

## DOCKETED

<b>Docket Number:</b>	16-BSTD-06
<b>Project Title:</b>	Updates to the 2019 Time Dependent Valuation of Energy
<b>TN #:</b>	211727
<b>Document Title:</b>	WPGA Comment to CEC on Updated Propane TDV
<b>Description:</b>	Proposed correction to the propane TDV values and availability to serve as a resource for propane data.
<b>Filer:</b>	Joy Alafia
<b>Organization:</b>	Western Propane Gas Association
<b>Submitter Role:</b>	Other Interested Person
<b>Submission Date:</b>	6/6/2016 12:21:48 PM
<b>Docketed Date:</b>	6/6/2016



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June 3, 2016

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**SUBJECT:** Letter of Comment on CEC's 2019 Draft Time Dependent Valuation of Energy Updates

To Whom It May Concern:

Western Propane Gas Association is pleased to submit this letter of comment regarding the updated 2019 Time Dependent Valuation (TDV) energy inputs for propane gas proposed at the CEC Staff Workshop on May 12, 2016 presentation<sup>1</sup>.

The Western Propane Gas Association (WPGA) is a trade and membership service organization that represents propane marketers throughout California. Founded in 1949, the association has grown in its influence while maintaining its core principles of education and safety. The association's primary purpose is to maintain high standards of practice within the industry, and in so doing, protect and expand the ability of its members to compete in the marketplace.

WPGA commends the CEC on its effort to account for all aspects of building energy efficiency and related costs with the development of updated Time Dependent Valuation numbers. However, WPGA would like to take this opportunity to comment on four aspects of the recent 2019 TDV Updates presentation that would benefit from further explanation or investigation on the part of CEC:

1. The EIA's Annual Energy Outlook data used as a data source for the CEC propane TDV calculations has several limitations, including not collecting PADD 5 data, and not collecting data for summer propane pricing.
2. The TDV modeling results for propane price forecasts proposed by CEC are much too high in comparison with WPGA member data.
3. The TDV modeling results for seasonal variability in the residential price of propane show excessive variability in comparison with WPGA member data.
4. CEC's analysis should distinguish between different components of the value chain for propane in the same way as is done for natural gas in CEC data presentations and analysis.

WPGA reached out to the CEC and communicated briefly with its contractor, Energy, Environment + Economics, but felt that there was insufficient time before comments were due to fully explore the questions that remained on the modeling and data sourcing for propane updated 2019 TDVs.

<sup>1</sup> Price, S, & T. Clark, Z. Ming. 2016. Presentation - 2019 Draft TDV Updates.  
[http://docketpublic.energy.ca.gov/PublicDocuments/16-BSTD-06/TN211454\\_20160512T132542\\_E3\\_Draft\\_TDV\\_Presentation\\_Updated\\_51216.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-BSTD-06/TN211454_20160512T132542_E3_Draft_TDV_Presentation_Updated_51216.pdf)





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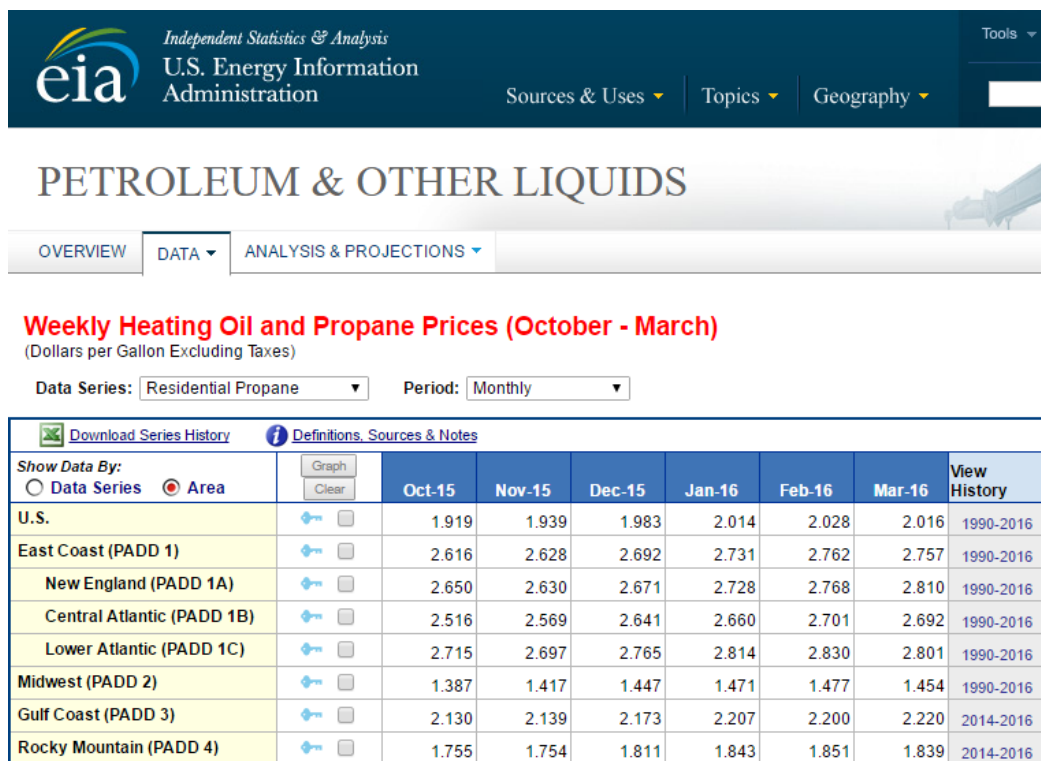
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*The EIA AEO Propane pricing data has several limitations and may bias propane prices upwards.*

The CEC’s updated 2019 TDV model for propane pricing is based on the Energy Information Administration’s (EIA) Annual Energy Outlook (AEO) projections for commercial and residential propane prices. WPGA is concerned that the CEC appears to be relying exclusively on data that may be incomplete or inappropriate for use in California.

Per the EIA’s explanation of propane price data collection methods, EIA propane prices for wholesale and retail are derived from telephone surveys of marketers and refiners.<sup>2</sup> Prior to the 2014-2015 season, this sample included only data from 24 East Coast and Midwest states. In the fall of 2014, residential propane price data collection was expanded from 24 states to 38 states. However, it appears from the EIA website as though even with the recent expansion in data collection, no data is being reported on the propane prices from PADD 5. PADD 5 is the transportation fuel regional market that includes California. Figure 1 and Figure 2 display examples of the data available for residential and wholesale propane pricing. Residential propane data is available for PADDs 1 through 4, and wholesale propane data is only available for PADDs 1 and 2. Presumably, these are the same prices that factor into the EIA’s Annual Energy Outlook modeling.



**Figure 1. Geographic Regions Contributing EIA Residential Propane Data (Excludes California & PADD 5)**

Source: [http://www.eia.gov/dnav/pet/pet\\_pri\\_wfr\\_a\\_EPLLP\\_A\\_PRSDPGAL\\_M.htm](http://www.eia.gov/dnav/pet/pet_pri_wfr_a_EPLLP_A_PRSDPGAL_M.htm)

<sup>2</sup> EIA. 2014. Winter Fuels Explanatory Notes. <http://www.eia.gov/petroleum/heatingoilpropane/pdf/explanatorynotes.pdf>





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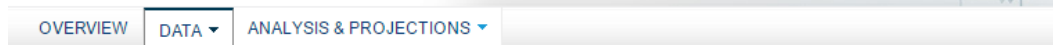
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**PETROLEUM & OTHER LIQUIDS**



**Weekly Heating Oil and Propane Prices (October - March)**

(Dollars per Gallon Excluding Taxes)

Data Series: Wholesale Propane Period: Monthly

Download Series History		Definitions, Sources & Notes							
Show Data By:		Graph	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	View History
<input type="radio"/> Data Series <input checked="" type="radio"/> Area		Clear							
U.S.	<input type="checkbox"/>	<input type="checkbox"/>	0.553	0.510	0.457	0.435	0.477	0.531	2013-2016
East Coast (PADD 1)	<input type="checkbox"/>	<input type="checkbox"/>	0.634	0.595	0.549	0.504	0.565	0.618	2013-2016
Central Atlantic (PADD 1B)	<input type="checkbox"/>	<input type="checkbox"/>	0.661	0.631	0.588	0.548	0.601	0.653	2013-2016
Lower Atlantic (PADD 1C)	<input type="checkbox"/>	<input type="checkbox"/>	0.594	0.542	0.492	0.439	0.510	0.565	2013-2016
Midwest (PADD 2)	<input type="checkbox"/>	<input type="checkbox"/>	0.521	0.476	0.421	0.408	0.442	0.497	2013-2016

**Figure 2. Geographic Regions Contributing EIA Wholesale Propane Data (Excludes California & PADD 5)**

Source: [http://www.eia.gov/dnav/pet/pet\\_pri\\_wfr\\_a\\_EPLLPA\\_PWR\\_dpgal\\_m.htm](http://www.eia.gov/dnav/pet/pet_pri_wfr_a_EPLLPA_PWR_dpgal_m.htm)

In addition, the sources of data that contribute to the EIA annual average are likely to overestimate the residential cost of propane in California. The EIA data for propane has historically relied on states that submit propane data through the State Heating Oil and Propane Program (SHOPP). Until 2014-2015, only states in the North East and Midwest were included, states with cold winters that rely heavily on residential heating. These tend to be states where propane price is much higher than in the more temperate West Coast states. In addition, every state collects SHOPP data slightly differently, making the data inconsistent and difficult to interpret. Furthermore, EIA collects data only for the winter months of October through April. It is very important to note that October through April are the months when propane prices are highest. An annual average based on these 6 months would greatly overestimate the cost.

As shown in Figure 3, EIA data is only collected during the winter months of the year. The annual average EIA AEO projections for the Pacific region is shown in the pink squares. This chart shows how the EIA data excludes the lower price summer months in which propane would provide fuel for residential applications such as water heating and distributed power generation.





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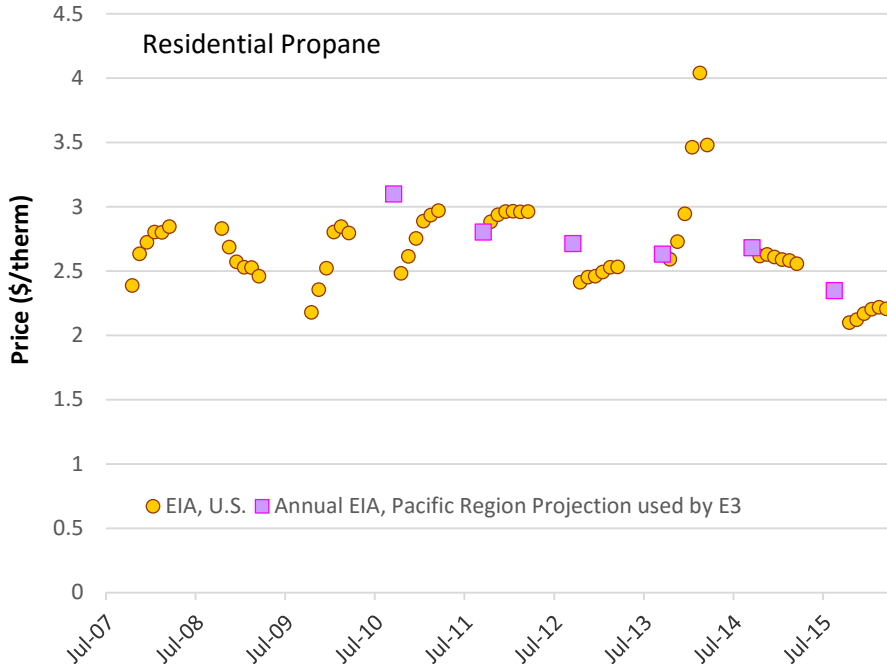


Figure 3. Residential Propane Prices from EIA Data

TDV model results show propane prices that are much higher than both WPGA and EIA commercial and residential prices.

While the methodology used to convert EIA commercial and residential propane prices is not clear from the published CEC documentation, the resulting propane TDVs appear to far exceed WPGA member data on average propane prices at all retail levels. WPGA members provided monthly pricing data on wholesale, residential retail, and commercial retail propane from 2009 through 2015. At every retail level, the 6 year annual monthly price members report receiving is lower than the price suggested by the CEC TDV values shown in the May 12, 2016 Updated 2019 TDV presentation.

Figure 4 shows a comparison of the cost of different types of propane in terms of dollars per gallon over a calendar year. The top line shows the CEC 2019 TDVs for propane taken from the Updated TDV presentation on May 12, 2016. The cost of GHG emissions has been subtracted from the total TDV cost, leaving only what is labeled as "delivered propane." The units have been converted from dollars per therm to dollars per gallon based on an assumed higher heating value of 91,420 Btu/gal. The second line shows WPGA member data on the average residential propane sales price in California between 2008 and 2015. The third line shows WPGA member commercial propane sales prices in California during the same period. The fourth line shows WPGA member average wholesale propane sales price in California from 2009 through 2015. This graph clearly shows that the CEC prices are consistently higher than any of the prices observed by WPGA members, even at the residential retail price. The difference between TDV and WPGA residential averages ranges from about \$0.35 to as much as \$1.25.





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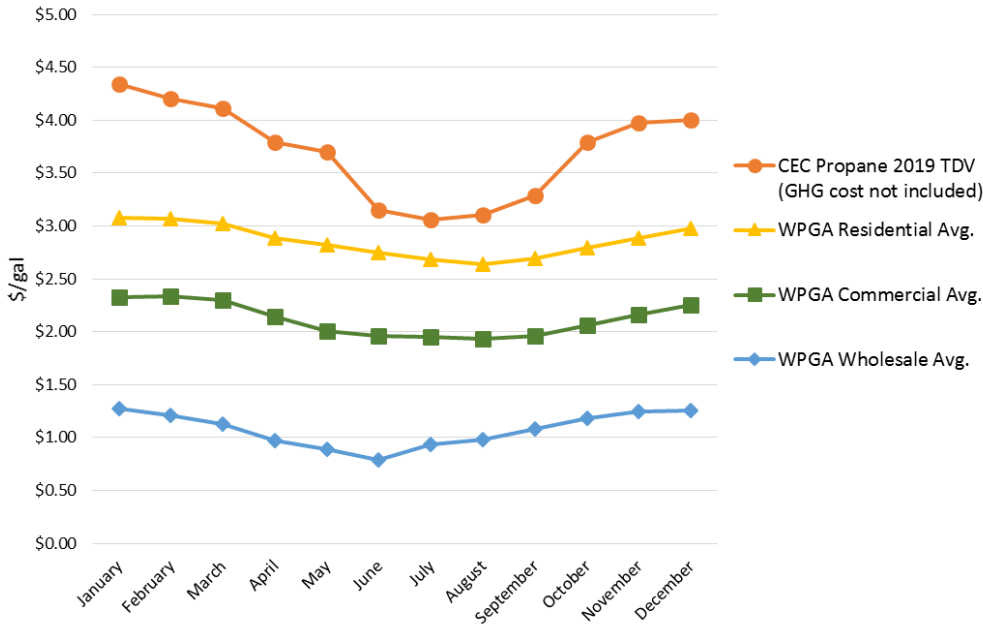
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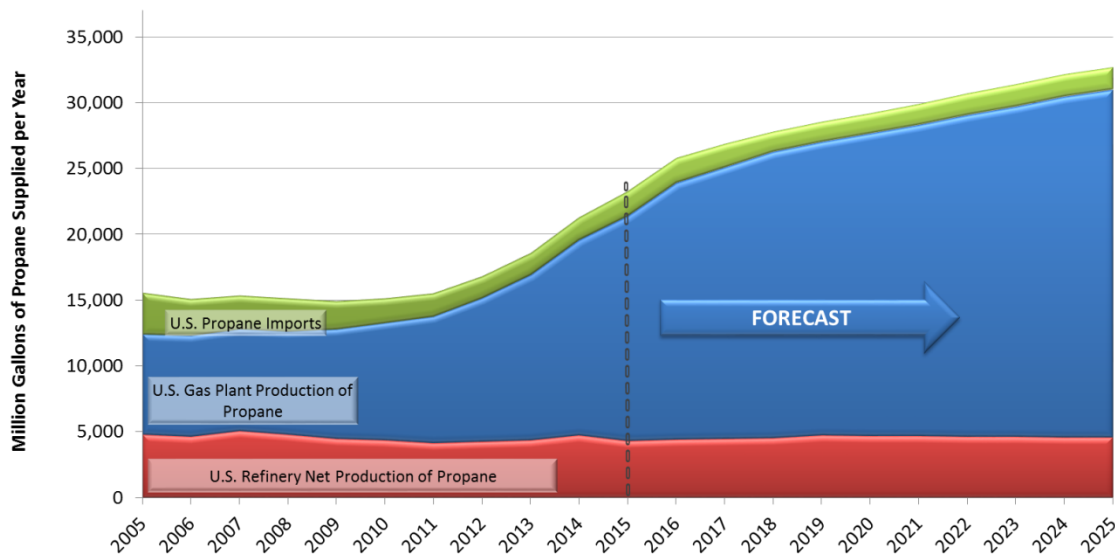
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**Figure 4. Propane Cost**

The CEC's propane price forecast appears to be much higher than historical WPGA member and EIA show, as demonstrated previously. Furthermore, propane supplies are expected to grow with increased production from natural gas and crude oil production. As gas processing plants are added to new oil and gas production, projections of the U.S. supply of propane is expected to double as indicated in Figure 5. Such a growth in supply would put downward pressures on price.



**Figure 5. Propane Supply Forecast**

Source: ICF International, 2016. 2016 Propane Market Outlook: Driving Change in Consumer Propane Markets. NPGA Southeastern Convention & International Propane Expo. Accessed 6/2/16. <http://www.npgaexpo.com/files/SLOAN.pdf>





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The residential market in particular is expected to grow. Propane site-built space heated households increased from 5.54 million in 2012 to 5.57 million in 2014, and are projected to increase to 5.90 million by 2025, as demonstrated in Figure 6.

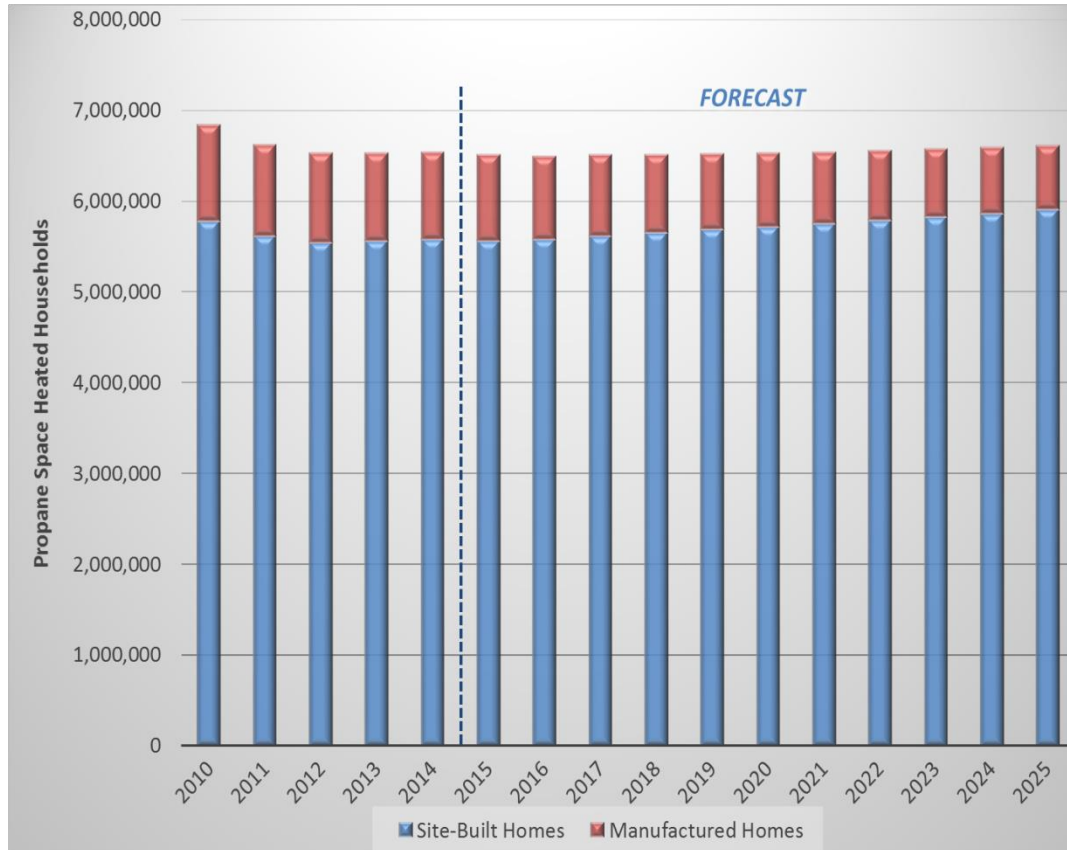


Figure 6. Propane Space Heated Households

Source: ICF International, 2016. 2016 Propane Market Outlook: Driving Change in Consumer Propane Markets. NPGA Southeastern Convention & International Propane Expo. Accessed 6/2/16. http://www.npgaexpo.com/files/SLOAN.pdf

Seasonal variability is predicted by CEC to be much higher than that which has historically been observed in residential and commercial pricing by WPGA members over time.

Propane gas price varies seasonally due to reduced heating demand in the summer. WPGA compared member data on the wholesale, residential, and commercial propane pricing from 2010 through 2015 to the seasonal variation in price to the CEC TDV values proposed for the 2019 TDV Update. The normalized seasonal variability was calculated based on the ratio of the average of all available months over the average of all data points available for each type of propane. The same calculation was performed on the CEC proposed propane TDV values. This unitless ratio provides insight into the range of seasonal variation in price from year to year. Data points closer to one show less variability, and data points farther from one show more.







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Figure 7 shows the seasonal variability displayed in the four different types of propane pricing. The CEC ratios appear to most closely mirror the wholesale seasonal price variability, showing a large swing in price between summer and winter months. However the residential and commercial prices reported by WPGA members appear to be far more stable throughout the year.

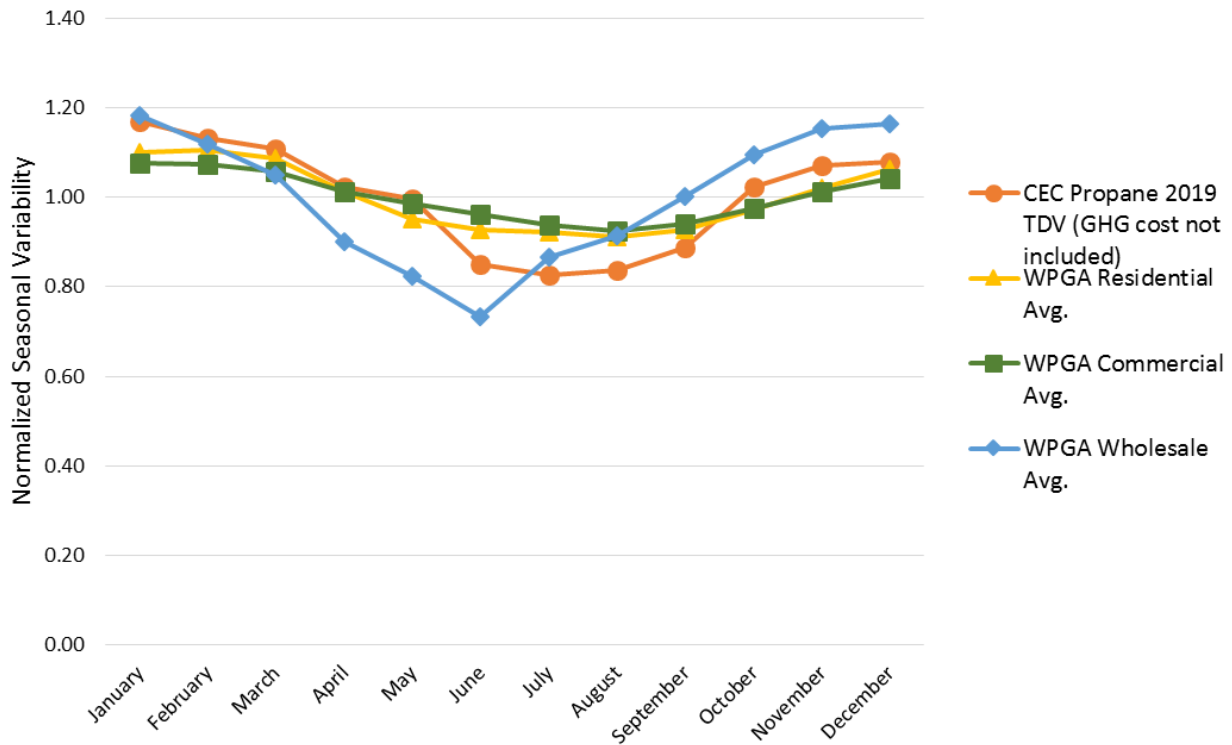


Figure 7. Seasonal Propane Price Variability

CEC analysis should clearly distinguish between different components of the value chain in propane TDVs.

In order for WPGA to more effectively comment on the proposed TDVs, it would be helpful if the CEC could clearly delineate between the different life cycle phases that contribute to the overall avoided cost. As shown in Figure 8, the May 12, 2016 presentation slides showed the natural gas TDV broken down into the contributing factors of retail adjustment, commodity cost, emissions cost, and transport and distribution. However, the propane TDV graph shows only the contribution of emissions cost and delivered propane. This makes it impossible for WPGA to assess the accuracy of the different aspects of the life cycle cost, such as retail markup and transport and distribution cost.

The TDV analysis should also take into account the best use of energy inputs on a life cycle energy and GHG emission basis. For example, propane used for combined heat and power could







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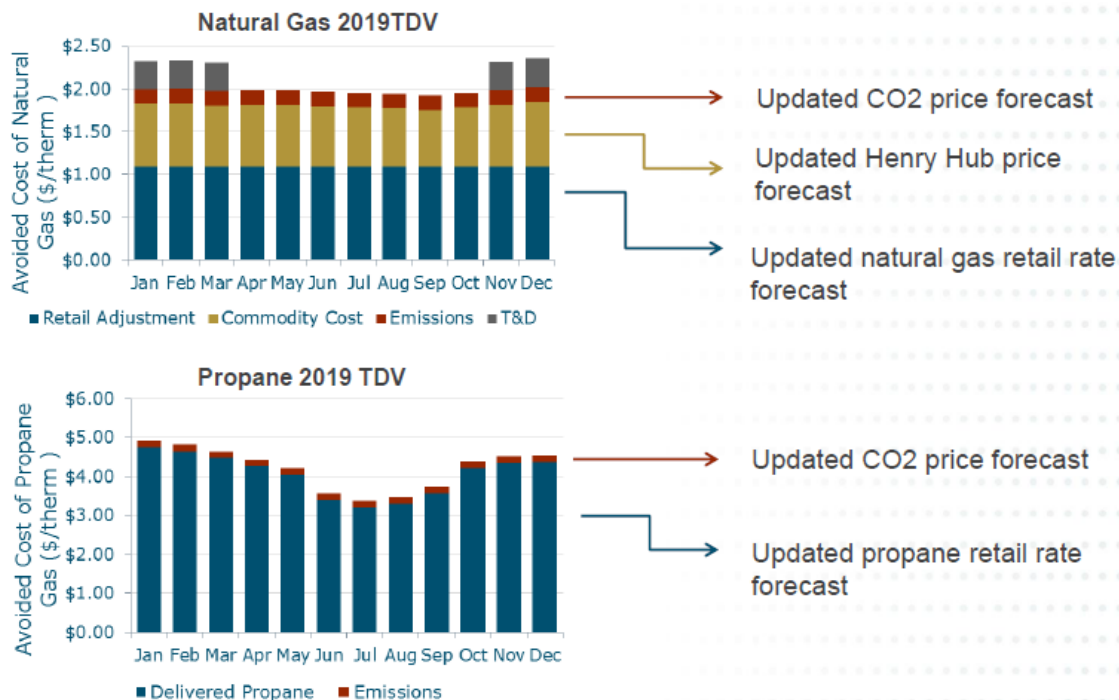
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displace both electricity from fossil fuels and other fossil fuel energy sources. The analysis should take into account the different benefits for all fuels.



**Figure 8. Natural Gas and Propane Avoided Cost 2019 TDVs**

Source: Price, S, & T. Clark, Z. Ming. 2016. Presentation - 2019 Draft TDV Updates.  
[http://docketpublic.energy.ca.gov/PublicDocuments/16-BSTD-06/TN211454\\_20160512T132542\\_E3\\_Draft\\_TDV\\_Presentation\\_Updated\\_51216.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-BSTD-06/TN211454_20160512T132542_E3_Draft_TDV_Presentation_Updated_51216.pdf)

Thank you once again for providing us with the opportunity to review the CEC’s proposed updates and provide comments. To summarize, WPGA sees a need for the following actions by CEC with respect to the Updated 2019 propane TDVs proposed in the May 12, 2016 presentation:

1. Collect regionally appropriate and comprehensive data on California propane pricing and seasonal variability at the residential and commercial level.
2. Ensure that each aspect of the propane life cycle cost is taken into account and reflected accurately in TDVs.
3. Provide further clarification of the calculations and assumptions made in the TDV model with respect to propane.
4. Provide additional time for review and public comment on the Updated 2019 TDV data collection and modeling methodology.





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WPGA has a wealth of resources available. We respectfully request an extension on the comment period to research additional data and we are willing partner with the CEC as you continue to develop the Updated 2019 TDVs for propane gas sold in California to help ensure the accuracy of value assignments.

Sincerely,

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