

Docket number 11-IEP-1A

December 20, 2011

Mr. Robert B. Weisenmiller,
Lead Commissioner, Chair
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

DOCKET	
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DATE	Dec.20 2011
RECD.	Dec.21 2011

Dear Commissioner Weisenmiller,

I appreciate the California Energy Commission's efforts to develop a series of scenarios for transportation fuels through 2030. It is evident that CEC's staff and the commissioners have put extensive thought and effort into the development of the Draft 2011 IEPR. I have heard that CEC's energy analysts are very intelligent, extremely well-educated and highly trained. However, similar to the early years of the global warming debate, I fear strong political forces may be gathering strength (hopefully in vain) to obscure the twin beacons of science and truth.

As California uses more petroleum than any other country in the world outside of China (and obviously the United States as a whole), CEC's 2011 IEPR is of tantamount importance. The content of this report is also critical because of the positive correlation of oil *availability* (and price) to Gross Domestic Product (GDP) and related unemployment rates and tax revenues. This data should also provide input for the purpose of state budget forecasting. Indeed the scenario element of the report may be the single most important scenario planning conducted by any segment of our state government this year.

While I have long admired the CEC for its leadership with regard to climate change risk and mitigation, my concern is that oil depletion is very likely an even more immediate, if not more serious, risk and an area where California's leadership appears to have waned¹. This is especially concerning since the rest of the nation often follows California's lead.

Please note that Mr. J. Randy Udall who was at the time the Executive Director of C.O.R.E. located in Aspen, CO (brother of former House Peak Oil Caucus leader: U.S. Senator Mark Udall and cousin of U.S. Senator Tom Udall) stated in 2006:

"While the world is focused on climate change it is about to be T-Boned² by oil depletion."

2011 Integrated Energy Policy Report Draft- Approximate Key Word Counts

Renewable (about 473)	Non-renewable or Nonrenewable (0)
Demand (about 243)	Supply (about 90 times)
Electricity (about 207)	Oil (63), Petroleum, (99), Fuel/Biofuel (168)
Climate Change or Global Warming (about 25)	Depletion, Shortage or Peak (0)

Dr. James Pennebaker of the University of Texas at Austin notes that “Using computerized text analyses on hundreds of thousands ... and other texts, it is possible to begin to read people’s hearts and minds in ways they can’t do themselves.”³

Of course this is far from a perfect science and not all synonyms in the 2011 IEPR were searched, yet the CEC management and staff may find the results of this exercise to be of interest. Note that the word “renewable” is used approximately 473 times while the word “non-renewable” is never used. The word “supply” is used nearly 1/3 as much as the word “demand.” And perfectly useful words which don’t appear at all are: “depletion, shortage or peak.” At first I thought this last item may be due to a lack of focus on oil/petroleum/fuels versus electricity, but liquid fuel synonyms outpaced the word “electricity” within the report by a ratio of about 3:2.

Clearly the CEC is well aware of the state’s dependence on liquid fuels and the staff does a very good job of describing the use of biofuels as a response to climate change. Yet, a response to the clear and present danger of oil depletion as laid out in the U.S. Joint Forces (Air Force, Army, Coast Guard, Marines and Navy) report from 2010 is largely missing.⁴

I am providing relevant notes from an oil conference which was held in November 2011 and focused on world oil supply, consumption and likely impacts on America The conference website address is: <http://www.aspousa.org/conference/2011/>

To become a more effective resource the 2011 IEPR needs to respond directly to the challenges outlined below:

1. The world currently uses about 84 million barrels of oil per day (MBPD),
2. The United States uses about 18.5MBPD of oil to supply 5% of the world’s population,
3. The United States provides about ½ of its own current oil consumption,
4. United States’ oil production peaked in 1970,
5. The world is using four barrels of oil for every new barrel discovered,
6. Most of the recent oil and gas “finds” have been known about for years,
7. The average U.S. citizen uses 23 barrels of oil/year,
8. The average Chinese citizen uses 2 barrels of oil/year,
9. Growing demand from China and India will keep average oil prices over \$100/barrel,
10. \$100/barrel oil is high enough to keep U.S. GDP growth at very low levels,
11. Tomorrow’s growth is the collateral for today’s debt and growth is dependent upon energy, specifically liquid fuels for transportation,
12. 15 trillion dollars of sunk cost is invested in equipment built to run on liquid fuels,
13. It is understood that publically held oil companies are currently investing in projects that are only profitable with oil priced at, or above, \$100/barrel,
14. China can outbid the U.S. on price from two barrels per person per year up to eight barrels per person, per year,

15. Production and profits cannot be maximized at the same time meaning that short-term profitability often wins out over long-term overall production,
16. Global oil production has, or will likely, peak within one to four years⁴,
17. Global oil production is projected to be reduced by 14% by the end of 2015⁴
18. Historically a 1% decrease in oil availability is congruent to 0.5-0.6% reduction in GDP.

I respectfully request that the State of California include the following items in the Final 2011 IEPR and all other CEC documents pertaining to liquid fuels and liquid fuels planning:

1. Fully staff all related NASEO, and U.S. Department of Homeland Security table top exercises,
2. Work in conjunction with the CEC's media office and the Governor's office to acknowledge the challenges ahead for all Californians in order to help prepare the citizenry and avoid needless lawsuits due to "failure to warn,"
3. Include oil depletion risks and challenges in the final version of the Energy Emergency Response Plan which is currently being updated. Note that [The Public Resource Code Section 25216.5(b) Authorizes the Energy Commission "... to Prepare an integrated plan specifying actions to be taken in the event of an impending serious shortage of energy, or a clear threat to public health, safety or welfare."] and [The Public Resource Code Sections 25700 "The Energy Commission shall, in accordance with the provisions of this chapter: develop contingency plans to deal with possible shortages of electrical energy or fuel supplies to protect public health, safety and welfare."]
4. Advance from the Readiness Phase to the Verification Phase of CEC's Energy Emergency Response Plan,
5. Include Oil Depletion in a revised Scope of Work to add to Annko Technologies[®] excellent work on counter-terrorism.
6. Then coordinate oil depletion work between Annko Technologies[®] and the CEC's current EERP contractor to reduce any duplication and add depth to how oil depletion is addressed,
7. Create an active and vigorous response to the challenges of oil depletion in order to make this the CEC's equivalent of General George Washington fording the Delaware River and not Emperor Napoleon Bonaparte's ignominious fate at Waterloo.

Thank you for your interest.

Best Regards,

Gary Goodson

"First they ignore you, then they laugh at you, then they fight you, then (we) win."

-Mahatma Ghandi

REFERENCES

¹”These scenarios are not intended to be explicit predictions of the future, but instead explore the potential range, magnitude, and direction of trends in energy use and price, vehicle purchase, and supply and infrastructure requirements under a wide array of uncertain future conditions.” 2011 IEPR p.13

²”Broadside collisions, known as T-bone collisions in the United States, are where the side of one vehicle is impacted by the front or rear of another vehicle or a fixed object, forming the "T". Vehicle damage and occupant injury are more likely to be severe.”
http://en.wikipedia.org/wiki/Side_collision

³ http://www.utexas.edu/news/2011/08/01/pennebaker_word_choice/

⁴http://www.jfcom.mil/newslink/storyarchive/2010/JOE_2010_o.pdf

⁵ **Robert Hirsch**; said that the U.S. Department of Defense is **very direct - that there is a window of just 1-4 years before a long decline (in oil production) begins. And by 2015 available oil will decrease by 10 million barrels a day.** Once the U.S. begins a crash program to develop and produce coal-to-liquid, gas-to-liquid, etc. it will take five years to make commercially significant amounts of liquid fuels and plus an additional 25 years (30 years from when we start this effort) to produce 34 million barrels per day. GDP could decline by 84% in 30 years. Energy returned on energy invested decreases from conventional oil presently 9-15:1, Tar Sands 6-8:1, Biofuels 2:1, Coal-to-Liquids 2:1. Even if there is a negative EROEI CTL could still be *economically* viable. As the EROEI decreases more and more of society’s resources are dedicated to producing liquid fuels. And if ALL of the world’s arable land were dedicated to biofuel production it would equal just 40% of the oil the world is using today.

Robert Hirsch’s Professional Experience

Hirsch has served on numerous advisory committees related to [energy development](#), and he is the principal author of the report [Peaking of World Oil Production: Impacts, Mitigation, and Risk Management](#), which was written for the [United States Department of Energy](#).

Hirsch directed the [US fusion energy program](#) during the 1970s evolution of the [Atomic Energy Commission](#) (including initiation of the [Tokamak Fusion Test Reactor](#)), through the Energy Research and Development Administration to the present [Department of Energy](#). In addition to his role in development of fusion energy by [magnetic confinement](#), Hirsch was also interested in [inertially confined](#) fusion.

His previous management positions include:

- Senior Energy Program Advisor, SAIC (World oil production)
- Senior Energy Analyst, [RAND](#) (Various energy studies)
- Vice President of the [Electric Power Research Institute](#) (EPRI).
- Vice President and Manager of Research and Technical Services for Atlantic Richfield Co. ([ARCO](#)) (Oil and gas exploration and production).
- Founder and CEO of [APTI](#), a roughly \$50 million/year company now owned by [BAE Systems](#). (Commercial & Defense Department technologies).
- Manager of [Exxon](#)'s synthetic fuels research laboratory.
- Manager of Petroleum Exploratory Research at Exxon. (Refining R & D).
- Assistant Administrator of the [U.S. Energy Research and Development Administration](#) (ERDA) responsible for renewables, fusion, geothermal and basic research. (Presidential Appointment).
- Director of fusion research at the [U.S. Atomic Energy Commission](#) and ERDA.

Hirsch has served as a consultant and on advisory committees for government and industry. He is past Chairman of the Board on Energy and Environmental Systems of the National Research Council, the operating arm of the National Academies, has served on a number of National Research Council committees, and is a National Associate of the National Academies. In recent years, he has focused on problems associated with the peaking of world conventional oil production and its mitigation.