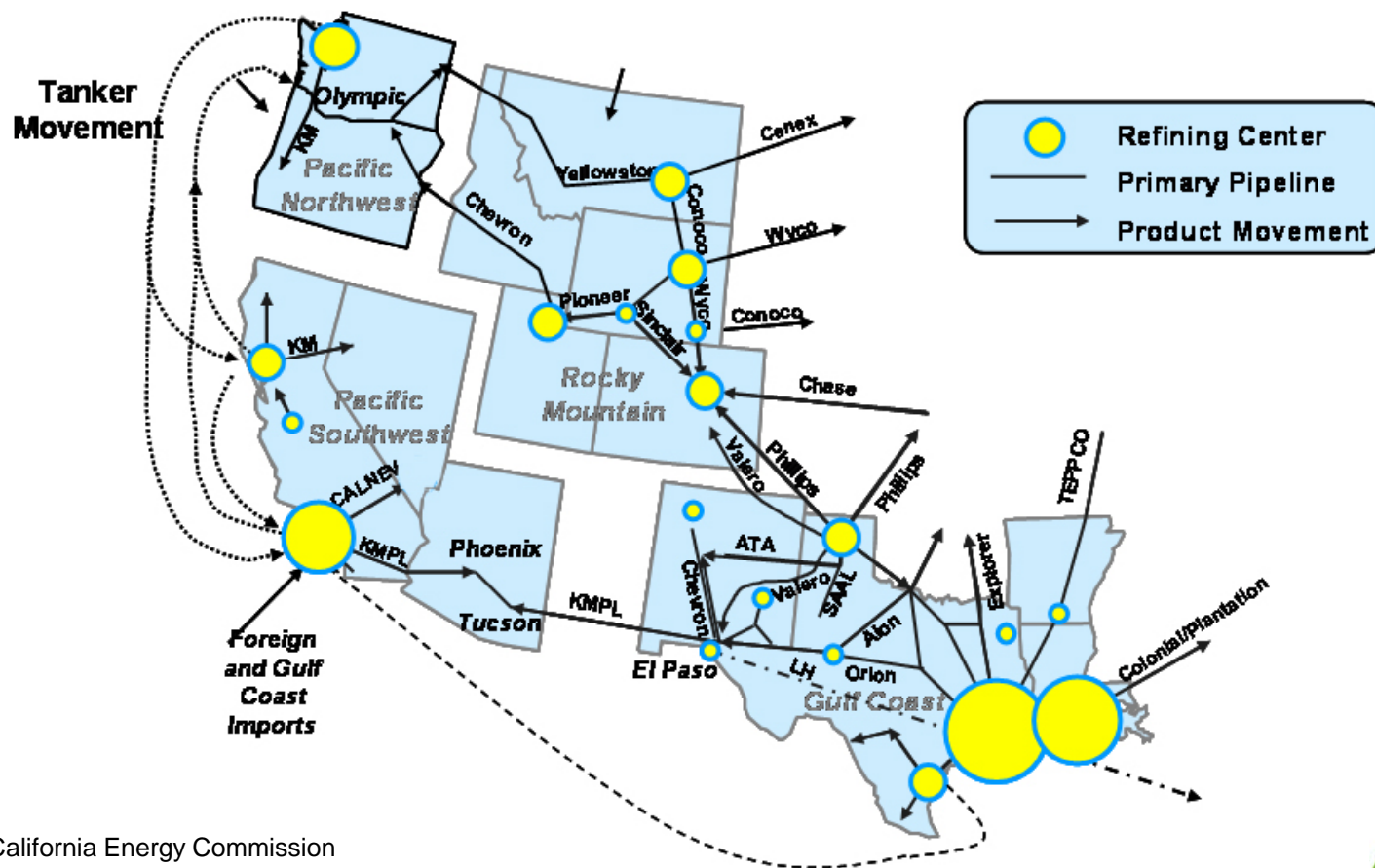
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Putting future energy into perspective



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California is an energy island



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The future will require multiple sources/strategies

- Despite drop in demand, the U.S. needs to improve energy security by better utilizing domestic energy supplies
- We can develop U.S. energy safely and with environmental sensitivity
- We must:
 - ✓ Add domestic supplies through greater access
 - ✓ Conserve energy
 - ✓ Use energy more efficiently
 - ✓ Develop alternative and renewable fuels and technologies



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