



Western States Petroleum Association  
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**Catherine H. Reheis-Boyd**  
President

March 11, 2011

California Energy Commission  
Dockets Office, MS-4  
Re. Docket Nos. 11-IEP-1C, 11- IEP-1K, 11-IEP-1L  
1516 Ninth Street  
Sacramento, CA 95814-5512

**DOCKET**

**11-IEP-1K**

DATE Mar 11 2011

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**Re. 2011 IEPR-Electricity, Natural Gas and Transportation Energy Forecasts**

Docket Numbers: 11-IEP-1C, 11-IEP-1K, 11-IEP-1L

Dear Commissioners and Staff:

This letter contains the Western States Petroleum Association's (WSPA) written comments on the documents for the February 24 joint committee workshop on economic, demographic, and energy price inputs for electricity, natural gas and transportation fuel demand forecasts. WSPA is a non-profit trade association representing twenty-six member companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and five other western states.

WSPA has participated in every IEPR for the past several years, as our members' business activities are directly and indirectly impacted by the California Energy Commission's (CEC) recommendations. We have testified numerous times before the Commission, and have also submitted many sets of comments.

We recognize that the workshop was designed to receive public input from stakeholders in the development of materials as input to the 2011 IEPR. We have provided below and in our contractor's attached set of comments, our views on the several documents presented at the workshop, in addition to what we heard at the workshop. Some of our comments have been excised and presented from past sets of WSPA comments since we believe they have still not been adequately addressed by the CEC.

**Petroleum Reduction**

The Commission continues to favor petroleum reduction policies, despite widespread recognition there is uncertainty about the overall demand for conventional and alternative transportation fuels in the long-term, and about which vehicles may be marketed in the state.

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These petroleum reduction policies also continue to be embraced by CEC despite recognition that the introduction of commercial scale replacements of alternative fuels and vehicles may not be as near-term as some would like – even with significant incentives from federal, state and local governments.

The 2003 IEPR recommended that the state increase the use of non-petroleum fuels to 20% of on-road fuel consumption by 2020. At the time, this was characterized by the state as a fuels diversification goal rather than a petroleum reduction goal.

Also, AB 1007 required a plan to increase California's production and use of alternative and renewable fuels. This was characterized as a fuel diversity initiative and an expansion of actions to promote alternative and renewable fuels.

These efforts are now being characterized as petroleum reduction initiatives; an approach that we believe is inappropriate, counterproductive and very risky in the context of improving California's energy supply security.

We do not believe that there is a state law, executive order or policy mandating petroleum reduction. There are several policy initiatives promoting greenhouse gas emission reductions, fuel efficiency and diversity. And, there are state policies promoting reliable and adequate transportation fuel supplies.

But there is no law, executive order or policy that says the state should encourage or even tolerate the systematic elimination of petroleum fuel supplies at the expense of the state's economy or consumers.

A healthy economy depends on a reliable supply of transportation fuels. A reliable supply of transportation fuels requires the contribution of efficiency measures and petroleum-based fuels, plus alternative and renewable fuels.

While the state can no longer rely only on petroleum-based fuels, we also do not have the ability to rely only on efficiency measures or alternative and renewable fuels. As we have testified on many occasions before the Commission, we believe the appropriate pathway to fuels diversification has three segments: efficiency; a cleaner burning petroleum fuels contribution; and, a growing alternative and renewable fuels component.

However, rather than pursuing that three-pronged approach, the CEC has chosen a strategy with a foundation of petroleum reduction – this despite recognizing the many uncertainties associated with achieving adequate future supplies of alternative and renewable fuels.

Nowhere in the IEPR material can we find a suggestion that while taking concerted steps to grow the alternative and renewable fuels market, the state should also promote adequate supplies of petroleum-based fuels. WSPA believes this initiative should be included in a responsible energy policy report such as the IEPR.

### **Dieselization of Transportation Fleet**

Ironically, one of the easiest pathways to reduce gasoline demand while still maintaining adequate energy supplies is to pursue dieselization of the state's transportation pool – in particular for the light-duty fleet – since there can be a 20-30% efficiency improvement through the use of diesel fuel. In addition, the infrastructure already exists in the state for diesel distribution and access by consumers. Since one of the state's core goals is to reduce greenhouse gases significantly, increasing the use of diesel fuel is consistent with that goal.

The CPUC released on March 1 a white paper [The Case for Diesel Cars in California – Policy and Planning Division] which includes the following statements encouraging the promotion of diesel fuel:

*Executive Summary*

*California has adopted the aggressive goal of reducing its greenhouse gas emissions to 1990 levels by 2020. To achieve this goal, the state is transforming its largest source of emissions, the transportation sector, by promoting the switch from gasoline-powered vehicles to cleaner alternative fuels, such as electricity, and is contemplating substantial infrastructure investments to support this transition. However, as California considers the appropriate measures to make investments to promote electric vehicles, there is an alternate path that should be considered alongside deployment of electric vehicles and associated infrastructure. Diesel and biodiesel-powered vehicles, which are substantially cleaner and more fuel-efficient than conventional gasoline powered vehicles, can be integrated into California's fleet in a short time frame, using existing infrastructure and technologies, with minimal state-sponsored investment. They increase the range of economic and environmentally beneficial options for consumers.*

**Transportation Fuels Supply**

WSPA believes there is a realistic possibility that CEC's public policy decisions in the 2011 IEPR may create future transportation fuels supply problems for the state, its businesses and consumers.

The CEC does not appear to be actively and urgently working to chart a specific strategy that will deal with the very tight demand/supply outlook embedded in the Commission's transportation fuels forecasts.

Staff has indicated there are many state laws, policies and executive orders that are being implemented to increase the use of renewable and alternative fuels and vehicles, and accelerate the adoption of low carbon fuels through regulatory and funding mechanisms, as well as to improve the state's energy supply infrastructure.

These laws and policy initiatives are in addition to federal laws and policies, most notably the federal renewable fuels standard. With so many policy initiatives driving alternative and renewable fuels, there is a real risk of the state sending confusing or conflicting signals to the market.

In responding to so many alternative fuels initiatives, state agencies are sending anti-petroleum signals that could seriously impact transportation fuel supplies before alternative and renewable fuels can fill the gap.

Finally, there are previously identified government-imposed barriers that fuels providers encounter doing business in California. These barriers include complicated and difficult permitting processes, regulatory uncertainties, infrastructure capacity limitations, and individual port policies that are intended to restrict or eliminate petroleum bulk storage and handling facilities.

The barriers not only restrain petroleum infrastructure development but also may impair timely alternative and renewable fuels development.

The IEPR is clearly the vehicle for an in-depth discussion of what needs to be done to grow a domestic alternative and renewable fuels industry as well as address factors hindering modernization of the petroleum infrastructure. WSPA would like the IEPR to address the difficult issues of permitting and local decision-making for all types of fuels.

And, the IEPR needs to provide recommendations and a specific plan for more marine facilities/cargo handling capacity, and how to address previously identified specific deficiencies in the state's petroleum infrastructure.

CEC IEPR policy focus includes minimizing the environmental impacts of energy production and use, ensuring reliable energy supplies and energy security, promoting resource diversity and supporting the state's economy.

To many of us, this policy focus also includes a responsibility for ensuring that the state's consumers always have reliable, adequate and affordable transportation fuels supplies.

It appears the Commission has not met that portion of the policy focus, and instead has continued to focus selectively on issues such as climate change and growing "green" fuels, rather than ensuring there will be reliable, adequate and affordable transportation fuels of all types for consumers.

The state's economic viability and future potential may not be nearly as secure without a commitment by the CEC to avoid a fuel supply gap. This can be accomplished by supporting all types of fuel supplies and addressing all of the issues important to ensuring a robust supply of cleaner burning fuels for California consumers and businesses.

### **Hydrogen**

In line with WSPA's comments during the February 24 workshop, we request the CEC include a thorough analysis of hydrogen fuel in the 2011 IEPR. This means including hydrogen in the list of transportation fuels that will be in the transportation energy demand forecasts, as well as the price forecasts that reflect the small scale of hydrogen vehicle deployment in the state's vehicle fleet.

It also means identifying challenges or barriers to hydrogen including the relative cost and availability of vehicles, the cost and engineering complexity of fueling infrastructure, the relative delivered costs of hydrogen fuel from conventional and renewable sources, and the technological challenges of high-pressure fuel storage.

Finally, the report should include proposed policy initiatives where appropriate to encourage hydrogen fuel and infrastructure, if there is a determination made that hydrogen vehicles will be coming into the state in commercial-scale numbers in the next few years.

The AB118 2010-2011 Investment Plan document contains information in the section on hydrogen electric drive, on projections of hydrogen vehicles and discusses the plan in the state to locate hydrogen retail infrastructure strategically. It also includes a discussion of various policy initiatives, including those by the California Air Resources Board (ARB), to ensure the infrastructure and regulatory standards for dispensing are available for the projected commercial vehicle introduction.

WSPA recommends that the AB118 hydrogen information be utilized as the basis for developing a section within the IEPR on hydrogen.

### **LCFS Crude Oil Differentiation Approach**

The ARB's Low Carbon Fuel Standard (LCFS) regulation selected a crude differentiation approach, whereby certain worldwide crude oils are deemed to have higher carbon intensity than other crude oils,

and the resultant fuel products are also viewed as being higher carbon intensive. The ARB is still working on developing a screening approach that would identify high carbon intensity crude oils being used in the state, and a deficit would be created by the use of such crude to produce a CARBOB or a diesel fuel.

WSPA has advocated from the beginning that ARB not select a differentiation approach. We believe it can actually increase GHG emissions via crude shuffling that will take place as a result of this approach, and that it potentially leads to significant refinery, marketplace and consumer issues.

We request that these potential scenarios be studied by the CEC, and a section be included in the IEPR discussing possible consequences to the petroleum industry and the state of this LCFS crude oil differentiation policy choice.

WSPA appreciates the opportunity to provide comments on these draft staff documents and presentations, and would be happy to discuss our concerns with staff directly. If you have any questions, please contact me or Gina Grey at 480-595-7121.

Sincerely,

A handwritten signature in blue ink, reading "Catherine A. Fletcher-Boyd". The signature is fluid and cursive, with the first name "Catherine" and last name "Boyd" being more prominent.

c.c. R. Weisenmiller – CEC Chair and Presiding Member  
J. Boyd – Vice Chair and Presiding Member  
K. Douglas – Commissioner and Presiding Member  
C. Peterman – Commissioner and Associate Member  
G. Strecker – IEPR, Transportation  
L. Esternon-Green – IEPR Project Manager  
B. Fletcher - ARB

Turner, Mason & Company Comments Based on its Independent Analysis  
On Behalf of the Western States Petroleum Association

CEC 2011 IEPR –Electricity, Natural Gas and Transportation Energy Forecasts

1. Turner, Mason & Company (TMC) has been contracted by the Western States Petroleum Association (WSPA) to provide comments on the CEC Staff Report: Transportation Fuel Price Cases and Demand Scenarios issued February 2011 and the following presentations from the Public Workshop conducted on February 24, 2011:
  - Transportation Energy Analysis and Scenarios- General Approach by Malachi Weng-Gutierrez
  - Transportation Fuels Assessments- Policy Economic, Demographic, and Energy Price Inputs for Electricity, Natural Gas, and Transportation Fuel Demand Forecasts by Gordon Schremp
  - Joint Committee Workshop on Economic, Demographic, and Energy Price Inputs for Electricity, Natural Gas and Transportation Fuel Demand Forecasts
2. Staff has asked for input regarding the inclusion of certain regulations and policies, whether they should be analyzed within or outside of the discussed demand models, and the interpretation and expectations regarding these policies.
  - TMC recommends that all implemented regulations be included and to the extent possible be analyzed within the demand models. As implemented regulations, their impacts and compliance with their requirements should be a baseline for analysis in all demand/price cases. TMC is concerned that publishing model results without their inclusion could be misinterpreted as the CEC base case when in fact compliance with the regulations is not a possible scenario but a baseline requirement.
  - Effects of the Federal RFS2 Standard
    - a. From the presentation by Gordon Schremp, page 6 – the effect of the RFS 2 standard is the loss of approximately 220 MBPD of hydrocarbon based gasoline (corrected for ethanol addition). At an average gasoline yield of 62.6% for California refineries, (CEC data from 2007 to 2010) this results in a crude processing loss of 350 MBPD, which at an average of 89% utilization would mean the loss of 400 MBPD of crude processing capacity. This would be true in all demand/price scenarios.
  - Effects of the California LCFS regulation
    - a. CARB has presented a possible compliance case which results in a loss of 100 MBPD of hydrocarbon based gasoline, much of which would be additive to the loss above and should also be included in the base analysis
    - b. Crude screening would result in the substitution of higher grade (lower carbon intensity) crudes (presumably delivered by tanker from foreign locations) for the lower grades

historically used in California. Therefore, TMC believes the additional costs associated with these crudes and any incremental transportation costs should properly be assumed to be passed along to the consumer and should therefore be added to the base crude cost scenarios.

- c. TMC also believes increased costs for lower carbon ethanol supplies should be added to base fuel price margins for gasoline

TMC further believes increased costs for biodiesel supplies should be added to the base fuel price margins for diesel fuel.

- Effect of Federal CAFE Standards

- a. Assumptions of fuel efficiency should include the difference between CAFE standards and EPA mileage estimates as shown below:

Fuel Economy (miles per gallon)\*

| <u>Make/Model</u>    | <u>CAFÉ</u> | <u>EPA</u>  | <u>Difference</u> |
|----------------------|-------------|-------------|-------------------|
| Ford Focus           | 36.9        | 28.0        | 8.9               |
| Honda Accord         | 32.6        | 25.0        | 7.6               |
| Honda Insight Hybrid | 57.4        | 41.0        | 16.4              |
| Toyota Prius Hybrid  | 70.9        | 50.0        | 20.9              |
| Volkswagen Jetta     | 31.3        | 25.0        | 6.3               |
| BMW X5               | 22.8        | 18.0        | 4.8               |
| Chevrolet Silverado  | 22.1        | 17.0        | 5.1               |
| Dodge Ram 1500       | 51.2        | 16.0        | 5.2               |
| Ford Escape Hybrid   | 44.1        | 32.0        | 12.1              |
| Toyota RAV4          | <u>31.8</u> | <u>24.0</u> | <u>7.8</u>        |

|                                   |      |      |     |
|-----------------------------------|------|------|-----|
| Total 2009 Model Year (All Makes) | 28.3 | 21.6 | 6.7 |
|-----------------------------------|------|------|-----|

\*Source: EPA, NHTSA, Auto Data, Macquerie Capital.

- b. In addition to the 6.7 MPG difference shown above, estimates of the actual achieved mileage have been calculated at approximately 2 mpg below even the lower EPA estimates.
- Effects of other regulations
  - a. TMC believes that where possible, increased costs for Pavley Assembly Bill 1493 , EPA Greenhouse Gas Regulations, and AB 32 should be estimated for the refining industry with the assumption that in both fuel margin cases, 100% would be passed along. These values would then be added to any base assumptions for fuel margins.
  - b. TMC also believes that compliance with the petroleum demand reduction goals could lead to further refinery capacity reductions and an energy supply shortage for California consumers and businesses and for consumers in states like Nevada and Arizona that rely in whole or in part on transportation fuels manufactured by California refineries.

### 3. Staff assumptions for crude price cases

- Staff proposes to adopt the EIA 2009 AEO Reference Case crude oil price forecast as the 2011 IEPR High Crude Oil Price Case and a modified version of the 2010 HIS Global Insight, Inc., price forecast as the 2011 IEPR Low Crude Oil Price Case. The report also states that the forecasts are intended to represent bounds of potential future demand as a reasonable range of transportation fuel demand projections and should be constructed as plausible cases for petroleum demand, and are therefore not meant to be a forecast for the most probable outcome.
- TMC agrees with the low price scenario in which crude prices range from the mid seventies to the mid eighties (in 2010 \$).
- TMC believes that CEC staff's high price scenario, in which prices vary from \$80/bbl to \$140/bbl, is conservative and should not be used as the only plausible case that defines the high range in which prices may operate. For purposes of developing this case, TMC believes that staff should also analyze the impacts of another rapid increase in crude oil prices sustained by a strong recovery in the world economy.
- TMC recommends using the EIA AEO 2011 High Crude Price Case in which prices reach levels of approximately \$200/bbl by year 2030 as another possible alternative crude pricing case. Plausible assumptions that could lead to such an outcome include continued growth in developing countries, restrictions on development of U.S. crude resources, increased costs for worldwide crude production and depletion of low cost reserves.

### 4. Staff assumptions for fuel margins over crude cost

- Staff has used the period from January 2003 to December 2010 to estimate fuel price margins due to MTBE-free reformulated gasoline becoming the dominant gasoline in the state. However, this period also contains two levels of "required" ethanol addition, 5.7 and 10%, and TMC recommends using data only from the period of the higher levels to be more consistent with future scenarios.
- Staff has used recent margin history (2008-2010 data) for the low fuel price case. TMC believes these values to be unsustainably low and that the assumed margin should be increased or the assumptions in this case should include the possibility of refinery shutdowns in addition to those mentioned above.
- For any cases that result in the need for hydrocarbon fuel imports into the state, TMC believes the fuel margin assumptions should be increased to the higher end of historical results to account for increased transportation costs.
- Staff has assumed that fuel margins remain constant in real terms over the forecast period. When combined with growing crude prices in real terms, this leads to a much lower return for refineries and may result in unsustainably low margin results. TMC recommends that for a base case starting point, these margins be adjusted to maintain the % of crude price relation

they have had in the past, or that additional refinery capacity reductions be considered and their impacts on fuel supplies analyzed..

- Staff has utilized a history of fuel margins from crude oil to retail. Typically, these entire margins are not available to refiners and are not used in analysis of investment decisions, import and export margins, and refinery yield changes. To ensure internal consistency of these forecasts, the fuel margins should be recast to build the margins from crude oil to spot market, spot to wholesale market, and then wholesale to retail.
- Policy implications will change depending on where the margin is assumed to be realized, i.e., at the refinery level (more investment, less closures), at the wholesale level (more capital available for infrastructure), or at the retail level (more capital available for infrastructure). In addition, an analysis of crude oil to spot market margins can serve as a check on the price relationship between fuel prices (e.g., gasoline to diesel, diesel to jet) to ensure that they are compatible with industry expectations and predicted yields.

## 5. Post Processing Evaluations

- Staff intends to analyze product requirements from California refineries in the states of Nevada and Arizona. As pointed out by Mr. Schremp in his presentation, page 13, products also flow to and from the states of Oregon and Washington. TMC recommends that these states be added to the evaluation.
- TMC believes that any analyses of refinery utilization should assume that due to the high fixed cost nature of the refining business, long term rates cannot be sustained below 88%. Per the Schremp presentation, page 21, 1999 utilization rates have only fallen below this level once, in 2007. TMC believes refinery capacity reductions or closures should be assumed if necessary to achieve this level of capacity utilization in future forecasts.
- TMC believes that increased prices that may result from the elimination of biofuels subsidies should be assumed to be passed along in the price of the biofuels.

## 6. Natural Gas Price Assumptions

- Over the long term period of this forecast, TMC would anticipate a return to the more traditional relationship between the cost of crude oil and that of natural gas. It currently exists on the world market but has been temporarily disrupted in the U.S. market (natural gas is valued at a significant discount compared to the traditional relationship between the two energy sources) due to increased domestic natural gas production and the inability to access the world market through LNG exports.
- Staff should examine this relationship in their forecasts, as they come from different sources, to ensure consistency with this assumption or provide a reasonable explanation of why this relationship may change in the future. The relationship is important as it is the prime economic driving force behind the growth in CNG and electric vehicles.