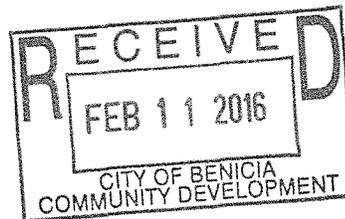


UNION PACIFIC RAILROAD COMPANY
13181 Crossroads Parkway North, Ste. 500
City of Industry, CA 91746

Melissa B. Hagan National Environmental Counsel &
Senior Counsel—Environmental Law

February 10, 2016

Members of the Planning Commission
City of Benicia



Mr. George Oakes, Sr.
Ms. Belinda Smith
Ms. Susan Cohen Grossman
Mr. Rod Sherry
Ms. Suzanne Sprague
Mr. Don Dean
Mr. Steve Young

Attn: Ms. Amy Million

250 East L Street
Benicia, California 94510

Re: Valero Crude by Rail Project

Dear Commissioners:

The Union Pacific Railroad Company appreciates this opportunity to comment on Valero's Crude by Rail Project. Union Pacific has enjoyed a longstanding and strong relationship with the community of Benicia and greatly appreciates the cooperation extended to us over the years. As the largest Class I railroad in the United States, we make safe operation of our trains our highest priority.

During the hearings on Monday and Tuesday February 8 and 9, 2016, the Commissioners raised a number of questions about the scope of federal preemption, in particular whether the City has authority to restrict or prohibit the delivery of any commodity (including crude oil) to the Valero Refinery.

The key case on this point is *Boston & Maine Corporation and Springfield Terminal Railroad Company* (Springfield), Surface Transp. Board Docket No. FD 35749 (July 19, 2013). In *Springfield*, the City of Winchester Massachusetts prohibited the use two rail tracks that neighbors complained caused nighttime noise, finding that such use was inconsistent with local zoning rules. One track was owned by Pan Am, a railroad, and the other was owned by a private warehousing company, Tighe Logistics. The STB held that the town's actions "conflict with the federal right of Tighe to request common carrier service and the federal obligation of Pan Am, a



rail common carrier, to provide that service, as well as the Board's exclusive jurisdiction over that service. . . . Such an attempt to prohibit common carrier rail transportation directly conflicts with the most fundamental common carrier rights and obligations provided by federal law and the Board's exclusive jurisdiction over that service. The Town's actions are therefore plainly preempted by § 10501(b).”

The STB went on to address a question that has also arisen in connection with the Valero project—whether the town had authority to regulate private track owned by Tighe, which was not a railroad. “The Town's principal argument in support of its attempt to stop all interstate freight rail service to the warehouse is that the track immediately adjacent to the warehouse is private track, and therefore, the Town argues, federal preemption should not apply to local regulations directed at this track.” The STB rejected this argument:

Even if we assume this track is private track (which we need not decide here), this does not permit the Town to deprive Tighe of its federal right to receive common carrier rail service over the track. As previously noted, Tighe has rights provided by federal law to ask for and receive common carrier rail service from Pan Am, a rail carrier providing service subject to the Board's jurisdiction. Thus, even if we construed the Town's action narrowly as directed solely at Tighe, and solely at a short piece of allegedly private track located adjacent to the warehouse, there remains a fundamental conflict between the Town's regulation and the rights of Tighe and Pan Am to request and provide, respectively, common carrier rail service under the Interstate Commerce Act. That conflict must be resolved in favor of federal law Otherwise, states and localities could engage in impermissible regulation of the interstate freight rail network under the guise of local regulations directed at the shippers who would use the network, and thereby create the patchwork of conflicting local regulations that Congress sought to avoid in the Interstate Commerce Act. (Citations and Footnotes omitted).

Page 3 of 3
Members of the Planning Commission
February 10, 2016

The circumstances in the *Springfield* case are analogous to the Commissioners' preemption question raised here. In the *Springfield* case, the STB concluded that any effort to regulate access to rail transportation would be preempted.

Regards,

UNION PACIFIC RAILROAD COMPANY

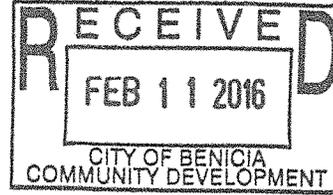
A handwritten signature in black ink that reads "Melissa B. Hagan". The signature is written in a cursive style with a long horizontal flourish at the end.

Melissa B. Hagan

 ANDREW CHANG & Co, LLC

February 11, 2016

Ms. Amy Million
City Planner
The City of Benicia
250 East L Street
Benicia, CA 94510
Email: amillion@ci.benicia.ca.us



Thank you for the opportunity to address questions about my firm's 2014 report regarding the economic and fiscal impacts of the Valero refinery plant on the City of Benicia and the San Francisco Bay Area.

Per our discussion with the Planning Commission members during last evening's meeting, we reported that the project "could produce as much as \$2 million in one-time sales tax revenue for the City." This statement is based on our estimates that Benicia would obtain between \$1.37 million and \$1.92 million in additional sales tax as a result of direct and indirect economic activity caused by new incremental spending from the proposed Crude-by-Rail project during the construction period.

The estimate range is driven primarily by uncertainty regarding the amount of economic leakage from the Benicia economy into the greater San Francisco Bay Area economy.

Our estimates are based on generally accepted economic principles. We measure the total impact of how new spending ripples through the economy using economic multiplier data produced by the U.S. Bureau of Economic Analysis (US BEA) for this project. The tax revenue generated breaks down in two categories:

- 1. Direct Valero taxed spending.** Based on materials estimates provided by Valero and the current statutory tax rate, we estimate that sales tax revenue from direct sales will exceed \$400,000 (without the passage of Measure C in 2014, the direct sales tax revenue generated would have been approximately \$200,000).
- 2. Indirect and induced economic activity** as a result of the construction would result in additional sales tax revenue ranging between \$0.96 million and \$1.50 million. This is from additional economic activity in Benicia based on the principles discussed above.

These two factors result in a total between \$1.37 million and \$1.92 million in one-time sales tax revenue. We estimated the indirect and induced sales tax revenue by factoring the Crude-by-Rail project costs with indirect and induced output multipliers and the City of Benicia output based effective sales tax rate. Based on economic multiplier data produced by the US BEA for this project, we assume that beyond the direct dollars spent on the Crude-by-Rail project, each dollar would ripple through the Benicia economy between 0.5 and 1.3 times more, depending on

assumptions of leakage. Our output based effective tax rate for the city of Benicia was 1.08 percent.

Once again, thank you very much for the opportunity to address questions about our report. Should you have any additional questions or comments, please feel free to contact me at 916-538-6091 or at andrew.chang@AChangLLC.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. Chang', with a long horizontal flourish extending to the right.

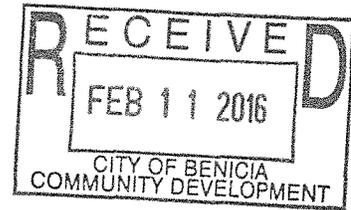
Andrew Chang
Managing Partner

Via Email to:

Amy Million, Principal Planner
Community Development Department
250 East L Street
Benicia, CA 94510

amillion@ci.benicia.ca.us CC: bkilger@ci.benicia.ca.us

Re: The City of Benicia's Final EIR for Valero Benicia CBR Project



Dear Ms. Million,

Please add my comments to the public legal record on Valero's CBR as part of discussion of the final EIR.

1. From a Land Use and City Planning point of view, we do not understand the advisability of the City Planning Department decision to permit Valero to do major work and construct permanent structures and tracks to receive railroad cars filled with hazardous material, day in day out all throughout the year, so close to the property line and the Sulfur Spring in a flood zone, on downstream of a dam (lake Herman) and in the process reducing the existing setback to the property line and top of a stream and eliminate and/or drastically degrade service road access over 3655 feet of the property (see below for detailed discussion). If you want an example of bad City Planning, this is one.
2. Presently, there is a 20 feet wide service road all along the interior perimeter of Valero property, specifically all along the top bank of the Sulfur Spring at the north-east side of the property. This service road not only provides easy access for inspection, security, fire suppression, and hazardous spill containment from entering the Sulfur Spring but also helps to contain flood in the Sulfur Spring from entering structures and other improvements on the Valero property. This road also increases the setback and buffer zone available for the properties to the east of Valero site across the Sulfur Spring.
3. The proposed CBR project eliminates this service road and builds a railroad track in its place where a 50 car train could be parked over extended period of time every day and night, 365 days a year. Valero proposes to construct a 1900 feet partial replacement service road 60 feet away and parallel to the present road on its south-east (Figure ES-3 of DEIR enclosed at the end of this letter). Along this segment (Section B-B of Figure ES-3 of DEIR) there will be a substantial degrading of emergency vehicle access to the eastern most train (departure track) and the middle train, as well as the Sulfur Spring. Along the remaining 1755 feet segment (Section A-A of Figure ES-3 of DEIR) there is actually no emergency vehicle access at all where potentially up to 5 trains could be in an emergency situation with no access to them or to the Sulfur Spring banks to contain any hazardous spill or suppress fire/explosions.

We note that both Valero proposal, and DEIR which basically cuts and pastes Valero's proposal in their DEIR, fail to mention this major change and its implications when they describe the key component of the project (see page 2-6 of DEIR). We can understand why Valero might not want to emphasize this negative point by discussing the degradation of accessibility and fire/flood protection when they apply for permit, however, we are at a loss why the City Planning department and the City consultants in charge of EIR, who are the technical parties with the responsibility of clarifying ramifications of the proposed project, failed to do so.

4. Benicia Municipal Code Section 17.70.340 Stream setbacks requires:

All development shall be set back a minimum of 25 feet from the top of the bank of streams (both seasonal and perennial) and ravines. No development shall be permitted within the setback. (Ord. 01-6 N.S., 2001).

Obviously the proposed departure track violates this along 3655 feet of its length parallel to Sulfur Spring. There is no mention in the EIR if Valero has applied for and/or received a variance from the City for this non-compliance.

5. We do not see any berm/trench or other mechanisms that are proposed by Valero to contain potential hazardous spills from the parked railroad cars and stop them before they enter the Sulfur Spring. Please be reminded that these railroad cars will be like permanent fixtures at this location, since the process of arrival-unloading-departure will be continuous on a 24 hour basis every day of the year. The omission of berm/trench becomes more critical due to violation of the required setback from the stream banks discussed above. We also note that both Sections A-A and B-B on Figure ES-3 of DEIR show the proposed finish grade sloping down from the new tracks toward the Sulfur Spring and thus directing any contamination or spill into the Spring. This appears to be a violation of environmental regulation that has not been addressed in the Valero proposal or in the EIR.
6. DEIR Section 4.8-6 discusses flood hazard. In the middle of the paragraph it relies on the following reasoning to belittle impact of the flood since it claims that "the facility is not occupied by humans":

Further, the Project elements are not habitable structures for human occupancy.

The author of DEIR is reminded that the Valero parking of railroad cars, unloading, and departure of the cars are done by human beings and not robots. Moreover, since these operations are done on a continuous basis, the probability of workers being at this location at all hours day and night is very high. We do not understand why the workers are not classified as occupants here.

7. DEIR Section 4.8-7 discusses Dam safety and its effect on this project. Section 4.8-7 of DEIR relies on the following reasoning to dismiss the effect of potential dam failure:

However, all dams are routinely inspected and evaluated for seismic integrity as overseen by the California Division of Safety of Dams (DSOD). When a dam is found to have a failure potential, the water level behind the dam is reduced to allow for partial collapse without loss of water as required by DSOD (ABAG, 2013). Thus, the probability of dam failure resulting in significant loss, injury, or death is low (ABAG, 2013). Given the low risk of dam failure, and because the proposed facilities would be designed to withstand natural hazards, potential impacts related to dam failure are considered less than significant.

If the project was an existing structure and we were evaluating its risk profile, then the above reasoning has some merit. But this project does not exist yet. It is only being proposed. We do not know the state of dam safety program ten or twenty years in future and we do not know for certain all different scenarios that might result in dam failure. For example, Lake Herman fault is mentioned in the report but is dismissed as being a not active fault. But how confident are we about this issue? Therefore, it is advisable that we do not act with bravado as if daring the nature by building hazardous facilities in a flood zone downstream of a dam. We recommend practicing prudent for City and Land Use planning and change location of the project. It is not as if we are under the gun and have to approve the project in its present location no matter what.

8. DEIR and final EIR discussions of structural issues and building code are full of platitudes and short of substance. There are so many errors in the reports that it leads me to doubt the author's knowledge of the subject matter, which leads me to lose confidence in their discussion of other subjects such as probabilities, risks, environmental impacts, .etc. Below, I will paste some portions of reports with the errors highlighted to illustrate my point. For instance, DEIR Section 4.5-11 second paragraph from top says:

The 2013 CBC is based on the 2009 International Building Code. In addition, the CBC contains necessary California amendments that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements...

The first sentence is erroneous, since any building official, structural/civil engineer, or even architect knows that the 2013 CBC is based on 2012 International Building Code. The second sentence is also erroneous, since again professionals with elementary knowledge of the subject matter, know that 2013 CBC is based on ASCE 7-10. This appears not to be a problem of carelessness on the part of the author due to haste in preparation of the DEIR, since the final EIR repeats the same mistake in answering comments. See for example the final EIR Section 2.7-108 item D32-18 middle of paragraph which states:

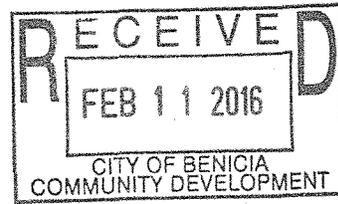
Also discussed, specific to seismic hazards in California, are the California amendments to the CBC that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements..

Again there is repetition of the erroneous reference to ASCE 7-05 rather than the correct edition ASCE 7-10. Moreover, in the first sentence there is the incorrect and funny statement that there are California amendments to CBC, which is absurd, since CBC stands for California Building Code, and state of California does not amend its own Code.

Thanks,
Amir Fioruz
Benicia, CA

Encl: Annotated Figure 3-3

Via email to:
Amy Million, Principal Planner
Community Development Department
250 East L Street
Benicia, CA 94510
amillion@ci.benicia.ca.us



From: Charles Davidson. Hercules CA 94547 <charlesdavidson@me.com>

Re: The City of Benicia's Final Environmental Impact Report for the Valero
Benicia Crude-by-Rail Project – 10 February 2016

Dear Ms. Million,

I oppose the Valero Crude by Rail Project and object to their Final EIR for reasons related to the Project being a likely significant, yet unnecessary public health hazard to Benicia, the Bay Area, the Delta ecosystem and all communities uprailand from Benicia.

Valero's recently completed Valero Improvement Project, or VIP, was designed to facilitate the processing of much higher sulfur and heavier crudes than the refinery's former crude oil slate, The VIP permitted the Refinery to process heavier, high sulfur feedstocks as 60% of total supply, up from only 30% prior to the VIP. And the project raised the average sulfur content of the imported raw materials from past levels of about 1 - 1.5% up to new levels of about 2 - 2.5% sulfur. [VIP DEIR p.3-20]

Valero's proposed Crude by Rail Project is specifically designed for the importation into Valero of so-called "mid-continent, North American" crudes, that would only be either very lightweight, highly flammable shale oil from Bakken ND or extra heavy tar sands from Alberta Canada, which are on opposite ends of the oil density spectrum.

Because the Valero Crude by Rail Project combined with the VIP are related parts of a single expanded heavy oil project, the Crude by Rail Project is most likely for the deliver of tar sands bitumen.

The Bitumen arriving will need to be heated to several hundred degrees in Northern Canada just so that it can be diluted with chemical solvents and made to flow into railroad tank cars. Tar sands is open pit mined as a solid, it is not actually a liquid petroleum and it requires three times the energy to refine as traditional crude oils. According to the recent Carnegie Endowment study: Know Your Oil: Towards a Global Climate-Oil Index, tar sands refining produces three times the climate-changing greenhouse gasses in order to make gasoline,

compared to traditional lighter crudes. Tar sands diluted bitumen or "DilBit" is significantly more viscous than any globally-available crude, more so than any in the extra heavy crude category, such as Venezuelan or the heaviest Kern county crude.

[A Technical, Economic, and Legal Assessment of North American Heavy Oil, Oil Sands, and Oil Shale Resources In Response To Energy Policy Act of 2005 Section 369(p) Work Performed Under DE-FC-06NT15569. Prepared for U.S. Department of Energy Office of Fossil Energy and National Energy Technology Laboratory. P. 78.]

Worse, in a 2007 US Geological Service study, it was reported that tar sands bitumens contains 102 times more copper, 21 times more vanadium, 11 times more sulfur, six times more nitrogen, 11 times more nickel, and 5 times more lead than conventional heavy crude oil. Sulfur and nitrogen oxide pollutants contribute to smog, soot, acid rain, and odors that affect residents nearby. Importantly, because of these considerations, Benecia either could or perhaps will experience an increase in local air pollution and for the refinery's equipment, sulfur corrosion, leading to potential accidents, as documented for the 2012 Richmond Chevron fire.

[R.F. Meyer, E.D. Attanasi, and P.A. Freeman, "Heavy Oil and Natural Bitumen Resources in Geological Basins of the World," U.S. Geological Survey Open-File Report 2007-1084 (2007) p. 14, Table 1 (available at: <http://pubs.usgs.gov/of/2007/1084/>).]

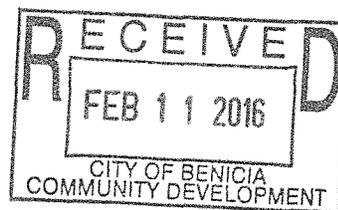
The tar sand diluent itself is a risk, as it is a highly flammable solvent that tends to separate from the heavier mixture during travel and could cause an explosive derailment fire with a uniquely hazardous tar sands smoke plume. Because tar sands are diluted, the mixture would tend to rapidly sink very deep into the soil, with the diluent eventually evaporating and then leaving the tar sands bitumen deep underground.

A significant tar sands spill, in places like the environmentally sensitive Feather River Canyon, the Delta or the Suisin Marsh, would be impossible to clean up, as proven in Michigan's 2010 Kalamazoo River Enbridge pipeline rupture, that will never be remediated, despite spending over 1 billion dollars to date. Nearby public infrastructure needs to be considered from a public health perspective, for example: East Bay MUD and others are doing a brackish delta water desalination pilot study near Pittsburg.

Please deny Valero the CBR permit and help keep the world' absolutely dirtiest oil in the ground. To do so would comply with the expressed wishes of the Sacramento Area Council of Governments composed of six counties and 22 municipalities uprail from Valero who have also asked that this project be denied. [Charles Davidson. 02/10/2016]

February 8, 2016

Amy Million
Principal Planner,
Benicia Community Development Department
amillion@ci.benicia.ca.us



Dear Planning Commissioners,

My name is Carol Warren, and I am representing the Yolano group of Sierra Club. But mostly, I'm representing myself, because I live in Dixon, perhaps 50 yards from the tracks that carry the oil trains. There are 100 senior citizens living in my apartment complex. There is a trade school across the street, and an elementary school a block away. The tracks go right through downtown Dixon, where there are stores, businesses, a fairground, and churches. We are all in the blast zone for any accident in the Dixon city area.

In our power point, we have tried to show how vulnerable towns like Davis and Dixon are to the oil trains coming through. The slides are focused on the possibility of spill or explosion, and the underlying fear that those of us near the tracks will carry all day, every day. I understand from the scientific presentations at the San Luis Obispo hearings that even the returning cars with residual gas and fumes are hazardous and potentially explosive. Our fears are very well founded.

Many people choose to live in places like Davis and Dixon to avoid the downtown Sacramento or Bay Area air pollution, so anything that increases the cumulative pollution is noticed. All our local government agencies – the city of Davis, Yolo County, the seven local Air Quality Management Districts, and the Sacramento Area Council of Governments (22 cities in 6 counties) – believe there are reasonable mitigations possible that are not preempted. This is heartening.

I am inclined to believe their position rather than that of those writing the EIR. In this EIR, every suggestion for mitigation in the municipal and agency letters is acknowledged and then dismissed because of the presumption of preemption. None of the mitigation suggestions is even examined by this EIR. The Sacramento Municipal Air Quality Management District specifically offered staff to work with Valero to develop a mitigation plan to address the air quality issues. The offer was not accepted.

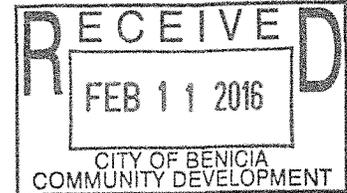
The people like me who live in the blast area feel very vulnerable. Suppose that, God forbid, there is an accident uprail in which hundreds, or even thousands of people are killed. I trust you realize that every single one of those people's families will sue the City of Benicia, Valero, the railroad, and anyone else they can find to blame. Perhaps the hundreds or thousands of suits would eventually be dismissed, but the city could be placed in serious financial jeopardy, if not bankrupted, by having to hire attorneys to respond even minimally to the suits. *And you know now* there are risks that cry for mitigation—in the EIR you list and acknowledge them all.

However, reading your staff report, it seems as if the city feels it need not address the concerns of uprail communities because of the federal preemption of the railroads. You assert that the uprail communities are not your sphere of concern. Instead, you wish to focus on the tax revenue and the small number of jobs this project will bring to Benicia. But I urge you to think not just about Benicia, but about the uprail communities that will be absorbing the risks of the trains going through populated areas, as well as the health impacts of the air pollution being generated. We all share the quality of life in our state. Even if you decide you have no legal responsibility toward us, your uprail neighbors, do you not have a moral one?

Thank you for listening with your hearts as well as your desire for the economic well-being of Benicia. There are many paths to economic security, and I believe it is always wisest to remain congruent with your higher values.

Carol Warren
211 E. D St, Apt 121
Dixon, CA 95620
(707) 693-5113

Amy Million
Principal Planner,
Benicia Community Development Department
amillion@ci.benicia.ca.us



Re: Public Comment delivered at Feb. 9, 2016 Planning Commission meeting. This is my written version of comments regarding the FEIR and the Valero Crude-by-Rail Project. Please note I have submitted letters to earlier drafts as well.

Good evening Commissioners. Thank you for you public service, dedication and endurance. My name is Jean Jackman and I am your neighbor from Davis.

I am terrified at the prospect of 1.5 million gallons of oil rolling through my town twice a day.

The people of Benicia should be terrified too. The air pollution will increase cancer deaths. There is noise pollution. Your water supply is at risk. Imagine the result of an oil spill in the Sacramento River, your water source. In 2010, a spill of crude from a pipeline into a small creek in Michigan that flowed into the Kalamazoo River resulted in such a mess that the river had to be closed for 25 miles and they are still cleaning up the mess six years later. The cost of cleanup was 1.2 billion and if the company would have filed bankruptcy, taxpayers would have paid.

The trains would go right through Davis, 50 feet from residents, one block from heart of Downtown Davis, through densely populated neighborhoods, past our UC Davis Mondavi Performing Arts Center. And yet we have a dangerous, higher than average chance for a derailment. Why? Because of a low speed crossover between the main lines. This crossover is right next to our Amtrak passenger depot. This crossover is so dangerous that it is rated at just 10 mph. And yet a railroad expert, has personally observed trains passing through the cross-over high speeds—one at 47 mph nearly having an accident, "tank cars whipping from side to side on their wheels."

I am certain that weak links, much like our 10 mph cross-over, can be found all along the routes if we did investigations.

I am a retired teacher. I taught for 14 years in the Vacaville School system in the town of Elmira. At one point, we had more than 1000 students. The building I taught in is right across the street from the railroad tracks. Now, the building houses a small, private school for special education students. But it makes me wonder, how many schools, hospitals and environmentally sensitive areas like the Suisun Marsh along the route are threatened by these bomb trains...accidents waiting to happen.

Your neighbors in San Luis Obispo County hit the nail on the head when their planning staff said they do not believe the economic benefits from the project outweigh the unavoidable negative environmental impacts the project would cause, in San Luis Obispo and elsewhere in California. Thanks to them for thinking of their neighbors.

Please go to Wikipedia and look at the increases in train accidents and derailments since 2010. Then imagine those trains were carrying 1.5 million gallons of highly flammable crude. Is that the future you want? The number of spills here is climbing: from 98 in 2010 to 182 in 2013, according to the California Office of Emergency Services (OES).

We don't have the emergency response capability. We don't have a nimble railroad agency ready to upgrade trains. We only have accidents waiting to happen and increasingly so

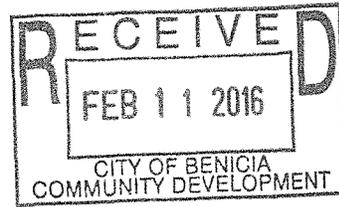
Please, consider the health of your town of Benicia. But also be good neighbors, moral people, and consider the health of hundreds of thousands of people up rail. Please do not approve this projects until all impacts are mitigated.

Thank you,

Jean Jackman
JeanJackman@gmail.com

February 8, 2016

Amy Million
Principal Planner,
Benicia Community Development Department
amillion@ci.benicia.ca.us



Dear Planning Commissioners,

Thank you for listening to my commentary this evening. Here is the written version of my comments regarding the Final Environmental Impact Report and the Valero Crude-by-Rail Project.

The True Cost of Oil – Who Pays?

I wish to address the section of the staff report entitled “Significant and Unavoidable Impacts (Impacts without Mitigation Measures)” beginning on page 26. The identified impacts are summarized for informational purposes only, as the staff report summarizes in several paragraphs why under federal preemption no mitigations of any kind can be offered for any of the impacts.

We uprail communities appreciate that the report acknowledges the issues so many agencies, environmental groups, and individuals brought to your attention in the course of the CEQA study and further that they are recognized as significant impacts. Eleven is a sobering number of impacts.

In an effort to work with Benicia in its desire to bring volatile Bakken crude and perhaps in the future toxic tar sands into California by rail, a danger not previously faced by all the communities along the three northern routes the railroad is free to choose from, the same governing agencies offered possible solutions and mitigations to make the impacts more livable. The series of joint letters from the Air Quality Management Districts in particular offered staff time to help work out specific mitigation plans for a number of the impacts. All of the governmental responses countered with legal cases showing mitigation despite claims of federal preemption.

The basic issue is this: the true cost of oil must be paid somehow. If this Planning Commission certifies the FEIR and approves the Valero Project, Benicia gains financially as does Valero and the Railroad. But the environmental costs in degraded air quality, adverse effects on wildlife, additional greenhouse gas emissions, and exposure and risk to the public and public lands of hazardous

materials should there be a spill, accident, explosion or fire falls on all those communities and lands uprail on a daily basis.

All routes into California traverse high risk rails where the risk of accident is greater than the statistics. Please see the Oil by Rail Safety in California Report 6-10-14, State of CA, Interagency Rail Safety Working Group which include an Oil by rail Risk and Response Map including high risk rails, haz mat team locations, fault lines, and more. In addition they are underlaid by earthquake faults, some probably unknown to us as the recent Napa earthquake indicated. In the case of Lac Megantic, the two railroads involved went bankrupt immediately after the accident and left the government to cover the prohibitive expenses.

Only Benicia gets to approve the FEIR and the Project, but the entire uprail community will pay the true cost. I ask you to consider whether it is right to pass either the FEIR or the Project until at least the mitigations requested in the most recent letters from the City of Davis, Yolo County, and SACOG as well as the 7 Air Quality Management Districts are in place. If Benicia will never have control over the railroad and its deliveries, perhaps it is a bad bargain for Benicia as well.

Thank you for thinking of your neighbors and fellow Californians in making your decisions. You have a chance to protect California and many fellow citizens.

Dana Stokes
Des835@sbcglobal.net
Davis, CA

From Staff Report p. 26

Significant and Unavoidable Impacts (Impacts without Mitigation Measures)

Air Quality

- Locomotive emissions associated with the Project's transportation of crude oil by rail could conflict with implementation of applicable air quality plans [Impact 4.1-1].
- Locomotive emissions required to transport Project-related crude by rail would contribute to an existing or projected air quality violation(s), including NOx [Impact 4.1-1b].
- Locomotive emissions required to transport Project-related crude by rail could result in a cumulatively considerable net increase in criteria pollutant and ozone precursor emissions [Impact 4.1-2].
- Locomotive emissions associated with operation of the Project could contribute to an existing or projected air quality violation uprail from the Roseville Yard [Impact 4.1-5].

- Locomotive emissions associated with operation of the Project could result in cumulatively considerable net increases in ozone precursor emissions in uprail air districts [Impact 4.1-7].

Biological Resources

- The Project could have a substantial adverse effect on candidate, sensitive or special-status wildlife species or migratory birds, including injury or mortality, resulting from collisions with trains along the North American freight rail lines as a result of increased frequency (high traffic volumes) of railcars [Impact 4.2-10].

Greenhouse Gas Emissions

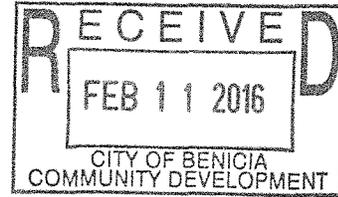
- Locomotive emissions associated with the Project would generate direct and indirect GHG emissions [Impact 4.6-1]. (28)
- GHG emissions resulting from the increase in locomotive emissions required to transport Project-related crude oil by rail would conflict with Executive Order S-3-05 [Impact 4.6-2].

Hazards and Hazardous Materials

- The Project could pose significant hazard to the public or the environment at points along the North American freight rail lines through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment [Impact 4.7-2]. Although the risk of such an occurrence is extremely low, the potential consequences of such an event could be extremely high.
- Train derailments and rail car unloading accidents that lead to hazardous materials spills, fires, and explosions could result in substantial adverse secondary effects, including to Biological Resources, Cultural Resources, Geology and Soils, and Hydrology and Water Quality [Impact 4.7-6]. As analyzed in the EIR, these extremely low-risk events could have extremely high consequences.
- Operation of the Project could expose people or structures to significant risk, injury, or loss from wildland fire if a train derails in a fire hazard severity zone and a resulting fire or explosion causes a wildland fire [Impact 4.7-9].

February 8, 2016

Amy Million
Principal Planner,
Benicia Community Development Department
amillion@ci.benicia.ca.us



Dear Planning Commission Members,

Please add these to the public comments regarding the Final EIR for Valero Crude by Rail Project.

Thank you for this opportunity to address you. I am Lynne Nittler from Davis.

The Planning Department Staff Report suggests the only recourse for uprail residents facing “significant and unavoidable impacts” is to contact our congressional representatives and ask them to pass legislation for our safety. Staff also suggests that the Planning Commission write such a letter on our behalf.

I want to outline how responsive our CA and Congressional representatives have been in the last two and a half years, and how involved we have already been at the legislative level. It is partly because of that involvement that the uprail group from Davis asks you to **not** certify the EIR and to **deny** the Valero Crude-by-rail Project.

Following are six pertinent statements:

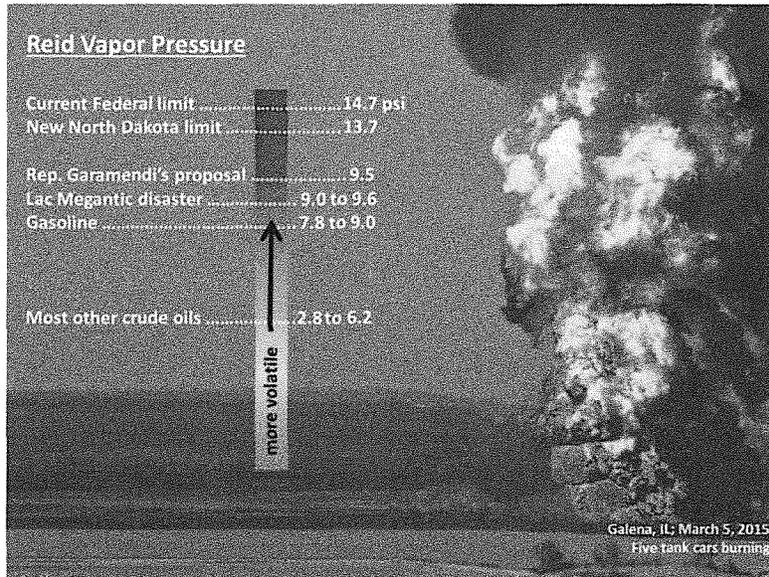
1. In the FEIR, the City of Benicia admits having no say over what the Railroad does, including details of the Valero deliveries in Benicia as well as any control over the dangers and difficulties the trains of crude oil cause to uprail communities, watersheds, and habitat vital to all Californians. Control is relinquished under federal preemption...
2. Our state passed S.B. 861 June 20, 2014 with the following reasonable oil train regulations that call for: a) a tax on each barrel of oil to pay for training emergency firefighters for this elevated level of danger, b) worst case emergency plans to be filed, and c) proof of sufficient liability (Reminder: the Railroads involved in the Lac Megantic accident did not have sufficient liability, went bankrupt immediately after the accident, and left the public to cover costs of 1-2 billion.) The response from the railroads was to sue the state of CA for ignoring federal preemption! (*See update below. On June 18, 2015 the challenge was dismissed because the case was not “ripe for review.”)

3. Our state passed S.B.730 into law (9/18/15) requiring two crew on every train carrying crude oil traveling in CA. (*Technically, the act adds Section 6903 to the Labor Code, relating to railroads*). This is especially important because of our high risk rail sections. This map shows in red the high risk rail sections for every rail route into CA. It is a map prepared for the Office of Spill Prevention and Response showing also earthquake faults and the placement of haz mat teams which indicates how sparse they are in the many remote areas of CA many of which are also hazardous. Be patient as the map comes up slowly on your computer.

https://www.cooldavis.org/wp-content/uploads/Oil-by-Rail-Risk-and-Response_Map-haz-mat-team-locations.pdf

Access the 20 page report prepared by a special interdepartment task force on crude-by-rail for the Benicia DEIR and released June 10, 2014. The map is p. 20. <https://www.cooldavis.org/wp-content/uploads/Oil-By-Rail-Safety-in-California-Report-6-10-14.pdf>

4. Our elected Congressional representatives from this region (John Garamendi who sits on the Transportation Committee, Mike Thompson who represents Benicia, Doris Matsui, and George Miller) wrote a letter to the Department of Transportation on July 1, 2014 urging the stabilization of Bakken crude oil in towers to remove the natural gases and thus reduce the volatility of the crude oil and also advocating the implementation of stronger rail cars and positive train control technology. They did not get results, but see item 6.
5. John Garamendi's current legislation H.R. 1679 Bakken Crude Stabilization Act (3/27/15) that authorizes Bakken crude oil to be transported by rail only if it has a Reid vapor pressure of not more than 9.5 pounds per square inch (the maximum volatility set by the New York Mercantile Exchange for crude oil futures contracts) where often Bakken crude ranges between 11.7 and 14.4 psi. This is not a panacea as indicted in this chart from the Office of Spill Prevention and Response. This bill is stalled since March 2015.



6. The long-awaited new safety regulations under PHMSA (Pipeline and Hazardous Materials Safety Administration) under DOT (Department of Transportation) addressing a) thicker shields of new tank cars, b) phase out of old cars over 3 years, c) required distributed power braking by 2021, and d) speeds of 50 mph max with 40 mph in urban areas are at best minimal and slow to come into effect. They were released May 1, 2015. Many of us commented on these safety regulations during the public review period about the same time as your DEIR review in late 2015.

An analyst in Office of Spill Prevention and Response under the Governor predicted: Current fireball accident rate is about 1 every 2 months. I would expect that to continue thru the phase-out period. Presumably the thicker shells will reduce the number of punctured cars (but maybe only a little) and the thermal protection will reduce the number of cars that split open from the fire heat. Thus, five years from now I would expect the rate of accidents to reduce somewhat and the # of cars rupturing to probably drop from an average of 12 to maybe 8. Obviously, there is still a substantial risk to our communities.

The same analyst in the Office of Spill Prevention and Response, under the Governor's Office of Emergency Services concludes his summary of the May 1, 2015 federal rules, **"There is no safe way to transport crude by rail, despite these regulations or any foreseeable federal regulations."**

Considering the above 6 items, I conclude:

- a. Benicia has admitted having no control over the transport of the crude oil through our state, surrendering to federal preemption of the railroads in every case. *Note: All of our government-level agencies have stated in letters to Benicia how mitigation is possible without triggering federal preemption.*
- b. State and Congressional legislators can take only small steps to make people and the environment - including our watershed – safe, and the railroads have thwarted even those steps.
- c. The Department of Transportation is slow and minimally effective in taking action to protect people and our vulnerable lands by regulating the railroads.

- d. According to one expert whose job is to prevent and respond to spills, **there is no safe way to transport crude by rail.**

Understanding these drawbacks, and remembering that while you sit on the Benicia Planning Commission you are also California residents, what conclusion will you reach in deciding whether to bring crude-by-rail into our state, knowing you will have no control over the long stretches of high risk routes the trains must take to reach Benicia and knowing how many cities and towns will be impacted as the trains pass through their centers. Presently, only your city and San Luis Obispo County have the power to make this decision that seriously affects so many of others - your neighbors - who will carry the cumulative risk and the daily impacts with no mitigations even considered. While you evaluate the economic impact for your own community, consider also the trail of ghg emissions, hazardous risk, air quality degradation, and threat to wildlife the same project leaves all the way to the borders of California and beyond.

I repeat my opening plea. Please do not certify this version of the EIR, which means you must deny the Valero project for the present.

Thank you for your consideration,

Lynne Nittler
2441, Bucklebury Rd., Davis, CA 95616
lnittler@sbcglobal.net

***III. Recent Litigation**

A. Challenge to California's S.B. 861 Dismissed

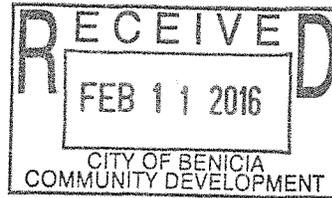
In a previous article, we discussed the industry challenge to California's oil train legislation then pending before the United States District Court for the Eastern District of California in *Association of American Railroads v. California Office of Spill Prevention and Response*.^[65] In that case, the Association of American Railroads, Union Pacific Railroad Company, and BNSF Railway Company had argued that California's S.B. 861 is preempted by federal law, including most prominently the Federal Railroad Safety Act (FRSA) and the Interstate Commerce Commission Termination Act (ICCTA).^[66] Most notably, the railroads argued that the California law's oil spill contingency planning requirements are preempted by the FRSA, and that the law's financial responsibility requirements are preempted by the ITTCA.^[67]

On June 18, 2015, the court granted the defendants' motion to dismiss. The court refused to reach the merits of the case, finding instead that the dispute was not ripe for review. Specifically, the court found that because compliance with the forthcoming regulations would be within the plaintiff's control, and because the lack of implementing regulations meant the railroads had not been coerced into compliance, the plaintiffs could not establish "a concrete plan to violate the law."^[68] Similarly, the court held that the plaintiffs failed to establish a genuine threat of prosecution, finding that letters from the state to the railroads discussing enforcement timelines were general statements, "not sufficiently imminent" threats.^[69]

The railroads did not file a notice of appeal within the 30-day deadline.

<http://www.martenlaw.com/newsletter/20150729-oil-train-regulations-legislation-battles>

February 8, 2016
Amy Million
Principal Planner,
Benicia Community Development Department
amillion@ci.benicia.ca.us



Dear Planning Commission Members,

Good evening Commissioners,

Thank you for this opportunity as an up-rail Davis resident to speak.

As the final speaker among of Davis residents numbered 91-99 and a former City of Davis Planning Commissioner during the early 1990s, I have the utmost respect for the immense time, energy and attention to detail on a broad range of critical issues you have already spent on the EIR process for the Valero Benicia Crude-by-Rail project (the Project).

Your due diligence, combined with that of concerned Benicians, up-rail communities and counties, and local, regional and state agencies and authorities, as well as members of Congress, has consistently exposed the scope of problems to be addressed, researched and debated.

And still, there are serious issues to be addressed as laid out in the February 8 letter from the National Resources Defense Council. Most significantly, that the EIR does not meet the requirements of California Environmental Quality Act (CEQA) and does not resolve the contested claim of pre-emption under the U.S. Commerce Clause by the railroads and Valero.

This broad claim of pre-emption exposes the extent to which community rights and local democracy are trumped by corporate rights and the failure of Federal regulatory agencies, for whatever reason, to protect communities from harm, while, in effect, protecting corporate profits at all cost to people and the planet.

The Significant and Unavoidable Impacts (impacts without Mitigation Measures) should not be the price to pay for certification of this Final EIR.

First, I would like to express my support for the statements by my Davis colleagues.

Second, I would like to place the Valero project into a wider context recognizing that the Paris COP 21 UN Climate Agreement was signed and that we are in the midst of debate over the Trans-Pacific Partnership (TPP) Free Trade Agreement.

In brief: First: The Climate Agreement: headlines from Paris were celebratory, mainly because 195 countries managed at all to come to any kind of agreement.

Many analyses of the Paris Agreement, however, point out that the main text of the agreement was long on rhetoric and short on action. Keep in mind, the agreement does not take effect until 2020 and is not legally binding -- it is entirely voluntary.

In regard to the Valero project, we are told that marine tanker shipment is being replaced by railroad transport. Two questions: Is marine shipment, even from foreign suppliers of oil to the refinery, being entirely replaced? And, what is to prevent Valero from increasing marine shipment in the future specifically to export oil and gas to the Pacific?

I call to your attention to the fact that carbon pollution from international shipping doesn't count as greenhouse gas emissions according to the Paris Agreement. What does this mean in terms of Bay Area and state ghg calculations, air quality and local and state climate action plans? (You may read a good analysis, "Seven Wrinkles in the Paris Climate Deal," by Oscar Reyes, Institute of Policy Studies:
<http://www.commondreams.org/views/2015/12/15/seven-wrinkles-paris-climate-deal> .)

Second, let's be clear about the impact of the TransPacific Partnership trade agreement recently signed by Pres. Obama that must still be ratified by Congress.

First: The TPP text fails to mention the words "climate change" or the UN Framework Convention on Climate Change the international treaty that all TPP countries are party to.

Second: At the end of 2015, the 40-year ban of most U.S. crude oil export was lifted. Should the TPP pass, nothing will prevent acceleration of fossil fuel development in the U.S. for export to the Pacific TPP countries.

I remind you that the TPP has a "docking provision" allowing any country to join the TPP, whether in the Pacific area or not, thus expanding the number of countries globally and the extent of ocean transport for export.

Remember, as I mentioned above, carbon pollution from shipping doesn't count as ghg emissions and shipping emissions are calculated to quadruple by 2050 – at a time when 80% of all fossil fuels should be left in the ground.

Third: There is nothing to prevent foreign fossil fuel corporations in TPP countries, such as a foreign Valero subsidiary, from challenging climate and environmental safeguards in a secret international tribunal that bypasses our national court system: the so-called International Settlement Dispute System. Either the law, rule or regulation must be overturned or a huge fine paid to the corporation using taxpayer dollars. As you may know, TransCanada is suing the US under NAFTA for \$15 billion for failure to approve the KXL pipeline and therefore as claimed denying TransCanada of present and future profits. An excellent Sierra Club analysis, The TPP Would Increase Risks to Our Air, Water, and Climate, may be read at:

<https://www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/INITIAL%20ANALYSIS%20-%20ENVIRO%20IMPLICATIONS%20TPP.pdf>

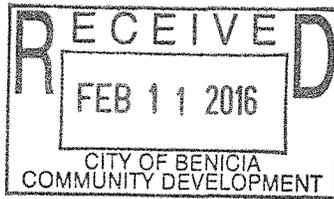
In conclusion, I would like to point out the City Council of Richmond, your neighbor, has passed two resolutions (Feb. and Nov. 2015) against the TPP with emphasis on the impact on climate and the cost of adaptation and mitigation on the city budget as well as the cost of extreme weather events, and on local democratic rule-making and community rights (available to read at <http://www.thealliancefordemocracy.org/pdf/richmondCAtp.pdf> and <http://www.thealliancefordemocracy.org/pdf/richmond2.pdf>).

In the context of the non-binding Paris Climate Agreement and the legally-binding TransPacific Partnership Free Trade Agreement that can be used by foreign multi-national corporations and subsidiaries of U.S. corporations to pre-empt local, state and federal laws that protect communities and the environment, it is crucial that Benicia preserve and carry out its duty to protect Benicia's public health, safety and welfare and the environment and the rights of up-rail communities.

The issue of the scope of pre-emption must be resolved to clarify the extent to which the city can regulate this project. The adequacy of the CEQA analysis and the deficiencies raised in the NRDC, as well as other letters submitted, must be addressed.

I urge you to not certify the EIR and to not approve the Valero project.

Respectfully,
Nancy Price
1223 Sequoia Place, Davis, CA 95616
530-758-0726



Benicia Planning Commission
Re: Valero Refinery

February 8, 2016

Good Evening, My name is Frances Burke I am from the City of Davis in Yolo County. As has been brought to your attention, Davis is a uprail community . Oil mega trains headed to the proposed Valero refinery will pass through our downtown and past my house.. I live in a UC Davis housing community and within 200 feet of the Union Pacific rail tracks. I can see and hear trains passing by all day and all night. With the Valero refinery I will feel, smell, and taste the additional fumes and breath the additional particulate matter from the increased daily trains. I will hear and feel the increased train traffic every time they signal at a crossing, and I am a potential victim of a deadly accident, explosion or train derailment.

I have followed this project closely and at every point available, I have submitted my concerns and made comments before this Commission . The FEIR still fails to address the impacts of the project and the FEIR still fails to adequately respond to our letter's . It has offered us no mitigation for impacts from the increased train traffic to the Valero Refinery. The railroads claim federal preemption and the FEIR simply advised us to contact our congressional representative. My only conclusion is that uprail communities are considered collateral damage . Your decision to approve or disapprove this project has consequences for millions of Californians putting our lives, property, and health at risk .

Fossil fuels are a dinosaur. and I ask the commission not to build their future on a dying industry Please vote NO on the FEIR.and NO on the Valero Refinery project. It has failed to

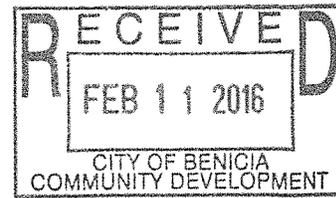
adequately address or offer mitigation for the project impacts for everyone from the state line to the Benicia City limits.

Thank you for my time.

Frances Burke

Davis Ca

COMMENTS – ROGER STRAW, BENICIA
THE BENICIA INDEPENDENT (BeniciaIndependent.com)
PLANNING COMMISSION WEDNESDAY, FEBRUARY 10, 2016



Hello, I'm Roger Straw of Benicia, editor and publisher of the Benicia Independent. I want to thank you, Commissioners, for your diligent study, your time, energy and intellect in consideration of Valero's proposal.

First I must ask you to decline to certify the grossly inadequate EIR, and if you must certify the document, then to deny the permit for Valero Crude By Rail.

Second, I note that after a very short 45-day review period, there has been on top of the three massive volumes themselves, another FLOOD of incoming reviews and analyses that are highly critical of the Final EIR. If I were a Commissioner, I would want additional time to study these new documents. Yes, I know it's been a long process, but, an important decision like this shouldn't be made without studying expert comments and legal and scientific reviews like those submitted so recently by the Bay Area Air Quality Management District, uprail agencies, the NRDC et al, Adams Brownwell on behalf of SAFER California and others.

Please don't lose sight of the one-page letter received yesterday from the local Iron Workers union. The Iron Workers are one of Valero's strongest supporters, yet their letter speaks of withholding support until they "receive more information and assurances from Valero as to the safety of the 1250 Apprentices being trained" at their facility.

Given only 5 minutes, I would like to acknowledge and incorporate into my remarks those offered previously by Jackie Prange of NRDC and Rachael Koss of Adams Brownwell on behalf of SAFER California.

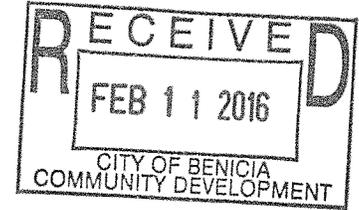
...My heart goes out to Lynne Nittler and Elizabeth Lasensky and all the residents of Davis, CA. My life changed dramatically in the Spring of 2013, when I learned of city staff's recommendation of a mitigated negative declaration that would make me as a Benician complicit with the open pit mining of tar sands crude oil in Canada. Immediately back then, as a world citizen, my thoughts turned to our neighbors all up and down the rail lines, and most especially to those native people and others who live in Alberta, and to the wildlife and boreal forests there that I'd already heard were being destroyed.

That's what this was all about for me in early 2013 – tar sands. Fear of explosions came later. It wasn't until July of that year that Lac Mégantic went up in unquenchable flames given flight by erupting tank cars and rivers of burning Bakken crude.

The media and the public became rightfully alarmed. But my heart has from the start been with the land in the upper Midwest and Canada and the air that circles the globe. Our decision here in Benicia is part of a much larger picture. We are not an isolated island in our small corner of earth.

Please, take into consideration the vast implications of our decision today, and vote to neither certify nor permit Valero Crude by Rail.

Testimony of Rylee Kercher
Certified Law Student
Stanford Mills Legal Clinic



Before the
City of Benicia Planning Commission on
Valero Crude by Rail

February 10, 2016
City Council Chambers, Benicia City Hall
Benicia, California

Good evening Commissioners. My name is Rylee Kercher, and I am here with the Stanford Mills Legal Clinic on behalf of the Center for Biological Diversity. I am going to discuss three ways the Staff Report mischaracterizes the scope of federal preemption and the City's corresponding permitting authority.

First, the Staff Report incorrectly claims the ICCTA's preemption language prohibits the City from even considering off-site impacts that directly flow the Project. As my colleague explained, the ICCTA has nothing to do with this private, non-rail carrier facility at the project approval phase. Thus, the City is required to consider all potential project impacts, including off-site impacts. CEQA guidelines specifically state that the City must consider all direct, indirect, and cumulative impacts¹ – including those impacts “farther removed in distance” from the Project.² In this case, those impacts undoubtedly include effects along the Union Pacific mainline. And while the City is likely preempted from imposing mitigation directly on mainline rail operations,³ it is certainly not required to ignore the impacts of these operations altogether.

In contrast to the ICCTA, some federal acts do contain language expressly preventing localities from considering particular issues in fields heavily regulated by the federal government. For instance, the Telecommunications Act specifically prohibits localities from considering the

¹ The CEQA Guidelines require that “[a]ll phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation.” Cal. Code Regs. tit. 14, § 15126. The Guidelines further state, “[d]irect and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects.” Cal. Code Regs. tit. 14, § 15126.2

² “Indirect or secondary effects,” as defined by the CEQA Guidelines are those “which are caused by the project and are *later in time* or *farther removed in distance*, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems.” Cal. Code Regs. tit. 14, § 15358(a)(2) (emphasis added).

³ Though most of the mitigation measures identified in the EIR may be implemented under the City's traditional land use authority without triggering federal preemption concerns, it also is true that permit conditions attempting to regulate movement of people or property along the existing Union Pacific line *may* be preempted. Although such conditions do not directly implicate congressional concern in the ICCTA with the economic regulation of railroads, courts may nevertheless deem them to frustrate Congress' objective of promoting a viable interstate system. In the event of litigation, a court would be required to scrutinize each permit condition against the preemption principles to determine the ICCTA's (or some other statute's) preemptive effect.

environmental effects of radio waves when regulating wireless facilities.⁴ The ICCTA, however, contains absolutely no language preempting *consideration* of impacts.⁵ Therefore, the City must consider all impacts, including off-site impacts, in reaching its decision.

Second, the City has full authority to deny the project based on the environmental, health, and safety concerns caused by on-site and off-site activities.⁶ Denial need not be solely based on impacts at the Project site. For instance, denial can be based on the 11 significant and unavoidable impacts identified in the Environmental Impact Report, even if the impacts are due to rail operations. The City also has the authority to deny Valero's application based on the health and safety risks posed by rail operations, as well as Use Permit findings related to off-site aspects of the project. The Staff Report is incorrect that denial can only be based on non-rail impacts. To the contrary, if the City agrees with the Staff that the benefits of the Project do not outweigh the unavoidable significant impacts, the City must deny the Project.

Third, if the City instead decides to approve the Project, it has the authority and responsibility to require Valero to take reasonable mitigation measures,⁷ even if those measures incidentally effect "transportation by rail carriers."⁸ For example, permit conditions directed at activities and

⁴ "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions." 47 U.S.C. § 332(c)(7)(B)(iv)

⁵ The operative language of section 10501(b) reads:

The jurisdiction of the Board over –

(1) transportation by rail carriers, and the remedies provided in this part with respect to rates, classifications, rules (including car service, interchange, and other operating rules), practices, routes, services, and facilities of such carriers; and

(2) the construction, acquisition, operation, abandonment, or discontinuance of spur, industrial, team, switching, or side tracks, or facilities, even if the tracks are located, or intended to be located, entirely in one State,

is exclusive. Except as otherwise provided in this part, the remedies provided under this part with respect to regulation of rail transportation are exclusive and preempt the remedies provided under Federal or State law.

49 U.S.C. § 10501(b)

⁶ The City may act pursuant to its traditional land use authority by simply denying the permit application for the proposed Project. Doing so will not in any way affect interstate rail operations or regulate Union Pacific's operations. The railroad is free to continue operating just as it does today; it is not entitled by the ICCTA to obtain new business from private shippers. Nor is the non-carrier facility owner entitled to construct a rail spur project and unloading facility on its property that have significant community impacts which cannot be mitigated.

⁷ A public agency approving a project "shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so." Cal. Pub. Res. Code § 21002(b).

⁸ Where proposed mitigation measures are directed to matters within the control of Valero and not the rail carrier, the measures are not preempted by federal law. Valero is not a rail carrier; it is a private company constructing a rail spur and unloading facility for its exclusive use. As various courts have stated, "Congress narrowly tailored the ICCTA pre-emption provision to displace only 'regulation,' . . . while permitting the continued application of laws having a more remote or incidental effect on rail transportation." *Florida E. Coast Ry. Co. v. City of W. Palm Beach*, 266 F.3d 1324, 1331 (11th Cir. 2001). See also *Ass'n of Am. Railroads v. S. Coast Air Quality Mgmt. Dist.*, 622 F.3d 1094, 1097 (9th Cir. 2010); *N.Y. Susquehanna & W. Ry. Corp. v. Jackson*, 500 F.3d 238, 252 (3d Cir. 2007). Hence,

operations on site, are not preempted by federal law. Everything is related to everything else,⁹ so of course mitigation measures imposed on Valero will have consequences on railroad activities upstream, just like it will impact other related activities, like marine shipments and oil production. While the City cannot impose measures directly on Union Pacific, it is not preempted from regulating what happens on non-rail carrier land. Since the federal Surface Transportation Board has no authority to regulate the construction or operation of Valero's proposed project,¹⁰ the City must be able to regulate, or there would be absolutely no oversight of private construction related to rail activity.¹¹ Congress did not intend to create a gaping hole in regulatory authority when enacting the ICCTA.

In conclusion, the City (1) must consider all Project impacts, including off-site impacts, (2) has the authority to deny the Project based on these impacts, and (3) if the City does instead approve the Project it must make the required Use Permit findings and impose mitigation measures as required by law. A rail spur and unloading facility is a local development project just like any other, and the City has the authority to decide what gets built in its community. There is no reason for the City to voluntarily and incorrectly restrict its governing powers. The City has a responsibility to regulate local land-use decisions, and if the City doesn't properly use its authority speak up on behalf of it's citizens, no one will.

Thank you.

the City has the authority to condition Project approval on implementation of mitigation measures at the Valero rail spur and unloading facility site, even if those measures incidentally impact mainline operations. To contend otherwise is to overblow the scope of the ICCTA to cover all state laws and activities that might incidentally impact a railroad carrier's operations.

⁹ As one California court cautioned, "because 'everything is related to everything else,' . . . understanding the nuances of congressional intent is particularly important" for preemption analysis. *Dilts v. Penske Logistics, LLC*, 769 F.3d 637, 643 (9th Cir. 2014) (quoting *California Div. of Labor Standards Enf't v. Dillingham Const., N.A., Inc.*, 519 U.S. 316, 335). Congress did not intend to "preempt state or local laws if they are laws of general applicability that do not unreasonably interfere with interstate commerce." *Ass'n of Am. Railroads v. S. Coast Air Quality Mgmt. Dist.*, 622 F.3d 1094, 1097 (9th Cir. 2010) (citing *Bos. & Me. Corp.*, 2001 WL 458685). Thus mitigation measures are not preempted so long as the measures target the Project site and activities undertaken Valero, as opposed to interstate commerce more generally.

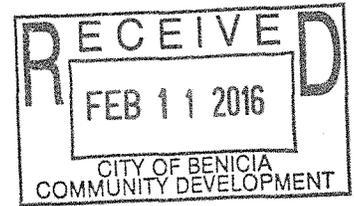
¹⁰ The ICCTA clearly states that the Surface Transportation Board has no authority "over construction, acquisition, operation, abandonment, or discontinuance of spur, industrial, team, switching, or side tracks." 49 U.S.C.A. § 10906.

¹¹ It is appropriate for the City to impose mitigation measures at the project site as they are the only public body with the authority to do so. Since the Surface Transportation Board has no authority to regulate or engage in the planning of the construction of rail spurs, local authorities must be able to regulate to some extent, or there would be no regulation of spur construction at all. It is illogical for the federal government to prevent the City from overseeing construction of private property within City boundaries, when no federal agency is claiming authority to oversee construction.

**Testimony of Claudia Antonacci
Certified Law Student
Stanford Mills Legal Clinic**

**Before the
City of Benicia Planning Commission on
Valero Crude by Rail**

**February 10, 2016
City Council Chambers, Benicia City Hall
Benicia, California**



Good evening Commissioners. My name is Claudia Antonacci, with the Stanford Mills Legal Clinic on behalf of the Center for Biological Diversity. I am here to talk about federal preemption.

The Staff Report before you finds the Project benefits do not outweigh its significant and unavoidable impacts. Yet the Report nonetheless concludes the City must lie down and accept Valero's proposal, because the ICCTA preempts the City from denying the Project based on its rail-related impacts. In presenting this issue to you on Monday, the City Counsel characterized federal preemption as a settled, black and white area of the law. It is not. Rather, preemption analysis is a complicated, unsettled, and fact specific matter which must necessarily begin with the U.S. Supreme Court's preemption precedent. But the Staff Report and the City Counsel failed to walk through that precedent—precedent that has been carefully crafted to preserve the federal-state balance on which our country is built. That precedent shows the Staff Report and City Counsel's preemption conclusions are wrong.

As an initial matter, there are two forms of federal preemption: express and implied. Express preemption occurs when Congress clearly conveys its intent to preempt a particular exercise of state law.¹ Implied preemption, on the other hand, occurs when a state law stands as an obstacle to the goals Congress sought to achieve.² In assessing the existence and scope of any federal preemption, Courts are guided by two cornerstones of preemption law.³ First, preemption is fundamentally a question of Congressional intent—namely what range of activities Congress

¹ *Carrillo v. ACF Indus.*, 20 Cal.4th 1158, 1162 (1990); see also *Altria Group Inc. v. Good*, 555 U.S. 70, 76 (2008) (explaining that the existence of an express preemption clause “does not immediately end the inquiry because the question of the substance and scope of Congress’ displacement of state law remains”); *Medtronics, Inc. v. Lohr*, 518 U.S. 470, 485 (1996) (noting that even when a statute includes preemption language, courts must, nonetheless, “identify the domain expressly pre-empted” by the statutory language).

² *Oneok, Inc. v. Learjet, Inc.*, 135 S. Ct. 1591, 1595 (2015) (noting that courts may find implied preemption where “compliance with both state and federal law is impossible, or where the state law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress”) (internal quotations and citations omitted)).

³ *Wyeth v. Levine*, 555 U.S. 555, 565 (2009).

sought to sweep into its orbit.⁴ Second, preemption analysis always begins with the presumption that State's retain their historic police powers.⁵

The ICCTA does not expressly preempt the City's traditional land use authority or environmental review. What the ICCTA does preempt are state and local remedies with respect to the regulation of rail transportation.⁶ But the City's Use Permit and CEQA review processes do not regulate rail transportation.⁷ Instead, they are generally applicable background laws directed at community health and welfare. Congress did not intend to displace these traditionally local health and safety laws in passing the ICCTA,⁸ which primarily sought to ensure the economic stability and fairness of the interstate rail system.⁹ Hence, the ICCTA does not result in express preemption of the City's authority.¹⁰

Similarly, the ICCTA does not result in implied preemption of the City's authority. The City's land use and environmental review laws are intended to protect public health, community safety, and the environment from the impacts of new land use activities, regardless of who proposes those activities. They do not target the railroads.¹¹ And they do not frustrate Congress' purposes

⁴ *Id.* at 588; see also *Medtronics*, 518 U.S. at 486 (noting any potentially preemptive statutory language is bounded by "the way in which Congress intended the statute and its surrounding regulatory scheme to affect business, consumers, and the law).

⁵ *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947) (noting courts "start with the presumption that the states' historic police powers shall not be superseded by federal law unless that is shown to be the clear and manifest purpose of Congress"); see also *Medtronics*, 518 U.S. at 485 ("[B]ecause the States are independent sovereigns in our federal system, we have long presumed that Congress does not cavalierly pre-empt state-law causes of action"); *Brown v. Mortensen*, 51 Cal.4th 1052, 1065 (2001) (noting party seeking to overcome the presumption against preemption bears "the burden of demonstrating a 'clear and manifest' congressional intent to preempt").

⁶ 49 U.S.C. § 10501(b) ("the remedies provided under [the ICCTA] with respect to regulation of rail transportation are exclusive and preempt the remedies provided under Federal or State law") (emphasis added).

⁷ The City's permitting process – and associated health, safety, and environmental review – does not regulate transportation. Denial of the Use Permit, or the imposition of conditions on the Project, will undoubtedly affect the ability of Valero to accommodate oil trains on its facility, but will not govern or manage Union Pacific's operations on the existing rail line and thus is not an action "with respect to" the regulation of rail transportation.

⁸ The House Conference Report for the ICCTA explains that the Act conveys "the exclusivity of Federal remedies with respect to the regulation of rail transportation," "while clarifying that the exclusivity is related to remedies with respect to rail regulation – not State and Federal law generally." (H.R. Conf. Rep. No. 104-422, 1st Sess., at 167 (1995)). The result is "the complete pre-emption of State economic regulation of railroads" even as "States retain the police powers reserved by the Constitution." (H.R. Conf. Rep. No. 104-422, 1st Sess., at 167 (1995)).

⁹ *New York Susquehanna & W. Ry. Corp. v. Jackson*, 500 F.3d 238, 252 (3d Cir. 2007) (noting the ICCTA "regulates, *inter alia*, rail carriers' rates, terms of service, accounting practices, ability to merge with one another, and authority to acquire and construct rail lines. Thus it regulates the economics and finances of the rail carriage industry—and provides a panoply of remedies when rail carriers break the rules") (internal citations omitted); see also *Illinois Commerce Comm'n v. Interstate Commerce Comm'n*, 879 F.2d 917, 925 (D.C. Cir. 1989) (noting the "central focus" of the Staggers Act, the ICCTA's immediate predecessor legislation, was "economic regulation of railroads").

¹⁰ See *Florida East Coast Ry. Co. v. City of West Palm Beach*, 266 F.3d 1324, 1337 (11th Cir. 2001) ("[T]he [ICCTA] reflect[s] the focus of legislative attention on removing direct economic regulation by the States, as opposed to the incidental effects that inhere in the exercise of traditionally local police power such as zoning.").

¹¹ In assessing conflict/obstacle preemption, the U.S. Supreme Court has emphasized "the importance of considering the target at which the state law aims in determining whether that law is [impliedly] pre-empted."

of a fair and economically sound rail industry.¹² Rather, they are tools that help the County protect its land and citizens.

To deny the City the right to use these tools is to strip the City's quintessentially local authority over health and safety.¹³ Federal preemption law does not permit this result absent clear Congressional intent, intent entirely lacking in the ICCTA.

Finally, in this case, the Staff Report's preemption conclusions are particularly misplaced due to the nature of the proposed project. The project at issue here is a new, exclusively-private rail spur and unloading facility, that is going to be constructed and operated on non-railroad land, by a non-railroad carrier. The ICCTA is virtually irrelevant¹⁴ for such purely local facilities, because the ICCTA is only concerned with "transportation by rail carriers."¹⁵ Valero, a private oil refinery, does not meet the definition of a rail carrier, as neither the company nor this project will provide common carrier services to the public.¹⁶

For these reasons, among others, the ICCTA does not have the exceedingly broad reach suggested in the Staff Report. Thus, Valero cannot escape local regulation and control, and the City cannot skirt its responsibility to regulate, simply by claiming the project's rail-related impacts deprive the City of any meaningful control. Thank You.

Oneok, 135 S. Ct. at 1599; see also *People ex rel. Harris v. Pac Anchor Transp., Inc.*, 59 Cal. 4th 772, 778- 86 (2014). The Use Permit requirements impose standards of general applicability that do not target rail carriers or rail transportation. They are intended to protect public health, safety, and environment resources from potential impacts associated with new land use projects, regardless of whether those projects connect to the interstate rail system. Likewise, CEQA is a law of general applicability that targets informed decision-making by public officials and public accountability to ensure that agency approval decisions are both environmentally sound and transparent.

¹² The question for preemption purposes is not whether CEQA review or local permitting "interfere" with the ability of Valero to obtain rail services or the ability of Union Pacific to sell rail services to Valero (or otherwise operate its existing line). It is worth noting that the standard often cited by Surface Transportation Board and some courts that the state law must not "interfere with" or "unduly burden" interstate commerce is not the legally correct test. That standard applies to dormant Commerce Clause challenges – a wholly different doctrinal area of the law. It does not, however, apply to preemption analysis, which is governed solely by the question of whether the state law conflicts with or poses an obstacle to achieving Congress' purposes.

¹³ Courts must be particularly cautious in finding preemption where, as here, the activity at issue "is quintessentially a matter of longstanding local concern." *Quesada v. Herb Thyme Farms, Inc.*, 62 Cal. 4th 298, 313 (2015).

¹⁴ As courts have found, "Congress narrowly tailored the ICCTA preemption provision to displace *only* 'regulation,' i.e., those state laws that may reasonably be said to have the effect of 'managing' or 'governing' rail transportation, while permitting the continued application of laws having a more remote or incidental effect on rail transportation." *New York Susquehanna*, 500 F.3d at 252 (emphasis added).

¹⁵ The ICCTA establishes federal jurisdiction over "transportation by rail carriers" and provides exclusive "remedies . . . with respect to regulation of rail transportation." 49 U.S.C. § 10501(b)

¹⁶ The ICCTA defines "rail carrier" as "a person providing common carrier rail transportation for compensation," 49 U.S.C. § 10102(5), and "transportation" as "the movement of passengers or property, or both, by rail" and "services related to that movement." 49 U.S.C. § 10102(9). The statute thus only regulates the conduct of common carriers that provide services that move passengers or property for compensation, and its preemptive effect is limited to that conduct.

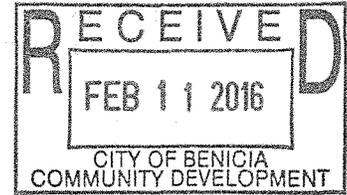
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SERVICE DATE – MARCH 17, 2015

SURFACE TRANSPORTATION BOARD

DECISION

Docket No. FD 35853



SEA-3, INC.—PETITION FOR DECLARATORY ORDER

Digest:¹ SEA-3, Inc. (SEA-3), a non-carrier, asks the Board to find that appeals by the City of Portsmouth, N.H., of a zoning decision—which approved SEA-3’s construction of additional rail berths at the liquefied petroleum gas transload facility it owns and operates in the Town of Newington, N.H.—are preempted by federal law. The Board provides guidance on the issue but denies the petition for declaratory order because the law about the extent to which 49 U.S.C. § 10501(b) preemption applies to transload facilities is clear.

Decided: March 16, 2015

By petition filed on August 4, 2014, SEA-3, Inc. (SEA-3), seeks a declaratory order holding that all claims made by the City of Portsmouth, N.H. (the City or Portsmouth), in certain zoning litigation are preempted by 49 U.S.C. § 10501(b).² SEA-3 states that Portsmouth has appealed zoning decisions that approved SEA-3’s plan to construct five additional rail berths at the liquefied petroleum gas (LPG or propane) transload facility it owns and operates on land it leases in the Town of Newington, N.H. (Newington). Portsmouth, in a reply filed on August 20, 2014, asks the Board to dismiss the petition for lack of standing or, in the alternative, to deny the petition and find that the City’s appeals do not involve regulation of transportation by rail carrier or preclearance requirements that are federally preempted. On September 30, 2014, Boston and Maine Corporation and Springfield Terminal Railway Company d/b/a Pan Am Railways (Pan Am), the rail carrier serving the transload facility, filed comments in support of SEA-3’s petition.³ On January 20, 2015, Norfolk Southern Railway Company (NS) submitted comments

¹ The digest constitutes no part of the decision of the Board, but has been prepared for the convenience of the reader. It may not be cited to or relied upon as precedent. Policy Statement on Plain Language Digests in Decisions, EP 696 (STB served Sept. 2, 2010).

² SEA-3 Pet. 20.

³ In a decision served on August 29, 2014, the Board granted Pan Am’s request for leave to intervene and for a two-week extension to file substantive comments. Pan Am subsequently notified the Board that the parties were engaged in discussions to resolve the issues and requested a further extension to September 30, 2014. The Board granted that extension request in a decision served on September 5, 2014. Pan Am filed its comments on September 30, 2014, after negotiations proved unsuccessful.

as amicus curiae in support of SEA-3's petition. On February 10, 2015, the Propane Gas Association of New England (PGANE) also submitted comments as amicus curiae in support of SEA-3's petition. On February 12, 2015, CSX Transportation, Inc. (CSXT) submitted a petition to intervene and comments in support of SEA-3's petition.⁴

For the reasons discussed below, SEA-3's petition for a declaratory order will be denied.

BACKGROUND

SEA-3 states that Pan Am's Newington Branch is the only rail line serving the transload facility, which is one of only two propane storage and distribution terminals in New England and the only one with rail access. The facility, according to SEA-3, has been in continuous operation since 1975 and has a storage capacity of 560,000 barrels. While the majority of the propane delivered to the facility historically moved from overseas sources by ship, SEA-3 states that the facility has three rail berths that allow it to offload six rail cars of domestically produced propane per day. SEA-3 seeks to reconfigure and expand the facility by constructing five additional rail berths on land leased from Pan Am. SEA-3 claims that this is necessary because recent market changes have made the cost of overseas-produced propane prohibitively expensive. Asserting that the expansion project would allow it to satisfy the majority of its propane requirements from domestic sources, SEA-3 contends that the additional rail berths are essential if it is to continue supplying the New England market with propane.

According to SEA-3, the Newington Planning Board (Planning Board) approved SEA-3's application to expand the facility on May 19, 2014, and on June 16, 2014, Portsmouth filed an appeal with the Newington Zoning Board of Adjustment (NZBA). Also on June 16, 2014, according to SEA-3, Portsmouth filed with the New Hampshire Superior Court (Court) a petition to overturn the Planning Board's decision, or in the alternative to require a study of the rail effects of the expansion project.⁵ SEA-3 contends that Portsmouth has been opposed to the expansion project since it received notice of the application from the Planning Board, and that Portsmouth's sole objective is to block additional LPG rail car traffic from moving through the City.

SEA-3 argues that any attempts by localities or states to direct rail traffic or impose preclearance requirements on transload facilities are federally preempted under § 10501(b). Section 10501(b), as broadened by the ICC Termination Act of 1995, Pub. L. No. 104-88, 109 Stat. 803, expressly provides that the jurisdiction of the Board over "transportation by rail carriers" is "exclusive." 49 U.S.C. § 10501(b). Section 10501(b) also explicitly states that "the

⁴ Pan Am, NS, PGANE, and CSXT will be referred to as "Petition Supporters."

⁵ City of Portsmouth v. Newington Planning Bd., Rockingham County Superior Court Docket No. 218-2014-CV00654. Under New Hampshire law, according to SEA-3, any appeal of a zoning decision by a town's Planning Board must first be resolved by the town's Zoning Board of Adjustment (ZBA). SEA-3 states that when dual appeals are filed, as in this case, court action is stayed pending a ZBA decision, and if the ZBA decision is appealed, the two appeals are consolidated in the court.

remedies provided under [49 U.S.C. §§ 10101-11908] with respect to regulation of rail transportation are exclusive and preempt the remedies provided under Federal or State law.” SEA-3 asks the Board to find that the claims Portsmouth has made to the NZBA and the Court, including any claims that are derived from, or depend on, allegations that Portsmouth would be adversely affected as a result of increased rail transportation, are preempted.

Portsmouth requests that the proceeding be dismissed for lack of standing, contending that SEA-3 is not a rail carrier; that SEA-3 built, owns, controls, insures, and advertises the facility; and that SEA-3 is the sole applicant for approval of, and is solely responsible for all of the costs of the instant expansion project. In the alternative, Portsmouth requests that the Board find the City’s appeals, which include a request for a safety/hazard study of the SEA-3 expansion site, are not federally preempted preclearance requirements. Portsmouth denies: (1) that it is seeking a safety study of Pan Am’s rail operations, as opposed to a study of the SEA-3 expansion site; (2) that it is seeking to deprive SEA-3 of its right to receive rail services; and (3) that it is using local site plan review regulations and zoning ordinances to regulate rail transportation.

Portsmouth contends that there is no conflict between its request for a safety/hazard study of the planned expansion of the facility and SEA-3’s use of Pan Am for common carrier rail service. In appealing and filing for court review of the Planning Board’s decision approving the expansion project, Portsmouth contends it “is simply asking Newington to comply with its site review regulations and zoning ordinances as they apply to the site itself, not the rails . . . in order to assess whether the project promotes the health[,] safety and welfare of the residents of Newington and [the] other affected communities.”⁶ Noting that similar studies were performed the last time SEA-3 expanded its facility in 1996, Portsmouth asserts that, in its zoning appeals, it merely seeks the ability to review and comment on a safety/hazard assessment, claiming that this “would not subject SEA-3 to an unreasonable delay and is not unreasonably burdensome, nor does it discriminate against railroads.”⁷

Pan Am argues that Portsmouth’s appeals to the NZBA and the Court are preempted by § 10501(b) because they would not have been filed absent a potential increase in rail traffic. Pan Am contends that Portsmouth, notwithstanding its denials, is in fact attempting to regulate rail transportation by Pan Am through litigation that would frustrate and delay increased rail service to SEA-3’s transload facility. Pan Am also claims that Portsmouth remains adamantly opposed to the expansion project, even though Pan Am has provided substantial information to the community throughout the Planning Board’s process, attended all Planning Board meetings, met with representatives of Portsmouth and surrounding communities on several occasions, and solicited input from the Federal Railroad Administration (FRA) and the New Hampshire Department of Transportation (NHDOT). Further, Pan Am states that during this community outreach it has pointed out that rail service on the Portsmouth and Newington Branches has continued for decades with at least four active customers now being served in Newington; that the only change in operations that would result from the expansion project would be an increase in rail service from two to potentially six days a week; and that FRA, NHDOT, and emergency

⁶ Portsmouth Reply 10-11.

⁷ Id. at 16.

responders “have reviewed the potential impact of an increase in rail service [and have] informed the Planning Board, Portsmouth, and other neighboring municipalities that no significant safety concerns exist.”⁸ Finally, Pan Am asserts that it has already begun work to upgrade the Portsmouth and Newington Branches from marginal FRA Class 1 to FRA Class 2 standards and that this work should be completed in the summer of 2015.

NS, in its amicus filing, states that it has an interest in this case because SEA-3 is its customer. NS argues that Portsmouth is attempting to regulate rail commerce and that therefore Portsmouth’s position in this case is contrary to the Board’s preemption precedent. NS also raises concerns that Portsmouth’s “attempts to regulate the flow of commerce”⁹ are part of a trend of localities enacting regulations that are preempted under § 10501. Similarly, PGANE argues that Portsmouth is seeking to interfere with the flow of interstate commerce by rail, and Portsmouth’s actions would lead to a patchwork of conflicting local regulations over rail operations. CSXT, in its comments, asserts that Portsmouth is attempting to regulate the use of a railroad line through the zoning process, which is one of the most invasive forms of regulation and is clearly preempted under § 10501(b).

DISCUSSION AND CONCLUSIONS

The Board has discretionary authority under 5 U.S.C. § 554(e) and 49 U.S.C. § 721 to issue a declaratory order to eliminate controversy or remove uncertainty in a matter related to the Board’s subject matter jurisdiction.¹⁰ Where the law is clear, the Board may decline to institute a proceeding and instead provide guidance on the preemption issue presented, and it is appropriate to do so here. See, e.g., 14500 Ltd.—Pet. for Declaratory Order, FD 35788, slip op. at 2 (STB served June 5, 2014).¹¹

The Interstate Commerce Act (Act) is “among the most pervasive and comprehensive of federal regulatory schemes.” Chi. & N.W. Transp. Co. v. Kalo Brick & Tile Co., 450 U.S. 311, 318 (1981). The federal preemption provision contained in § 10501(b) bars the application of most state and local laws to railroad operations that are subject to the Board’s jurisdiction.¹²

⁸ Id. at 5-6.

⁹ NS Comments 1.

¹⁰ See, e.g., Bos. & Me. Corp. v. Town of Ayer, 330 F.3d 12, 14 n.2 (1st Cir. 2003); Delegation of Auth.—Declaratory Order Proceedings, 5 I.C.C. 2d 675, 675 (1989).

¹¹ We also note that, according to Pan Am, the NZBA held a hearing on September 15, 2014, and denied all of Portsmouth’s claims. Pan Am Reply 3 n.1 & Ex. A. Thus, it appears that SEA-3 has prevailed at every stage of the zoning process to date.

¹² State or local permitting or preclearance requirements, including building permits, zoning ordinances, and environmental and land use permitting requirements, are categorically preempted as to any facilities that are an integral part of rail transportation. See Green Mountain R.R. v. Vermont, 404 F.3d 638, 643 (2d Cir. 2005). Other state actions may be preempted as applied—that is, only if they would have the effect of unreasonably burdening or interfering with rail transportation. See N.Y. Susquehanna & W. Ry. v. Jackson, 500 F.3d 238, 252 (3d Cir.

(continued . . .)

Because the Board has jurisdiction over “transportation by rail carrier,” 49 U.S.C. § 10501(a), to be subject to the Board’s jurisdiction and qualify for federal preemption under 49 U.S.C. § 10501(b), the activities at issue must be “transportation” and must be performed by, or under the auspices of, a “rail carrier.” The statute defines “transportation” expansively to encompass any property, facility, structure or equipment of any kind related to the movement of passengers or property, or both, by rail, and services related to that movement, including receipt, delivery, transfer in transit, storage, and handling of property. 49 U.S.C. § 10102(9). Moreover, “railroad” is defined broadly to include a switch, spur, track, terminal, terminal facility, freight depot, yard, and ground, used or necessary for transportation. 49 U.S.C. § 10102(6). Whether a particular activity is considered part of transportation by rail carrier under § 10501 is a case-by-case, fact-specific determination. See, e.g., Diana Del Grosso.—Pet. for Declaratory Order, FD 35652, slip op. at 5 (STB served Dec. 5, 2014).

The Board’s jurisdiction extends to rail-related activities that take place at transloading facilities if the activities are performed by a rail carrier, the rail carrier holds out its own service through a third party that acts as the rail carrier’s agent, or the rail carrier exerts control over the third party’s operations.¹³ The record presented to the Board in this case, however, does not demonstrate that SEA-3 is a carrier or that it is performing transportation-related activities on behalf of Pan Am or any other rail carrier at the transload facility.

(. . . continued)

2007); Joint Pet. for Declaratory Order—Bos. & Me. Corp. & Town of Ayer (Ayer), 5 S.T.B. 500, 507-508 (2001), reconsideration denied (STB served Oct. 5, 2001). Even where § 10501(b) preemption applies, there are limits to its scope. Overlapping federal statutes are to be harmonized, with each statute given effect to the extent possible. Moreover, states retain police powers to protect the public health and safety on railroad property so long as state and local regulation do not unreasonably interfere with interstate commerce. Green Mountain, 404 F.3d at 643.

¹³ Id. Compare Green Mountain, 404 F.3d at 642 (transloading and temporary storage of bulk salt, cement, and non-bulk foods by a rail carrier qualified for preemption); Lone Star Steel Co. v. McGee, 380 F.2d 640, 647 (5th Cir. 1967), and Ass’n of P&C Dock Longshoremen v. Pittsburgh & Conneaut Dock Co., 8 I.C.C. 2d 280, 290-95 (1992) (an agent undertaking the obligations of a common carrier (i.e., performing services as part of the total rail service contracted for by a member of the public) also holds itself out to the public as being a common carrier by rail, and is therefore subject to federal regulation), with Town of Milford, Mass.—Pet. for Declaratory Order, FD 34444, slip op. at 3-4 (STB served Aug. 12, 2004) (Board lacked jurisdiction over noncarrier operating a rail yard where it transloaded steel pursuant to an agreement with the rail carrier, but the transloading services were not being offered as part of common carrier services offered to the public); High Tech Trans, LLC—Pet. for Declaratory Order—Newark, N.J., FD 34192 (Sub-No. 1), slip op. at 7 (STB served Aug. 14, 2003) (no STB jurisdiction over truck-to-truck transloading prior to commodities being delivered to rail); and Town of Babylon & Pinelawn Cemetery—Pet. for Declaratory Order, FD 35057, slip op. at 5 (STB served Feb. 1, 2008) (Board lacked jurisdiction over activities of a noncarrier transloader offering its own services directly to customers).

Citing Norfolk Southern Railway v. City of Alexandria (Alexandria), 608 F.3d 150 (4th Cir. 2010), and Boston & Maine Corp.—Petition for Declaratory Order (Winchester), FD 35749 (STB served July 19, 2013), SEA-3 argues that any attempt by localities or states to direct rail traffic or impose preclearance requirements on this facility are federally preempted under § 10501(b). SEA-3 and the Petition Supporters further argue that Portsmouth is attempting to use its appeals of the Planning Board’s decision to interfere with Pan Am’s rail operations and to intrude into matters directly regulated by the Board. Portsmouth’s sole objective, Pan Am and PGANE claim, is to prevent an increase in rail service to SEA-3 by blocking additional propane shipments from traveling through the City. Pan Am contends that Portsmouth will use the results of any litigation to impose restrictions on SEA-3’s ability to use, and Pan Am’s ability to provide, rail transportation. In support of preemption, Pan Am, NS, and CSXT also cite Winchester, which they assert has facts almost identical to those at issue here, and Pan Am and PGANE similarly rely on Ayer.

However, the facts in the cases relied on by SEA-3 and the Petition Supporters are very different from those at issue here. The cited cases involved local regulation of transloading performed by the rail carrier or under its auspices (Alexandria and Ayer), or local regulation of the railroad’s ability to conduct common carrier transportation (Winchester). Alexandria involved an ethanol transload facility constructed and owned by Norfolk Southern Railway Company and operated under its auspices. Ayer involved the construction and operation of an automobile unloading facility by Boston and Maine Corp. and Springfield Terminal Railway Co., and their corporate parent, Guilford Transportation Industries, Inc. (now Pan Am). SEA-3 and the Petition Supporters do not allege that SEA-3 is a rail carrier, or that its transloading is performed under the auspices of a rail carrier,¹⁴ as was the case in Alexandria and Ayer.

Winchester involved a local regulation that would have prohibited a rail carrier (Pan Am) from operating trains over the line in question. The Board determined that § 10501(b) preempted this regulation because it prevented the rail carrier from conducting its operations in interstate commerce. Here, SEA-3 and the Petition Supporters have not identified an attempt by Portsmouth to regulate *Pan Am’s* operations, as was the case in Winchester.¹⁵ Instead, Portsmouth’s litigation challenging the Planning Board’s decision involves permitting of the expansion of *SEA-3’s* facility, and as noted, it is undisputed that SEA-3 is not a rail carrier or acting under the auspices of a rail carrier.¹⁶ Thus, it appears that the only regulatory action at issue in this case is a local government’s participation in zoning litigation over the expansion of a non-carrier facility. Without more, this situation does not reflect undue interference with

¹⁴ See n.13, *supra*.

¹⁵ NS is incorrect when it suggests that Winchester addressed a “contested municipal zoning ordinance . . . applied to the shipper facility . . .” NS Comments 3. As noted above, the municipal ordinance at issue in Winchester would have prohibited *the rail carrier* from operating trains over the line in question. See Bos. & Me. Corp.—Pet. for Declaratory Order, FD 35749, slip op. at 4-5 n.17 (STB served Oct. 31, 2013) (observing that the Winchester decision applied to the rail carrier’s operations over the line, not to the shipper facility).

¹⁶ See SEA-3 Pet. 20 (requested declaratory order would find preemption only with respect to “claims made in Portsmouth’s Superior Court Petition and ZBA Appeal”).

“transportation by rail carriers.” See 49 U.S.C. § 10501(b). Accordingly, SEA-3 and the Petition Supporters have not demonstrated on this record that preemption under § 10501(b) applies to Portsmouth’s zoning appeals.

If Portsmouth or any other state or local entity were to take actions as part of a proposed safety/hazard study, or otherwise, that interfere unduly with Pan Am’s common carrier operations, those actions would be preempted under § 10501(b). See, e.g., Bos. & Me. Corp.—Pet. for Declaratory Order, FD 35749 (STB served Oct. 31, 2013) (confirming that the Town of Winchester’s directive prohibiting Pan Am from conducting transportation over a rail line was preempted). As the Board and the courts have explained, Portsmouth may apply non-discriminatory regulations to protect public health and safety, but only provided that its regulations do not have the effect of foreclosing or unduly restricting Pan Am’s ability to conduct operations over its Newington and Portsmouth Branches, or otherwise unreasonably burden interstate commerce.¹⁷

This action will not significantly affect either the quality of the human environment or the conservation of energy resources.

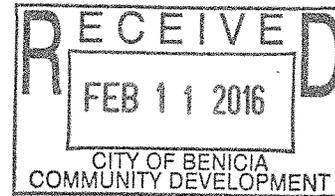
It is ordered:

1. SEA-3’s petition for declaratory order is denied, and this proceeding is discontinued.
2. This decision is effective on the date of service.

By the Board, Acting Chairman Miller and Vice Chairman Begeman.

¹⁷ As discussed above, state and local regulation is not preempted where it does not interfere with rail operations. Localities retain their reserved police powers to protect the public health and safety so long as their actions do not unreasonably burden interstate commerce. See Green Mountain, 404 F.3d at 643. Electrical, plumbing, and fire codes also are generally applicable. See Green Mountain, 404 F.3d at 643. State and local action, however, must not have the effect of foreclosing or unduly restricting the rail carrier’s ability to conduct its operations or otherwise unreasonably burden interstate commerce. See CSX Transp. Inc.—Pet. for Declaratory Order, FD 34662, slip op. at 5 (STB served May 3, 2005).

January 18, 2010



Richard Mitchell
Director, Planning and Building Services
City of Richmond
1401 Marina Way South
Richmond, CA 94804

Chevron Richmond Refinery
Conditional Use Permit Condition D2

Dear Mr. Mitchell:

This letter provides the test report for Six Element Sampling at Chevron's Richmond Refinery for the Fourth Quarter of 2009. This information is submitted pursuant to Condition D2 of Chevron's Conditional Use Permit, Number 1101974, for the Chevron Energy and Hydrogen Renewal Project.

Sampling was performed according to the protocol submitted to the City and BAAQMD in December 2008. The final set of analytical results for Fourth Quarter 2009 samples were received by Chevron from the analytical laboratories on January 15, 2010.

Please find attached *Six Element Sampling Results Report for Quarter Ending December 31, 2009* which summarizes the results for each sample analysis required by the D2 condition.

If you have any questions concerning this report, please contact Ms. Winnie Lieu at (510) 242-2742.

Sincerely,

Tery Lizarraga

Attachment:

Six Element Sampling Results Report for Quarter Ending December 31, 2009

Bcc:

Robert Chamberlain, Richmond Renewal Project
Rolf Lindenhayn, Richmond Renewal Project
ETC (c/o Matt Diaz)

Chevron Richmond Refinery
 Conditional Use Permit Condition D2
 Report for Quarter Ending: 12/31/09

Liquid Samples - Metals

Compound	Calcium				Test Method (GPMS (EPA 1631))				Date: 11/3/09 to 11/6/09			
Source	Replicate 1				Replicate 2				Replicate 3			
	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag
Crude Oil - Crude Unit	ND	0.002	0.014		ND	0.002	0.015		ND	0.002	0.015	
Gas Oil - FCC	ND	0.002	0.015		ND	0.002	0.014		ND	0.002	0.014	
Gas Oil - TKN	ND	0.002	0.015		ND	0.002	0.015		ND	0.002	0.015	
Gas Oil - TKC	ND	0.002	0.014		ND	0.002	0.014		ND	0.002	0.015	

Compound	Nickel				Test Method (GPMS (EPA 1631))				Date: 11/3/09 to 11/6/09			
Source	Replicate 1				Replicate 2				Replicate 3			
	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag
Crude Oil - Crude Unit	4.63	0.011	0.048		2.00	0.011	0.050		4.89	0.011	0.050	
Gas Oil - FCC	0.416	0.011	0.049		0.435	0.010	0.046		0.407	0.010	0.048	
Gas Oil - TKN	0.079	0.011	0.050		0.080	0.011	0.049		0.080	0.011	0.049	
Gas Oil - TKC	0.362	0.010	0.047		0.360	0.010	0.047		0.360	0.011	0.049	

Compound	Barium				Test Method (GPMS (EPA 1631))				Date: 11/3/09 to 11/6/09			
Source	Replicate 1				Replicate 2				Replicate 3			
	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag
Crude Oil - Crude Unit	ND	0.017	0.048		ND	0.018	0.050		ND	0.018	0.050	
Gas Oil - FCC	0.075	0.018	0.039		0.095	0.017	0.037		0.049	0.017	0.038	
Gas Oil - TKN	0.233	0.018	0.040		0.243	0.018	0.039		0.246	0.018	0.039	
Gas Oil - TKC	0.110	0.017	0.038		0.112	0.017	0.037		0.079	0.018	0.039	

Compound	Vanadium				Test Method (GPMS (EPA 1631))				Date: 11/3/09 to 11/6/09			
Source	Replicate 1				Replicate 2				Replicate 3			
	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag
Crude Oil - Crude Unit	11.5	0.021	0.072		4.61	0.022	0.075		13.0	0.022	0.075	
Gas Oil - FCC	0.441	0.022	0.074		0.448	0.020	0.070		0.435	0.021	0.072	
Gas Oil - TKN	0.139	0.022	0.075		0.134	0.022	0.074		0.138	0.022	0.074	
Gas Oil - TKC	0.375	0.021	0.071		0.377	0.020	0.070		0.376	0.021	0.073	

Compound	Mercury				Test Method (EPA 1631) (Cold Vapor Atomic Fluorescence Spectrometry)				Date: 11/3/09 to 11/6/09			
Source	Replicate 1				Replicate 2				Replicate 3			
	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag	Result mg/kg	MDL mg/kg	RL mg/kg	Flag
Crude Oil - Crude Unit	ND	0.00046	0.00297		ND	0.00046	0.00294		ND	0.00045	0.00262	
Gas Oil - FCC	ND	0.00044	0.00287		ND	0.00045	0.00289		ND	0.00046	0.00294	
Gas Oil - TKN	ND	0.00044	0.00286		ND	0.00044	0.00287		ND	0.00045	0.00263	
Gas Oil - TKC	ND	0.00045	0.00294		ND	0.00047	0.00303		ND	0.00044	0.00265	

Gas Samples - Metals

Compound		Mercury					Date: 11/10/09 11:11:09								
Source	Replicate 1			Replicate 2			Replicate 3								
	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm
Fuel Gas - V475-B	0.3875	0.12		0.1146	3.3824	ND	0.001		0.1142	ND	ND	0.001		0.1144	ND
Fuel Gas - V701	0.0004	0.002		0.1197	0.0033	ND	0.001		0.1153	ND	0.0831	0.001		0.1150	0.7226
Fuel Gas - V870	0.0066	0.002		0.1185	0.0554	0.0096	0.001		0.1178	0.0814	0.0103	0.001		0.1169	0.0881
Flare Gas - K1060/1070 (NY Flare)	ND	0.002		0.1275	ND										
Flare Gas - K3950 (SY Flare)	0.0081	0.002		0.1218	0.0665										

Compound		Cadmium					Date: 11/10/09 11:11:09								
Source	Replicate 1			Replicate 2			Replicate 3								
	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm
Fuel Gas - V475-B	DNQ	0.003	J	0.1146	DNQ	DNQ	0.003	J	0.1142	DNQ	DNQ	0.003	J	0.1144	DNQ
Fuel Gas - V701	DNQ	0.003		0.1197	DNQ	DNQ	0.003	J	0.1153	DNQ	DNQ	0.003	J	0.1150	DNQ
Fuel Gas - V870	DNQ	0.003	J	0.1185	DNQ	ND	0.003		0.1178	ND	DNQ	0.003	J	0.1169	DNQ
Flare Gas - K1060/1070 (NY Flare)	DNQ	0.003	J	0.1275	DNQ										
Flare Gas - K3950 (SY Flare)	DNQ	0.003	J	0.1218	DNQ										

Compound		Nickel					Date: 11/10/09 11:11:09								
Source	Replicate 1			Replicate 2			Replicate 3								
	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm
Fuel Gas - V475-B	DNQ	0.015		0.1146	DNQ	DNQ	0.015		0.1142	DNQ	DNQ	0.015		0.1144	DNQ
Fuel Gas - V701	0.0240	0.015		0.1197	0.2005	DNQ	0.015		0.1153	DNQ	DNQ	0.015		0.1150	DNQ
Fuel Gas - V870	DNQ	0.015		0.1185	DNQ	DNQ	0.015		0.1178	DNQ	DNQ	0.015		0.1169	DNQ
Flare Gas - K1060/1070 (NY Flare)	DNQ	0.015		0.1275	DNQ										
Flare Gas - K3950 (SY Flare)	DNQ	0.015		0.1218	DNQ										

Compound		Selenium					Date: 11/10/09 11:11:09								
Source	Replicate 1			Replicate 2			Replicate 3								
	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm
Fuel Gas - V475-B	ND	0.150		0.1146	ND	ND	0.150		0.1142	ND	ND	0.150		0.1144	ND
Fuel Gas - V701	ND	0.150		0.1197	ND	ND	0.150		0.1153	ND	ND	0.150		0.1150	ND
Fuel Gas - V870	ND	0.150		0.1185	ND	ND	0.150		0.1178	ND	ND	0.150		0.1169	ND
Flare Gas - K1060/1070 (NY Flare)	ND	0.150		0.1275	ND										
Flare Gas - K3950 (SY Flare)	ND	0.150		0.1218	ND										

Compound		Vanadium					Date: 11/10/09 11:11:09								
Source	Replicate 1			Replicate 2			Replicate 3								
	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm	Result µg	MRL µg	Flag	Vol Gas Sampled dscm	Conc. µg/dscm
Fuel Gas - V475-B	ND	0.075		0.1146	ND	ND	0.075		0.1142	ND	ND	0.075		0.1144	ND
Fuel Gas - V701	ND	0.075		0.1197	ND	ND	0.075		0.1153	ND	ND	0.075		0.1150	ND
Fuel Gas - V870	ND	0.075		0.1185	ND	ND	0.075		0.1178	ND	ND	0.075		0.1169	ND
Flare Gas - K1060/1070 (NY Flare)	ND	0.075		0.1275	ND										
Flare Gas - K3950 (SY Flare)	ND	0.075		0.1218	ND										

Liquid HC and Gas Samples - Total Sulfur

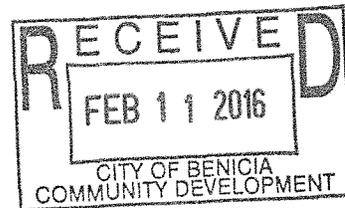
Compound		Sulfur	
Source	Total Sulfur		
	wt %	mol ppm*	
Liquid HC Samples Dates: 12/2/09-12/13/09			
Crude Oil - Crude Unit	1.94		
Gas Oil - FCC	0.295		
Gas Oil - TKN	1.60		
Gas Oil - TKC	0.30		
Gas Samples Dates: 11/10/09-11/12/09			
Fuel Gas - V475-B		33.5	
Fuel Gas - V701		41.6	
Fuel Gas - V870		54.1	
Flare Gas - K1080/1070 (NY Flare)		24,593	
Flare Gas - K3950 (SY Flare)		23,714	

Key:

- RL: Reporting Limit
- MDL: Method Detection Limit
- MRL: Method Reporting Limit
- J Flag: Estimated value. Analyte detected at a level less than the Reporting Limit, but greater than or equal to the Method Detection Limit
- DNQ: Detected but Not Quantified. All gas samples were blank corrected and where blank value exceeded the measured value, DNQ was denoted.
- ND: Not detected
- dsi: dry standard liter
- dscm: dry standard cubic meter at 29.92 " Hg, 68 Deg. F (760 mm Hg 20 Deg C)
- ppbvd: parts per billion by volume on a dry basis
- Conc: Concentration
- * Limit of detection for analysis was 0.1 mol ppm. Convert to wt/wt ppm S by multiplying by factor of 2.

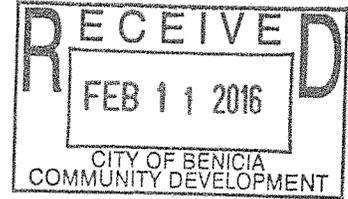
US Department of energy
<http://www.osti.gov/scitech/biblio/657359>

USING THE MODEL TO MAKE DETERMINATIONS Application of the model begins by reviewing the relationship between the nonfederal action and the federal action; By answering the first question, i.e., Is the federal action significantly interrelated to the federal action such that 'but for' the federal action, the nonfederal action would not occur?" If the response is "no", the decision maker continues down through the remaining tests. A "no" answer to all of the tests supports a decision that the nonfederal action is not subject to the requirements of NEPA. A "yes" answer to any single test is sufficient to support a decision that the nonfederal action is subject to the requirements of NEPA.





Independent Statistics & Analysis
U.S. Energy Information
Administration



PADD 5 Transportation Fuels Markets

September 2015



This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the U.S. Department of Energy or other federal agencies.

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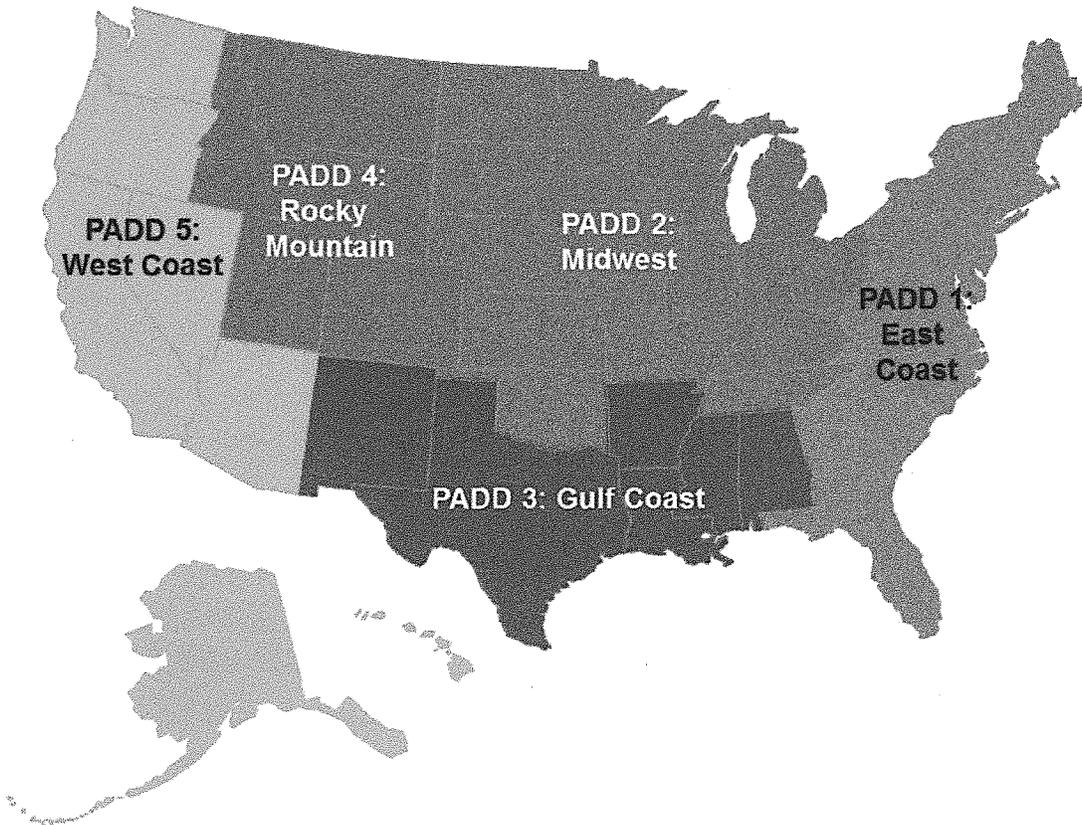
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Introduction

This study examines supply, demand, and distribution of transportation fuels in Petroleum Administration for Defense District (PADD) 5, a region that includes the western states of California, Arizona, Nevada, Oregon, Washington, Alaska, and Hawaii. For this study, transportation fuels include gasoline, diesel fuel, and jet fuel.

This study is the first in a series of studies that the U.S. Energy Information Administration (EIA) plans to conduct to inform its analyses of petroleum product markets, especially during periods of supply disruption and market change.

Figure 1. Petroleum Administration for Defense Districts (PADDs)



Source: U.S. Energy Information Administration

This study examines transportation fuels supply, demand, and distribution at both the PADD level and for specific areas within the PADD, which are referred to as sub-PADD regions in this analysis. PADD 5 covers a large and diverse geography, and supply/demand balances and supply patterns vary within the region. The study identified six distinct regional markets within PADD 5: Southern California and Southern Nevada; Northern California and Northern Nevada; Pacific Northwest, which includes Washington and Oregon; Arizona; Hawaii; and Alaska.

For each of these regional markets as well as for PADD 5 as a whole, the study considers demand, supply, supply patterns, and distribution infrastructure, using 2013 as a base year and taking into account expected changes in balances and infrastructure in subsequent years. Demand includes in-region consumption, transfers of fuels to other parts of the United States (other PADDs) and to other regional markets within PADD 5, and exports to the global market. Supply includes in-region refinery production, receipts of fuels produced in other U.S. regions and other PADD 5 regional markets, and imports. Distribution infrastructure includes storage terminals, pipelines, rail facilities, marine loading and unloading facilities, and marine vessel availability.

EIA retained Stillwater Associates, an Irvine, California-based transportation fuels consultant, to conduct the research and analysis for the PADD 5 study. Stillwater analyzed data and information from EIA, the California Energy Commission (CEC), the Army Corps of Engineers Waterborne Commerce Statistics Center, and publicly available data from various sources.

Additional studies are planned to analyze PADD 5 crude supply, PADD 1 (East Coast), and PADD 3 (Gulf Coast) transportation fuels markets, and PADD 2 (Midwest) and PADD 4 (Rocky Mountains) transportation fuels markets.

Executive Summary

In 2013, PADD 5 accounted for 17%, or 1.5 million barrels/day (b/d), of total U.S. gasoline consumption, 13%, or 494,000 b/d, of distillate (including diesel fuel) consumption, and about 30%, or 430,000 b/d, of jet fuel consumption. Consumption varies across PADD 5 and is concentrated in California.

PADD 5 transportation fuels markets have features that often result in significant and persistent increases in prices in the wake of supply disruptions. The region is geographically isolated from other U.S. refining centers, notably the Gulf Coast, where 52% of U.S. refining capacity is located, and from global refining centers that can efficiently supply product to the U.S. East Coast (PADD 1). In addition, although pipelines can move products from the Gulf Coast as far north as New York Harbor on the East Coast, there are no pipelines that cross the Rocky Mountains to move product to the mainland states of PADD 5 from the Midwest, and only limited pipelines that deliver from the Gulf Coast to the southern regions of PADD 5 and from the small refineries in PADD 4 to the eastern regions of PADD 5. The West Coast is 10 days travel by tanker from the U.S. Gulf Coast, three weeks from Asia, and more than four weeks from Europe. Pipeline and marine infrastructure, as well as vessel availability to move product within PADD 5, are also limited.

Across PADD 5, specifications for motor gasoline and diesel fuel vary state-to-state and even within some states, making it difficult to cover product shortfall in one area with supply from another. In addition, some product specifications, like those for the California Air Resources Board (CARB) gasoline and diesel fuel, are difficult and costly to manufacture, and not all refineries in PADD 5, much less elsewhere in the United States or the rest of the world, can make such products. Even when refineries outside PADD 5 can manufacture product to meet these specifications, supplies generally are not kept on hand, further limiting resupply options when disruptions occur.

Because PADD 5 is isolated, in-region refineries are the primary source of transportation fuels for PADD 5. In 2013, PADD 5 refinery production was sufficient to cover about 91% of in-region motor gasoline demand, 96% of jet demand, and 113% of distillate demand. Heavy reliance on in-region production further complicates the supply chain when disruptions occur. When disruptions occur, all of these factors noted above combine to limit short-term supply options, lengthen the duration of supply disruptions, and cause prices to increase and remain higher for a longer period than would be typical in markets outside PADD 5.

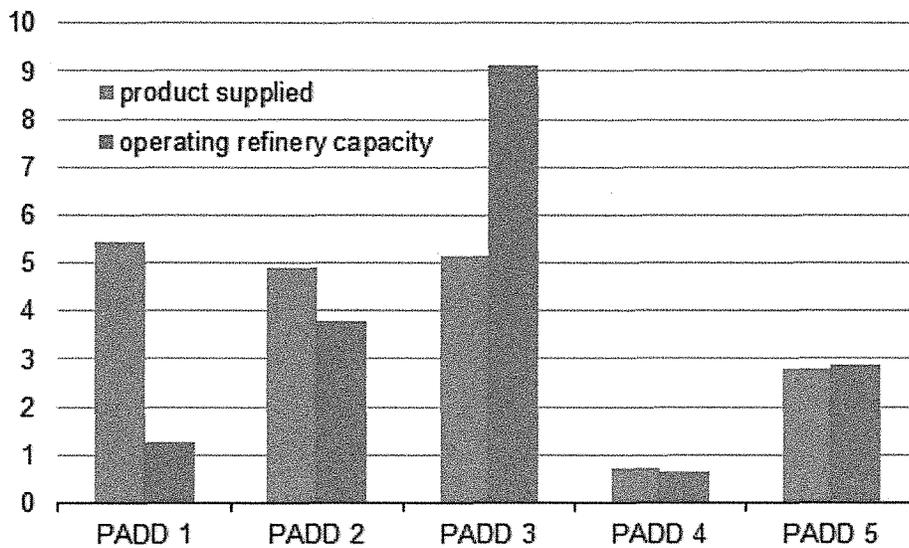
The recent increase in gasoline prices on the West Coast following a series of supply disruptions that started with an unplanned refinery outage in February at a Southern California refinery provides a case in point. On February 18, an explosion and fire occurred at the third-largest refinery in Southern California. West Coast product markets reacted immediately to the potential loss of supply from the refinery, and spot gasoline prices quickly increased. The rapid price response is not unusual and is similar to what happened following past unplanned outages in that region. In the five weeks following the outage, West Coast total motor gasoline inventories decreased by 3.0 million barrels (10%), and remained below the five-year average for most weeks through August. Inventories provide an immediate, although limited, source of alternative supply but typically are insufficient to offset a prolonged market disruption. With limited resupply options from within the region and from within the

United States, imports increased to replace in-region production. Because the refinery outage has not yet been resolved as of the writing of this report, PADD 5 has continued to rely on imports, which has lengthened the supply chain, making the region more susceptible to shipping delays and other supply chain disruptions. Gasoline prices on the West Coast increased sharply again in early July when, according to trade press, shipping delays caused gasoline cargoes destined for the West Coast to arrive later than anticipated. In addition, PADD 5 gasoline demand was up 4% in the first six months of 2015 compared with the same time last year, putting additional pressure on the supply chain.

There are 22 operating refineries in Washington, Oregon, California, Nevada, and Arizona, the mainland states of PADD 5. These refineries, which have total atmospheric distillation unit (ADU) capacity of 2.5 million barrels per calendar day (b/cd), are located primarily in and around Los Angeles and San Francisco, California, and Puget Sound in Washington. There are two operating refineries in Hawaii with combined crude distillation processing capacity of 147,500 b/cd and five operating refineries in Alaska with combined crude distillation capacity of 165,200 b/cd.

Figure 2. Petroleum product supply and refining capacity by PADD

million barrels per day



Note: Refinery capacity is in barrels per calendar day.

Source: U.S. Energy Information Administration

This study identified six distinct sub-PADD regional markets within PADD 5, each of which is characterized by different supply patterns for transportation fuels and each of which interacts differently with the other regions within PADD 5 and the global markets. The six regions are:

- Southern California and Southern Nevada
- Northern California and Northern Nevada
- Arizona
- Pacific Northwest, which includes Washington and Oregon
- Alaska
- Hawaii

PADD 5 is just not one market for transportation fuels, but rather six distinct regional markets. These six regional markets vary significantly in demand, how transportation fuels are supplied, especially the share of supply provided by in-region refineries, and product distribution patterns. Because there is limited pipeline infrastructure connecting the six regional markets, marine movements within PADD 5 play a key role in moving transportation fuels from regions with excess supply to regions with supply shortfalls. As a result, marine vessels are generally highly utilized, and there is minimal capacity to increase intraregional shipments to manage supply disruptions.

Figure 3. PADD 5 marine movements

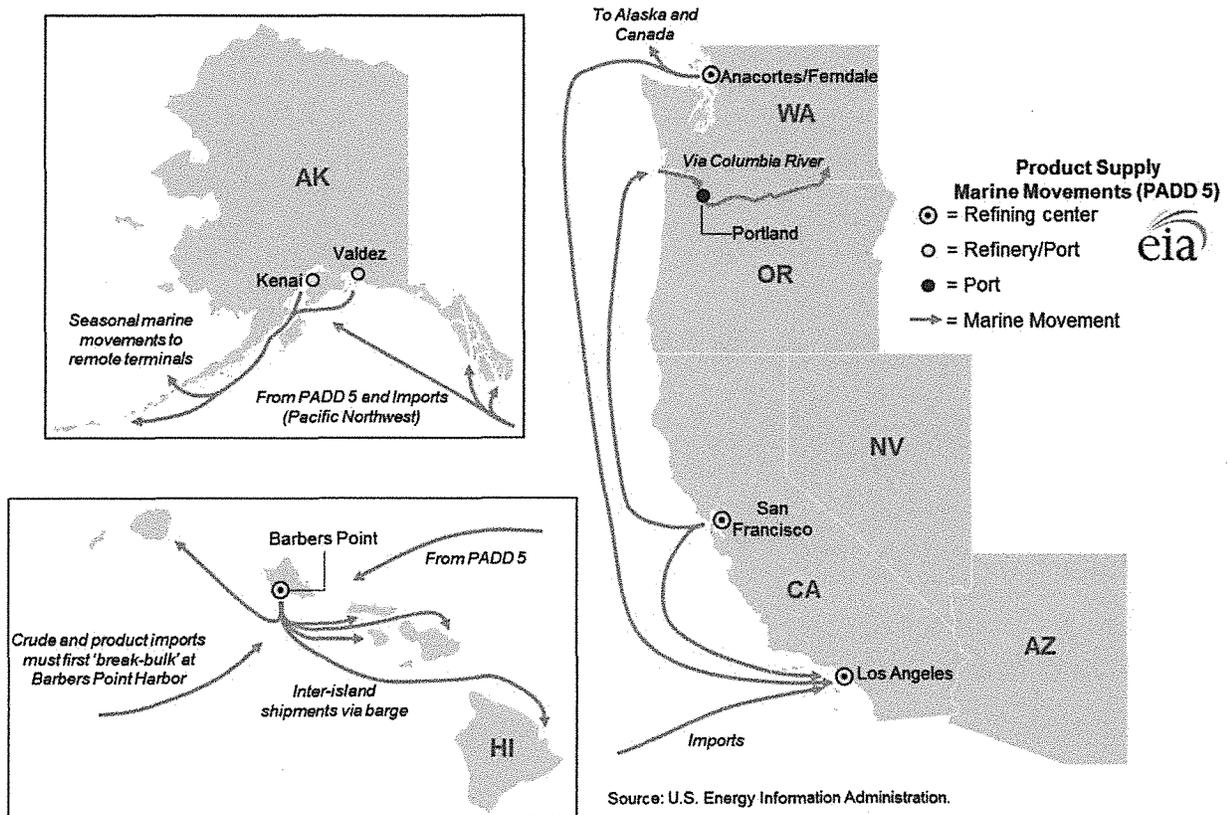
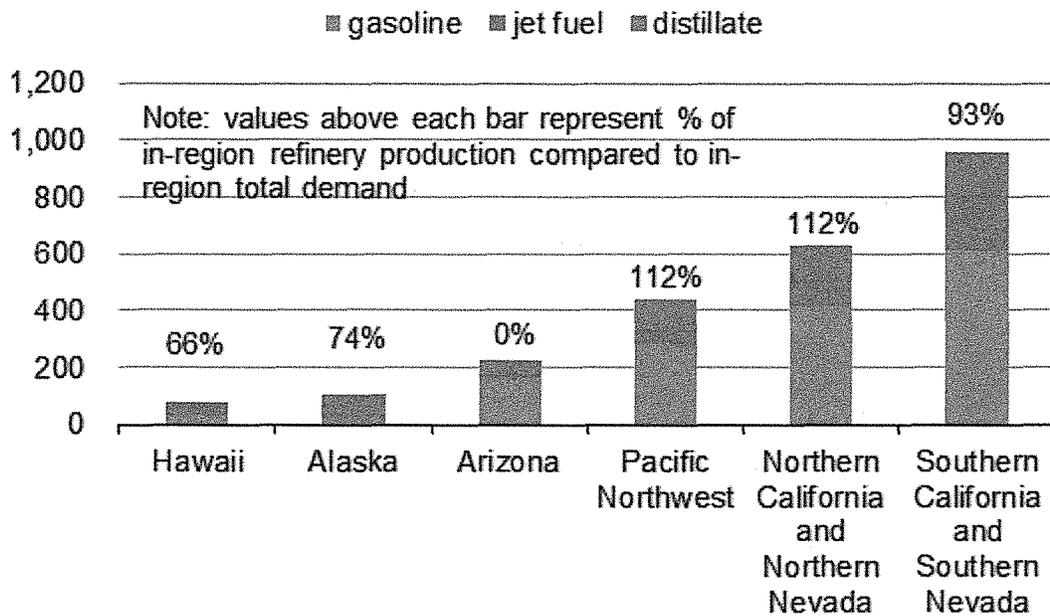


Figure 4. PADD 5 2013 average regional transportation fuel demand by product

thousand barrels per day



Source: Stillwater Associates analysis of EIA data

Southern California and Southern Nevada

The Southern California and Southern Nevada (SCSN) region includes the southernmost counties of California¹ as well as the Las Vegas metropolitan area of Southern Nevada. The region accounts for more than 40% of total PADD 5 motor gasoline demand, and about 7% of total U.S. demand. Because of the many military air bases and large commercial aviation hubs, jet fuel demand in the SCSN region accounts for about 45% of total PADD 5 jet fuel demand and 14% of U.S. demand. SCSN accounts for 32% of total PADD 5 distillate fuel demand, which is about 4% of U.S. demand.

A combination of in-region refinery production, marine-delivered fuels produced at refineries in Northern California and Washington, receipts of fuels produced at refineries in other PADDs, and imports from the global market supply the SCSN region with transportation fuels. The regional refineries do not produce sufficient gasoline or jet fuel to meet in-region demand but produce more distillate than is consumed in the region. In-region refinery production is supplemented with marine deliveries of product from refineries in Northern California and Washington as well as imports from the global market. Transportation fuels produced at SCSN refineries also supply Arizona, and some are exported into the global market. Exports are primarily distillate fuel, which might not meet region specifications.

There are eight operating refineries in the Southern California and Southern Nevada region. In 2013, SCSN refineries produced a total of 526,800 b/d of gasoline, 182,500 b/d of distillate, and 178,100 b/d of

¹ The southernmost counties of California are Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura.

jet fuel, production sufficient to supply 87% of regional motor gasoline demand, 117% of total distillate fuel demand, and 92% of jet fuel demand.

Production from the refineries moves primarily by pipeline from the Los Angeles area to bulk storage and distribution terminals throughout the SCSN region. From terminals, product moves by tank truck to retail outlets. Product from the Los Angeles area is also shipped by pipeline to Arizona, reducing the product available to supply SCSN demand, which is particularly important for gasoline. Transportation fuels produced at refineries in Salt Lake City, Utah, in PADD 4, also supply SCSN.

Refineries, pipelines, ports, and storage facilities are all critical to the effective functioning of the petroleum supply chain. However, in the SCSN region, Watson Station, a pipeline hub in Carson, California, is particularly important. Product from many of the region's refineries must move through Watson Station to reach bulk storage and distribution facilities. Power outages and earthquakes can affect the region's infrastructure.

There are about 27 distinct branded companies participating in the retail market for gasoline and distillate fuel in the Southern California and Southern Nevada region. About 76% of retail outlets are branded, meaning that they are associated with and display a major oil company brand, like Chevron, Shell, 76, Valero, and ARCO. The remaining 24% of retail outlets are referred to as unbranded because they are not affiliated with a major oil company brand. Unbranded retailers include small independent retailers as well as big box retailers. In California as a whole, 79% of retail outlets are associated with a major brand, while 21% are unbranded.

Northern California and Northern Nevada

The Northern California and Northern Nevada region (NCNN) includes counties in California north of San Luis Obispo, Kern, and San Bernardino counties, and in Nevada north of Las Vegas. In 2013, with average motor gasoline demand of 412,000 b/d, the region accounted for 27% of total PADD 5 motor gasoline demand and 5% of U.S. motor gasoline demand. NCNN distillate demand of 125,000 b/d in 2013 accounted for 25% of PADD 5 demand and 3% of U.S. demand. NCNN jet fuel demand averaged 88,000 b/d in 2013, 21% of PADD 5 demand and 6% of U.S. demand.

The region is supplied by in-region refinery production, and refineries in the region produce more motor gasoline, jet fuel, and diesel fuel than is consumed in the region. As a result, NCNN supplies other regional markets in PADD 5, primarily Southern California and Southern Nevada, with motor gasoline, jet fuel, and diesel fuel, and also exports these products. In 2013, the region exported 22,100 b/d of gasoline, 2,300 b/d of jet fuel, and 52,400 b/d of distillate fuel, primarily to Central America and South America.

There are nine operating refineries in two primary refining centers in the Northern California and Northern Nevada region. Only one of the refineries is located outside California, and it primarily produces asphalt. Most of the California refining capacity in the NCNN region is in the San Francisco Bay area. Several smaller refineries are located in California's Central Valley.

In 2013, NCNN refineries produced an average of 421,000 b/d of motor gasoline and motor gasoline blending components, 185,000 b/d of distillate, and 96,000 b/d of jet fuel. This production was more

than sufficient to meet in-region demand. NCNN refineries produced product sufficient to meet 102% of regional demand for finished motor gasoline,² 108% of jet fuel demand, and 147% of diesel fuel demand. Production from refineries in Northern California regularly supplies parts of Southern California and Oregon by marine vessel.

Product is shipped by pipeline from the refineries in San Francisco to storage and distribution terminals in the San Francisco area and further inland to Fresno and Chico, California, and to Nevada. No pipelines connect the NCNN region to other PADDs or other PADD 5 regional markets, and, as a result, supply from NCNN to those areas moves by marine vessel. The major port facilities through which products are exported into the global market and from which products are shipped to other PADD 5 regional markets are located on the San Francisco Bay.

Critical supply chain infrastructure includes the refineries, pipelines, ports, and storage facilities of the San Francisco Bay area. In particular, the Concord pipeline junction is the gathering and entry point for the main pipeline distribution artery for the region. Power outages and earthquakes can affect the region's infrastructure, and heavy fog can disrupt the port facilities on the San Francisco Bay.

In the Northern California/Northern Nevada region, 80% of retail outlets are branded and 20% are unbranded. In Northern California, about 21 companies participate in the retail market for gasoline and diesel fuel as compared with about 12 in the Reno/Carson City market. In Northern California, major oil company branded outlets dominate the retail sector, and the top five brands have 76% of the number of retail outlets. A mix of branded and unbranded retail outlets characterizes the Reno/Carson City market.

Pacific Northwest

The Pacific Northwest region (PNW) includes the states of Oregon and Washington. In 2013, with 277,300 b/d of motor gasoline demand, the region accounted for 18% of total PADD 5 motor gasoline demand and 3% of total U.S. demand. At 111,400 b/d, PNW demand for distillate fuel was 23% of PADD 5 demand and 3% of U.S. demand. Jet fuel demand in the Pacific Northwest averaged 51,400 b/d in 2013, 12% of PADD 5 demand and 4% of U.S. demand.

The region is supplied by a combination of in-region refinery production, imports, and receipts of product manufactured at refineries outside PADD 5. Refineries in the PNW produce about as much gasoline as is consumed in the region, but considerably more than enough distillate and jet fuel than is needed to meet in-region demand. The region supplies distillate fuel and jet fuel to the global market and to other regions within PADD 5 and exports motor gasoline. The PNW also imports motor gasoline and a small amount of distillate. The combination of imports and exports is used to manage distribution system inefficiencies and gasoline grade imbalances. The PNW typically does not receive product from other regions within PADD 5. In 2013, the region exported 26,000 b/d of motor gasoline, 26,800 b/d of jet fuel, and 43,200 b/d of distillate fuel, primarily to Canada, Mexico, Central America, and South America.

There are five operating refineries in the Pacific Northwest region, located in and around Puget Sound, Washington. There are no refineries in Oregon or eastern Washington.

² Finished motor gasoline includes gasoline blendstock produced by refineries and 10% ethanol.

In 2013, PNW refineries produced an average of 253,400 b/d of motor gasoline and motor gasoline blending components, 154,100 b/d of distillate fuel, and 83,600 b/d of jet fuel. This production was sufficient to meet 102% of regional demand for motor gasoline, 163% of jet fuel demand, and 140% of diesel fuel demand. Production from refineries in Washington regularly supplies Alaska and California.

Product is shipped from the refineries by pipeline north and south to supply Portland, Oregon, and Seattle, Washington, and product is shipped by marine vessel to supply the global markets and other regions within PADD 5. Many of the Portland storage and distribution terminals have access to the Columbia River and can ship and receive product by marine vessel. Each of the five refineries also has associated dock infrastructure for loading and discharging marine vessels, which supports imports and exports of petroleum products.

Product moves from storage and distribution terminals in Portland south to Eugene, Oregon by pipeline. Distribution infrastructure to move product from the western portions of Washington and Oregon eastward is limited. The only connection between the western and eastern portions of the region is marine transport along the Columbia River. There is no pipeline infrastructure to move product across the Cascade Range of mountains. As a result, eastern Washington is supplied with product from refineries in PADD 4. Product moves by pipeline from Salt Lake City, Utah, into eastern Washington and Oregon, and from refineries in Billings, Montana, into eastern Washington.

Critical infrastructure in the region includes the refinery complexes, pipelines, storage and distribution terminals, and the marine facilities at refineries and terminals, notably those along the Columbia River. Weather can disrupt the region's marine facilities. The Olympic pipeline, which runs from Puget Sound, Washington, to Portland, Oregon, is the main north-south corridor for petroleum product transportation in the region. Disruptions to flows on the Olympic pipeline can have a major effect on regional supply. Many of the storage and distribution terminals connected to the pipeline lack other supply options. As a result, during supply disruptions product typically supplied from these terminals may need to be sourced from other terminals, which can increase supply costs and therefore prices.

The Pacific Northwest has a slightly higher percentage of branded outlets compared to PADD 5 overall. The region has about 25 branded retailers, with 77% of retail stations selling branded fuels compared to the PADD 5 average of 72%. Brands in the Pacific Northwest include Chevron, Shell, 76, Conoco, and ARCO along with Pilot, Costco, and Sam's Club.

Arizona

Arizona accounts for 11% of PADD 5 demand for motor gasoline, 3% of demand for jet fuel, and 10% of distillate fuel demand. There are no petroleum refineries in Arizona, and the region is supplied with product by pipelines that originate in Southern California and West Texas. In 2013, the region consumed 161,500 b/d of motor gasoline, 14,600 b/d of jet fuel, and 50,600 b/d of distillate fuel.

The Kinder Morgan East Line originates in El Paso, Texas, and consists of two parallel pipelines that end in Phoenix, Arizona. Refineries in West Texas and New Mexico supply product into the East Line for delivery to four storage and distribution terminals in Phoenix and two in Tucson, Arizona. The Kinder Morgan West Line runs from Watson in the Los Angeles Basin to Phoenix, Arizona, and delivers product into storage and distribution terminals in Phoenix.

The two pipelines of the East Line operate at very close to full capacity, while the West Line operates well below its capacity, and as a result, is a source of incremental supply for Phoenix should supply from the East Line be reduced. However, as the transportation time for fuels delivered into Phoenix from Los Angeles is about a week to 10 days, incremental supply to Phoenix will not be immediately available. Fuels cannot be delivered from Phoenix to Tucson by pipeline; thus, there is no backup pipeline capacity for fuels supply into Tucson. Incremental supply to Tucson is via long-haul trucking.

The Kinder Morgan East and West Lines are critical to fuels supply to Arizona. Train derailments, as well as washouts and pipeline ruptures, have affected the pipeline, sections of which lie in the Union Pacific Railroad right of way. Most disruptions have been of short duration.

There are about 23 distinct fuels retailers operating in Arizona, and most (56%) of the retail outlets are unbranded. Major retail brands in Arizona include Chevron, Circle K, Fry's, QuikTrip, Shell, and Valero.

Hawaii

Hawaii is remote and isolated from other PADD 5 regional markets and other PADDs, and relies primarily on in-region refinery production and imports. In 2013, refineries in Hawaii produced 21,500 b/d of motor gasoline, 20,300 b/d of jet fuel, and 11,800 b/d of diesel fuel sufficient to meet 72% of motor gasoline demand, 55% of jet fuel demand, and 81% of distillate fuel demand. Refinery production was supplemented with motor gasoline imports of 5,400 b/d, jet fuel imports of 19,700 b/d, and distillate imports of 2,200 barrels per day. Hawaii was also supplied with small volumes of motor gasoline and diesel fuel from other PADDs and a small volume of diesel fuel from other PADD 5 regional markets.

The state's island geography supports air travel, and as a result Hawaii's jet fuel demand, which averaged 37,000 b/d in 2013, is higher than demand for both motor gasoline and diesel fuel. Hawaii's jet fuel demand accounted for 8% of PADD 5 demand in 2013, compared with 2% of motor gasoline and 3% of distillate fuel demand. The state's distillate demand is boosted by demand from the electric power sector and U.S. Navy demand for marine fuels.

There are two operating refineries in Hawaii, both on the island of Oahu. One of the two refineries was closed for part of 2013 and changed ownership. As a result, 2013 data on refinery transportation fuels supply are atypical for Hawaiian petroleum product markets.

In 2013, refineries in Hawaii produced 21,500 b/d of motor gasoline, 20,300 b/d of jet fuel, and 11,800 b/d of distillate fuel, sufficient to meet 72% of motor gasoline demand, 55% of jet fuel demand, and 81% of distillate fuel demand. Refinery production was supplemented with motor gasoline imports of 5,400 b/d, jet fuel imports of 19,700 b/d, and diesel imports of 2,200 b/d. Hawaii was also supplied with small volumes of motor gasoline and diesel fuel from other PADDs and a small volume of diesel fuel from other PADD 5 regional markets. In addition to transportation fuels, Hawaiian refineries produce significant quantities of heavy fuels used in electric power generation.

The two refineries on Oahu and the Barbers Point port facilities and associated barge fleet are critical to Hawaii. Product from the refineries on Oahu moves by pipeline to supply storage and distribution terminals on Oahu and moves by marine vessel from the Barbers Point Harbor to terminals on the islands of Maui, Kauai, and Hawaii. Product that arrives in Hawaii by marine vessel from imports and

other U.S. regions is also processed through the Barbers Point Harbor, where large seagoing marine vessels can be accommodated. Product is also shipped to the Honolulu International Airport by pipeline across Pearl Harbor, and jet fuel is delivered by truck from Honolulu area terminals. Large cargoes are offloaded, and smaller volumes are shipped by barge to the storage and distribution terminals on the other islands. There are 14 storage and distribution terminals outside the Honolulu area, many of which are very small.

There are about nine distinct retailers of transportation fuels in Hawaii, and 76% of retail outlets sell branded fuels. Chevron, 76, Aloha, Tesoro, and Shell are among the major retail brands in Hawaii.

Alaska

Alaska has the lowest population of all PADD 5 regions, and as a result, Alaska's demand for motor gasoline accounts for a small percentage of total PADD 5 demand. However, the region's remoteness and wide geographic expanse make air travel essential and make Alaska demand for jet fuel higher than for motor gasoline. PADD 5 diesel fuel demand is supported by resource extraction activities and oil production in the north. In 2013, Alaska demand for motor gasoline was 20,800 b/d, less than 2% of total PADD 5 demand; jet fuel demand was 48,400 b/d, 11% of PADD 5 demand; and diesel fuel demand was 33,400 b/d, 7% of PADD 5 demand.

The region is supplied primarily by in-region refinery production, production from refineries in other regions of PADD 5 that is delivered by marine vessel from Washington and California, and imports.

There are five operating refineries in Alaska. A sixth refinery, Flint Hills Resources North Pole refinery, closed in 2014 and is being dismantled and converted to a storage and distribution terminal. Tesoro operates the largest and most complex refinery in Alaska at Kenai. The Tesoro refinery produces a wider range of transportation fuels, including motor gasoline, jet fuel, and diesel fuel. The refinery also produces asphalt. The other operating refineries are dispersed across the state. On the North Slope, two of the three major crude oil producers operate small distillation-only refineries that produce arctic diesel fuel for production operations. The refineries inject unsold distillation products back into the Trans-Alaska Pipeline System (TAPS). Two other distillation-only refineries, one in North Pole in central Alaska and the other in Valdez in southern Alaska, also blend unsold distillation products back into TAPS.

On an annual average basis, the refineries in Alaska supply 83% of motor gasoline demand, 76% of jet fuel demand, and 66% of diesel fuel demand. However, Alaska's seasonal weather patterns result in seasonal differences in consumption, and supply/demand balances and supply patterns vary over the year. In-region refinery supply is supplemented with receipts from other PADD 5 regions and imports. Product is regularly supplied to southeastern Alaska by marine vessel from Washington and California. Alaska also exports a small amount of fuel to Canada and Asia.

Product is moved within Alaska by pipeline between Kenai and Anchorage, by rail between Anchorage and Fairbanks, and by marine vessel. The Anchorage-to-Fairbanks rail line and the pipeline to Anchorage are critical to the supply chain. Jet fuel is delivered to the Ted Stevens International Airport via both pipeline and trucks from Anchorage-area terminals.

There are 42 small storage/distribution terminals outside the Anchorage area that serve isolated areas. Deliveries to some locations are seasonal, occurring only during the summer and fall when barge movements are possible. In southeast Alaska, where there are few roads, fuels are supplied by barge from the U.S. West Coast and from Canada.

There are 9 distinct retailers with approximately 170 retail outlets in Alaska. Most of the retail locations (57%) are branded. Major retail brands include Holiday, Tesoro, Chevron, and Shell.

PADD 5 Overview

PADD 5 accounts for 17%, or 1.5 million barrels/day (b/d), of total U.S. gasoline consumption, 13%, or 494,000 b/d, of distillate (including diesel fuel) consumption, and about 30%, or 430,000 b/d, of jet fuel consumption. Consumption varies across the PADD and is concentrated in California (Table 1).

Table 1. Transportation fuels consumption within PADD 5: regional market breakdown

thousand barrels per day

Demand by region	Gasoline ¹			Jet fuel			Diesel fuel		
	2013	% of PADD 5	% of U.S.	2013	% of PADD 5	% of U.S.	2013	% of PADD 5	% of U.S.
Southern California/ Southern Nevada	606.6	40.2%	6.9%	194.1	44.8%	13.5%	155.5	31.7%	4.1%
Northern California/ Northern Nevada	412.0	27.3%	4.7%	88.2	20.3%	6.1%	125.6	25.6%	3.3%
Pacific Northwest	277.3	18.4%	3.1%	51.4	11.9%	3.6%	111.4	22.7%	2.9%
Arizona	161.5	10.7%	1.8%	14.6	3.4%	1.0%	50.6	10.3%	1.3%
Hawaii	29.6	2.0%	0.3%	36.7	8.5%	2.6%	14.6	3.0%	0.4%
Alaska	20.8	1.4%	0.2%	48.4	11.2%	3.4%	33.4	6.8%	0.9%
Total	1,507.7	100%	17.0%	433.3	100.0%	30.2%	491.1	100.0%	12.8%

¹Finished motor gasoline, i.e., petroleum-based gasoline blendstock plus ethanol.
Source: U.S. Energy Information Administration

Transportation fuels supply

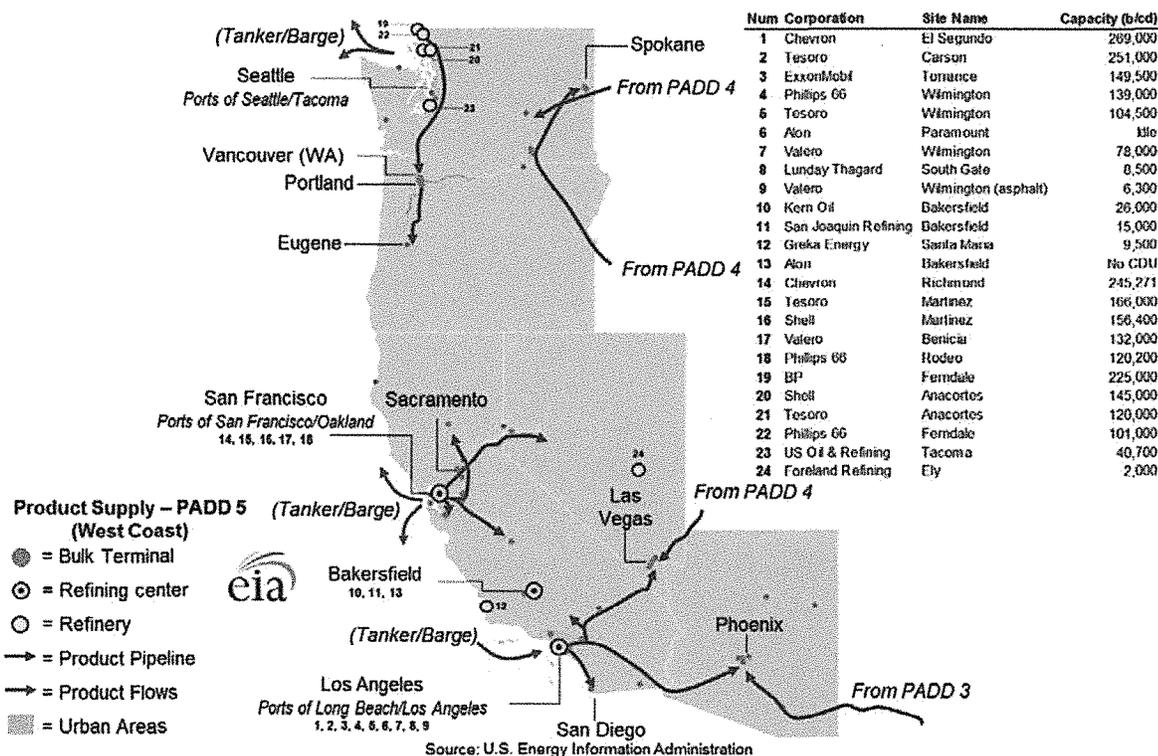
PADD 5 refineries are the primary source of transportation fuels for the region. There are 22 operating refineries in Washington, Oregon, California, Nevada, and Arizona, the mainland states of PADD 5. These refineries, which have total atmospheric crude distillation unit (ACDU) capacity of 2.5 million barrels per calendar day (b/cd), are located primarily in and around Los Angeles and San Francisco, California and Puget Sound in Washington State.

There are two operating refineries in Hawaii with combined crude distillation processing capacity of 147,500 b/cd and five operating refineries in Alaska with combined atmospheric crude distillation capacity of 165,200 b/cd.

PADD 5 depends largely on in-region refinery production of motor gasoline, jet fuel, and diesel fuel because of the relative geographic isolation of the region from other U.S. refining centers, like the Gulf Coast, and global refining centers, like Asia and Europe. There are no pipelines that cross the Rocky Mountains from PADD 4 (Rocky Mountains) and only limited pipelines that deliver to PADD 5 from PADD 3 (Gulf Coast). The West Coast is 10 days travel by tanker from the Gulf Coast and three weeks from Asia. In addition, much of PADD 5 requires the use of unique transportation fuels that are difficult and expensive to manufacture, notably California Air Resources Board (CARB) gasoline, and only a limited number of refineries outside PADD 5, both inside and outside the United States, can manufacture product that meets these unique specifications.

The interior markets of mainland PADD 5, which include Arizona, Las Vegas, Nevada, and eastern Washington, are less reliant on PADD 5 refineries as these markets can be supplied with transportation fuels produced at refineries in PADD 3 and PADD 4.

Figure 5. PADD 5 mainland refineries and product flows

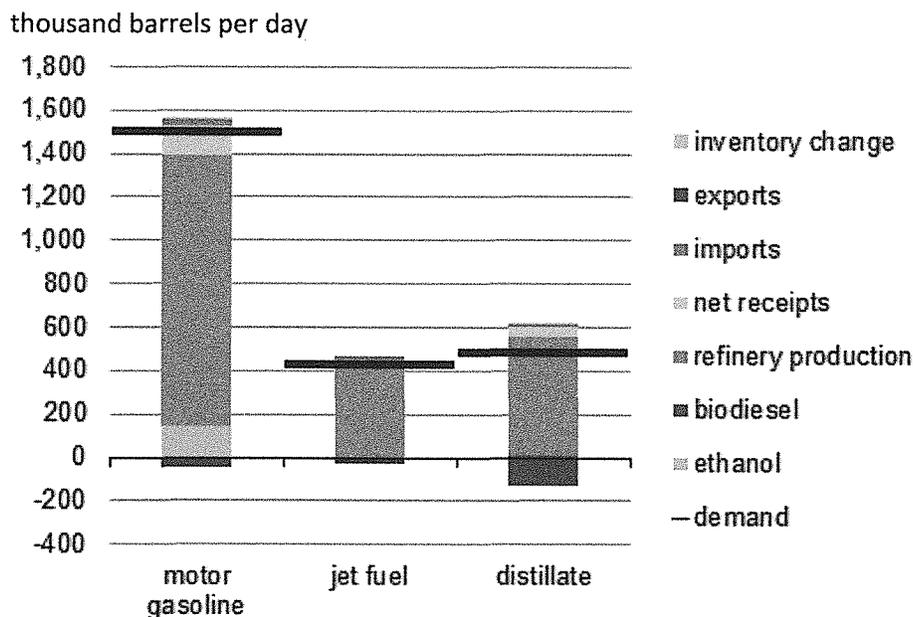


As a whole, PADD 5 refineries do not produce sufficient gasoline or jet fuel to meet total PADD 5 demand, but they produce more distillate than is consumed in the region. For 2013, PADD 5 refinery production of gasoline was sufficient to supply 91%³ of PADD 5 demand, 96% of jet demand, and 113% of distillate demand. However, refinery production in two PADD 5 regional markets, Northern California/Northern Nevada and the Pacific Northwest, typically is sufficient to meet local demand under normal refinery operating conditions.

PADD 5 refinery production is supplemented by receipts of fuels produced at refineries in other PADDs and imports of petroleum products from the global market. Diesel fuel is exported to balance overall supply and demand, and other transportation fuels produced at PADD 5 refineries are also exported, to balance any mismatch between the quality of product that refineries can produce and the quality of product demanded, but also to manage distribution system inefficiencies. Distillate fuel makes up most exports, but some gasoline and jet fuel is also exported. Some exported product does not meet PADD 5 product specifications.

³ 2013 PADD 5 demand for gasoline was 1,507.7 b/d of which about 90%, or 1,359.03.9 b/d, was petroleum-based gasoline blendstock (BOB). An additional 10% was ethanol. PADD 5 refineries produced 1,240.4 b/d petroleum-based gasoline, 90% of petroleum-based gasoline demand.

Figure 6. PADD 5 2013 supply/demand balance



Note: Net receipts are movements of product to and from other PADDs.

Source: Stillwater Associates analysis of EIA data

Product specifications

Gasoline and diesel specifications vary across PADD 5, complicating the supply chain and sometimes making it difficult to cover product shortfall in one region with oversupply from another. For example, California requires reformulated gasoline that meets specifications defined by the California Air Resources Board (CARB), so-called CARB gasoline, while other areas of PADD 5 require reformulated gasoline that meets the specifications defined by the U.S. Environmental Protection Agency⁴ (EPA). Arizona requires cleaner-burning gasoline for ozone and carbon monoxide nonattainment areas in the state, the latter to comply with the EPA Oxygenated Fuel specification.⁵

Table 2 provides information on gasoline specifications for different areas of PADD 5.

⁴ Reformulated gasoline (RFG) is gasoline blended to burn more cleanly than conventional gasoline and to reduce smog-forming and toxic pollutants in the air. The RFG program was mandated by Congress in the 1990 Clean Air Act amendments, and RFG is required in cities with high smog levels and is optional elsewhere. RFG is currently used in 17 states and the District of Columbia. About 30% of gasoline sold in the United States is reformulated.

⁵ Federal EPA [Winter Oxygenated Fuel](#) programs increase fuel oxygen and are mandated in certain areas for carbon monoxide control. The winter oxygenated fuel season is generally October through February or March.

Table 2. PADD 5 gasoline specifications

Specifications	California Summer CARBOB Regular Grade	Nevada Summer CBOB Regular Grade	Arizona Summer AZBOB Regular Grade	Sub-Octane Conventional Regular Grade	Federal Reformulated RBOB Regular Grade ⁶	Conventional Regular Grade ⁶
Summer Reid Vapor Pressure (psi max) ¹	5.99	9.0/7.8	5.7	8.0 ²	Varies ³	9
Distillation T50 (deg. F) ¹	232	170 min	E200 (25- 65%)	170 min	E200 (30- 70%)	250
Distillation T90 (deg. F, max) ¹	335		E300 (65- 100%)		E300 (70- 100%)	374
Benzene (vol % max) ⁴	1.22					3.8
Aromatics (vol % max) ¹	38.7	25	55		50	-
Olefins (vol % max) ¹	11.1		27.5			
Sulfur (PPM wt% max) ^{1,4}	21	80	89	80	80	80
Road Octane (R+M/2) ⁵	87	87	87	87	87	87

¹ These values are caps. These properties as well as others are inputs into the CARB and Federal Complex models.

² If RVP waiver applies, this is 9 psi max.

³ Varies by state or local requirements and whether RVP waiver applies.

⁴ Benzene and sulfur are subject to annual averaging requirements. Annual averages are 1.0% and 30 ppm maximum for benzene and sulfur respectively.

⁵ Octane after blending with 10% ethanol (EtOH).

⁶ Specifications generally used for exports.

Source: Kinder Morgan Pacific Operations Specification Manual, Colonial Pipeline Company Product Codes and Specifications

Diesel fuel sold in California must meet the unique CARB diesel specifications.⁶ These stringent requirements limit out-of-state sources of diesel supply to California; however this is typically not a concern because California produces more diesel fuel than is consumed in the state.

Most transportation fuels consumed in PADD 5 must also comply with the federal Renewable Fuels Standard (RFS). Some PADD 5 state programs also encourage the use of renewable fuels. California's Low Carbon Fuel Standard (LCFS) is designed to reduce by 10% the average lifecycle carbon intensity of the motor gasoline and diesel transportation fuel pool, including all petroleum and nonpetroleum components, sold for consumption in California from 2012 to 2020. The lifecycle carbon intensity of a fuel is a measure of greenhouse gas emissions associated with producing and consuming the fuel. The Oregon Renewable Fuel Standard that was adopted in 2005 set a requirement for B5 biodiesel, which requires a minimum 5% biodiesel blending level in diesel fuel.

⁶ CARB diesel requires lower aromatic hydrocarbon content and a higher cetane number. Aromatic [hydrocarbons](#) are a class of chemical substances characterized by having molecular structures called [benzene](#) rings. Cetane number is an indicator of the combustion speed of diesel fuel.

The three renewable fuels used in transportation fuels are ethanol, biodiesel, and renewable diesel.⁷ PADD 5 ethanol plants had a total nameplate production capacity of 510 million gallons per year (gal/y) in 2015. Ethanol is also supplied to mainland PADD 5 states from the Midwest by rail and to Hawaii from the West Coast by tanker. Sugarcane ethanol, which has lower carbon intensity than corn ethanol, is imported into PADD 5 from Brazil and the Caribbean, when economic. Use of sugarcane ethanol is driven by California's LCFS.

Biodiesel production capacity is concentrated in Washington with 107 million gal/y. Total PADD 5 biodiesel production capacity was 191 million gal/y in 2015. Imports are the principal source of renewable diesel, primarily from Asia.

Table 3. Ethanol producers and production by state

State	Number of producers	Nameplate production capacity (million gallons per year)
Alaska	—	—
Arizona	1	275
California	5	200
Hawaii	—	—
Nevada	—	—
Oregon	1	35
Washington	—	—
Total PADD 5	7	510

— = No data reported.

Nameplate capacity: volume of denatured fuel ethanol that can be produced during a period of 12 months under normal operating conditions.

Number of producers is a count of plants with operable capacity as of January 1, 2015.

Source: U.S. Energy Information Administration, Form EIA-819 Monthly Oxygenate Report

⁷ Biodiesel refers to fatty acid methyl esters produced by a chemical reaction between vegetable oils or animal fats and alcohol (transesterification), and is most commonly blended with petroleum diesel in up to 5% by volume or 20% by volume (B5 and B20). Renewable diesel refers to a diesel-like fuel that is compatible with existing infrastructure and in existing engines in any blending proportion. It is produced by refining vegetable oils or animal fats using a hydrotreating process.

Table 4. Biodiesel producers and capacity by state

State	Number of producers	Annual production capacity (million gallons per year)
Alaska	1	0
Arizona	1	2
California	7	59
Hawaii	1	6
Nevada	—	—
Oregon	1	17
Washington	3	107
Total PADD 5	14	191

—= No data reported.

Number of producers is a count of plants with operable capacity as of June 2015.

Source: U.S. Energy Information Administration, Form EIA-22M Monthly Biodiesel Production Survey

Market structure

The PADD 5 market for gasoline is both large and complex. The number of different gasoline specifications, the uniqueness of the specifications, the close balance between in-region supply and demand, and the relative price inelasticity of gasoline demand combine to create a volatile market.⁸

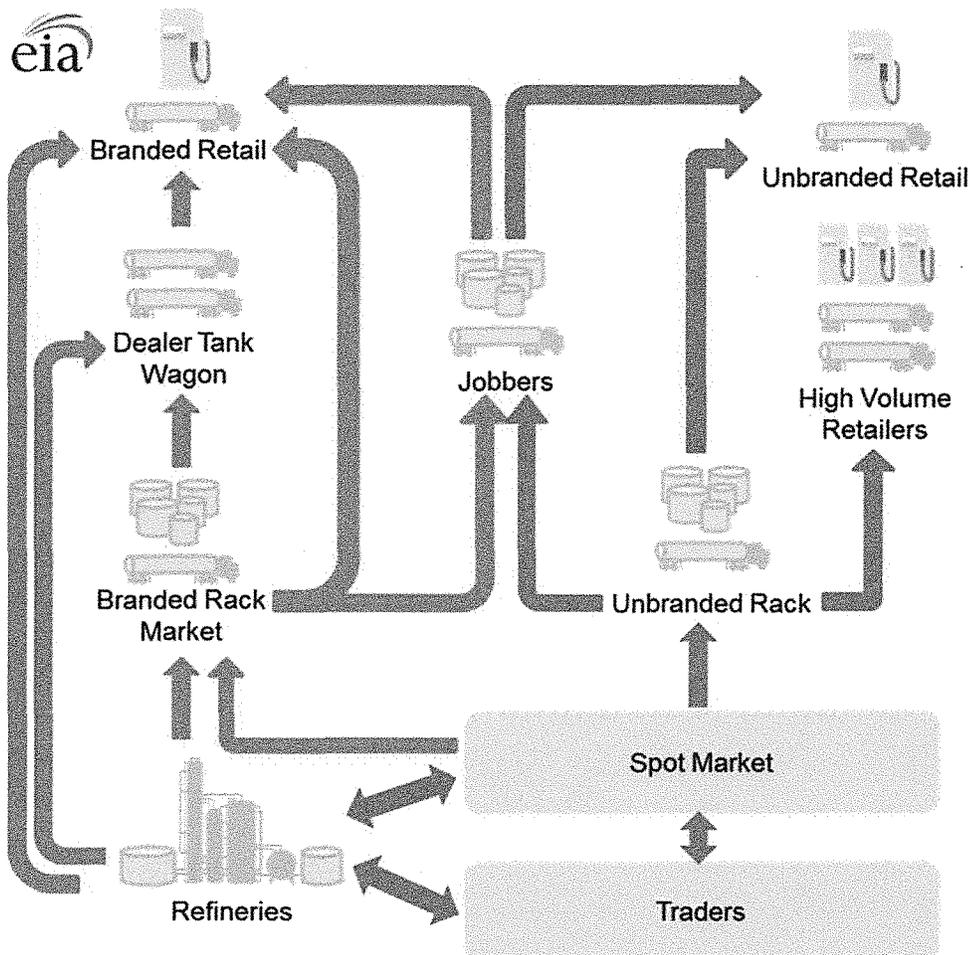
The gasoline market includes four separate but interrelated markets:

- **The spot market**, where sizeable volumes, typically parcels of at least 1 million gallons, are sold at the refinery gate or from imported cargoes, and delivered into a specified pipeline or storage facility, as agreed by the buyer and seller. There are about 15 to 20 participants in the West Coast spot market, including refiners that buy and sell products to balance refinery production and sales commitments, trading companies that are in the business of buying and selling gasoline but that typically have no presence in wholesale or retail gasoline markets, brokers with market knowledge and understanding that identify buyers and sellers and arrange deals, and independent retail marketers that move large volumes of gasoline through their own retail outlets. Prices in the spot market move with perceived changes in refinery supply and demand. There are three major spot markets for gasoline in PADD 5, located in the major refining centers of Los Angeles, San Francisco, and the Pacific Northwest. Prices in these markets reflect regional supply/demand balances as well as the cost to move product between the markets and product quality differences.
- **The rack market**, where wholesale buyers such as independent retailers or distributors that operate their own trucks purchase product delivered into a tank truck at a truck loading rack located at a storage and distribution terminal or refinery. Rack market participants may buy branded products that will be sold at a retail outlet under the name of a major oil company or may alternatively purchase unbranded products destined for sale at independent service stations or for use by commercial/industrial consumers. Branded and unbranded rack pricing varies.

⁸ Updated from Stillwater Associates. *California Strategic Fuels Reserve – Consultant Report to the California Energy Commission*. July 2002. http://www.energy.ca.gov/reports/2002-03-11_600-02-004CR.PDF

- **The dealer tank wagon (DTW) market**, where branded retail outlets (dealers) purchase branded gasoline that is delivered by tank truck (tank wagon) to their retail outlets. The price of the gasoline reflects the cost of the product and the cost of delivery.
- **The retail market**, where gasoline is sold to the end consumer at the pump at a gas station or other retail outlet. Retailers typically set prices by comparison to prices at other retail outlets. However, high volume retailers (HVRs), such as large chain stores, or *big box* store, that are focused on selling large volumes of gasoline at low margins, tend to price gasoline based on cost plus the desired margin, rather than based on prices at other retail outlets.

Figure 7. Gasoline market structure



Source: U.S. Energy Information Administration, California Strategic Reserve Study⁹

Over the past 10 years, the PADD 5 gasoline market has changed. The number of spot market participants has decreased as refinery ownership consolidation and as increased reliance on in-region refinery production of gasoline has reduced opportunities for trading companies and brokers to

⁹ Stillwater Associates. *California Strategic Reserve Study – Consultant Report*. March 10, 2002. http://www.energy.ca.gov/reports/2002-03-11_600-02-004CR.PDF.

participate in the market. Most integrated refiner-marketers have divested their retail chains, and many of the new retail operators, including hypermarkets and big box retailers, now purchase gasoline at an unbranded rack price.

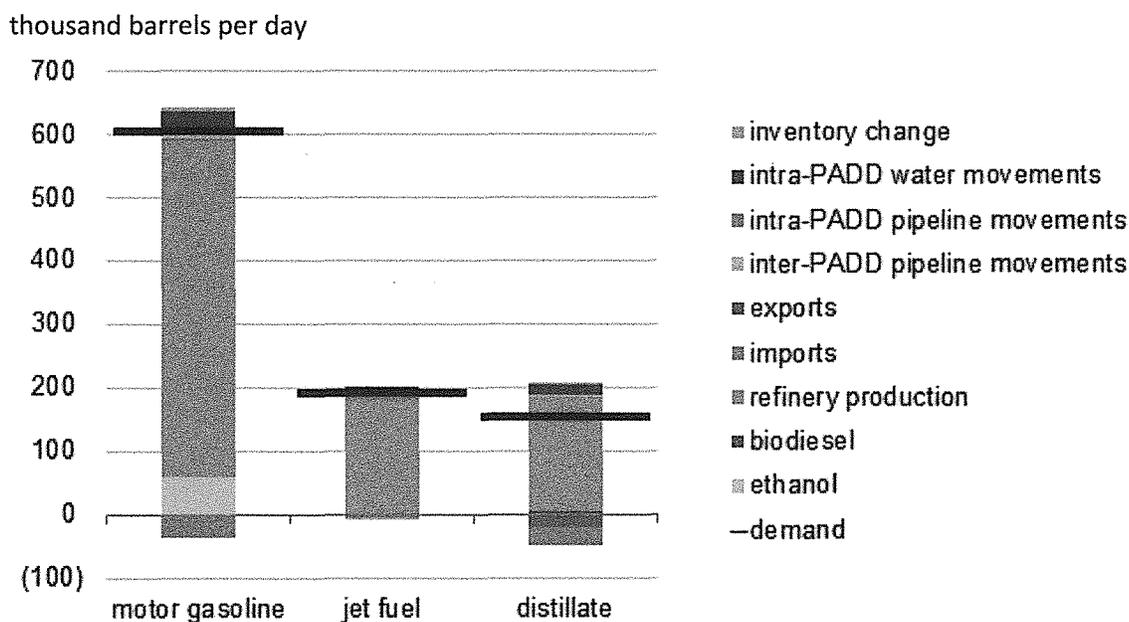
The PADD 5 market structure, notably the region's geographic isolation, unique product specifications that have increased reliance on in-region refinery production, and infrastructure limitations, can restrict both short-term and long-term responses to supply shortfalls, such as those resulting from supply chain disruptions, like refinery outages. Short-term measures to increase product supply typically include withdrawals from inventory, when available, and waterborne shipment of increased production from refineries in the region that have spare processing capacity. However, the range of product specifications across PADD 5 can make it difficult to translate inventory to other regions, and not all product specifications can be produced at all refineries. In addition, the availability of the coastwise-compliant marine vessels that are required to move fuels within the region can make it difficult to move product to where it is needed. Longer-term solutions to supply disruptions include imports from Asia and Canada as well as transfers from other U.S. refining centers like the Gulf Coast; however, only a limited number of refineries outside PADD 5, both inside and outside the United States, can manufacture product to meet all PADD 5 specifications, notably the CARB gasoline and CARB diesel specifications. As a result, when PADD 5 transportation fuel supply is disrupted, wholesale and retail prices often increase more than would be expected in other regions, like the Gulf Coast and East Coast, where alternative sources of supply are closer and more readily available, and thus lower cost.

Southern California and Southern Nevada

The Southern California and Southern Nevada (SCSN) region includes the southernmost counties of California¹⁰ as well as the Las Vegas, Nevada metropolitan area of Southern Nevada. The region accounts for more than 40% of total PADD 5 motor gasoline demand, the largest share of motor gasoline demand of the six regional PADD 5 markets, and about 7% of total U.S. demand. Because of the many military air bases and large commercial aviation hubs, jet fuel demand in the SCSN region accounts for about 45% of total PADD 5 jet fuel demand and 14% of U.S. demand. SCSN accounts for 32% of total PADD 5 distillate fuel demand, which is about 4% of U.S. demand.

A combination of in-region refinery production, marine-delivered fuels produced at refineries in Northern California and Washington State, receipts of fuels produced at refineries in other PADDs, and imports from the global market supply the SCSN region with transportation fuels. The regional refineries do not produce sufficient gasoline or jet fuel to meet in-region demand, but they do produce more distillate than is consumed in the region. In-region refinery production is supplemented with marine deliveries of product from refineries in Northern California and Washington State as well as imports from the global market. Transportation fuels produced at SCSN refineries also supply Arizona and some are exported into the global market. Exports are primarily distillate fuel, which may not meet in-region specifications.

Figure 8. Southern California and Southern Nevada 2013 supply/demand balances



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

¹⁰ The southernmost counties of California are Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura.

Supply and logistics

There are eight operating refineries in the Southern California and Southern Nevada region, and these refineries supply most of the motor gasoline, jet fuel, and distillate consumed in the region. The refineries have combined atmospheric crude distillation unit capacity of 1,019,100 barrels per calendar day.¹¹ All eight refineries are located in the Los Angeles metropolitan area.

Table 4. Southern California and Southern Nevada refineries

Company	Location	Atmospheric Crude Distillation Unit (ACDU) operating capacity b/cd	Markets served
Valero Asphalt	Wilmington	6,300	
Lunday Thagard	Southgate	8,500	local
Valero	Wilmington	85,000	Southern California (S. CA), Las Vegas, Phoenix
Tesoro	Wilmington	104,500	S. CA, Las Vegas
Phillips 66	Wilmington	139,000	S. CA, Las Vegas
ExxonMobil	Torrance	149,500	S. CA
Tesoro	Carson	257,300	S. CA, Las Vegas
Chevron	El Segundo	269,000	S. CA, Las Vegas, Phoenix

Source: Stillwater Associates analysis of EIA data

In 2013, SCSN refineries produced a total of 526,800 b/d of gasoline, 182,500 b/d of distillate, and 178,100 b/d of jet fuel. This production was sufficient to supply 87% of regional motor gasoline demand (96% when blended with ethanol), 117% of distillate fuel demand, and 92% of jet fuel demand.

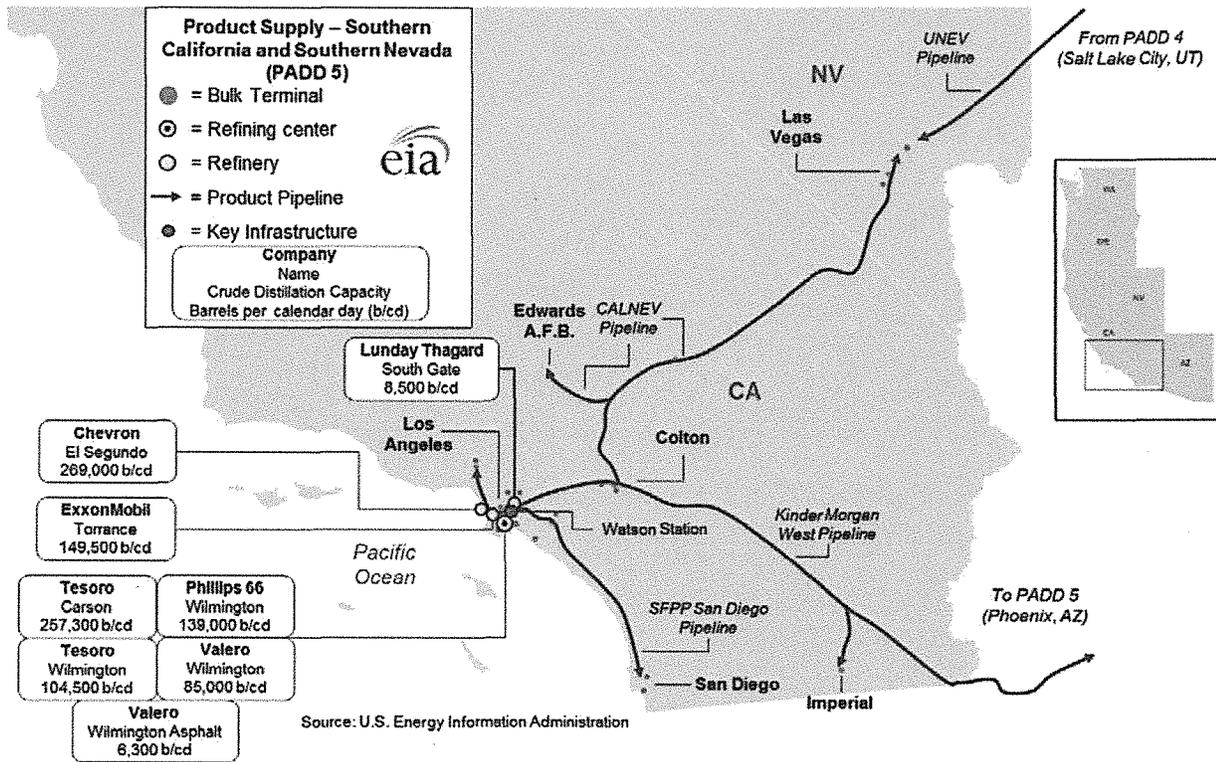
Production from the refineries moves primarily by pipeline from the Los Angeles area to bulk storage and distribution terminals throughout the SCSN region (Figure 9). From terminals, product moves by tank truck to retail outlets. Product from the Los Angeles area also supplies the Arizona Region (Arizona) by pipeline. The Kinder Morgan West Line, which is owned and operated by Kinder Morgan, Inc., originates in the Los Angeles Basin, and in 2013, it moved 35,000 b/d of gasoline, 6,000 b/d of jet, and 28,000 b/d of distillate to Phoenix, Arizona. This supply reduces the availability of product to supply the SCSN region, which is especially important for motor gasoline.

Transportation fuels produced at refineries in Salt Lake City, Utah, in PADD 4, also supply SCSN. The UNEV Pipeline¹² runs from Salt Lake City, Utah to North Las Vegas, Nevada and in 2013 moved 9,000 b/d of gasoline and 1,000 b/d of distillate to Las Vegas.

¹¹ Barrels per calendar day is a measure of the amount of input that a distillation unit can process in a 24-hour period under usual operating conditions. It takes into account both planned and unplanned maintenance. Barrels per stream day, another measure of refinery capacity, is the maximum number of barrels of input that a distillation facility can process within a 24-hour period when running at full capacity under optimal crude and product slate conditions with no allowance for downtime. Stream day capacity is typically about 6% higher than calendar day capacity.

¹² UNEV Pipeline, LLC is a joint venture between a subsidiary of Holly Energy Partners, L.P. and Sinclair Transportation Company.

Figure 9. Southern California and Southern Nevada refineries and petroleum product flows



Most of the major product distribution pipelines in the SCSN region can move product to and from more than one refinery and more than one terminal, which provides flexibility in sourcing product and ensuring that product is available for distribution to retail outlets. However, in the Los Angeles metropolitan area, there are large bulk storage and distribution terminals that are part of closed systems supplied by a single refinery. Disruptions to these closed systems can require changes to the pattern of product distribution from the terminal to the retail outlet, which can lengthen supply times and increase supply costs.

Refineries, pipelines, ports, and storage facilities are all critical to the effective functioning of the petroleum supply chain. However, in the SCSN region, Watson Station, a pipeline hub in Carson, California, is particularly important. Product from many of the region's refineries must move through Watson Station to reach bulk storage and distribution facilities. Power outages and earthquakes can affect the region's infrastructure.

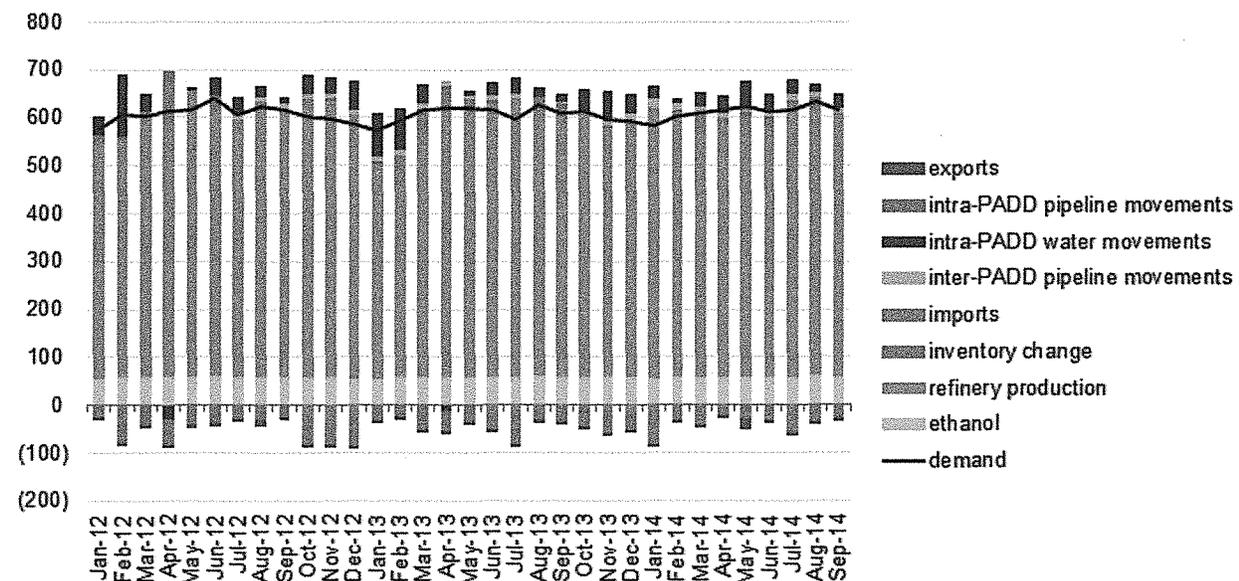
Motor gasoline supply/demand

SCSN refineries produced sufficient gasoline to supply about 87% of in-region motor gasoline demand (96% when blended with ethanol) in 2013, although a portion of that gasoline was used to supply the Arizona region. Gasoline supplied from refineries in Northern California and Washington State and shipped by marine vessel and imports from the global market provided additional supply. Historically, the SCSN region has imported small quantities of gasoline, including gasoline-blending components, primarily from Canada and Asia. However, since March 2015, because of the continuing outage of gasoline-producing units at the Torrance refinery, gasoline imports have increased substantially. Several weeks after the Torrance, California, outage, West Coast gasoline imports more than tripled, and averaged 81,000 b/d from March 27 through June 26. Monthly data through April 2015 show California total gasoline imports coming from South Korea, Singapore, and Taiwan in Asia as well as Sweden, the United Kingdom, Italy, and the Netherlands in Europe. During periods of unplanned refinery outages and other in-region supply disruptions, waterborne supply of gasoline from other PADD 5 regions like Northern California and the Pacific Northwest, other PADDs, and the global market is critical. The availability of product from other PADD 5 regions and other PADDs depends on the availability of coastwise-compliant marine vessels.

The SCSN region exported small volumes of gasoline to Central and South America in 2013, some of which likely did not meet CARB gasoline specifications, and the region continues to supply Arizona via intra-PADD pipeline, about 36,000 b/d.

Figure 10. Southern California and Southern Nevada motor gasoline supply/demand balance

thousand barrels per day



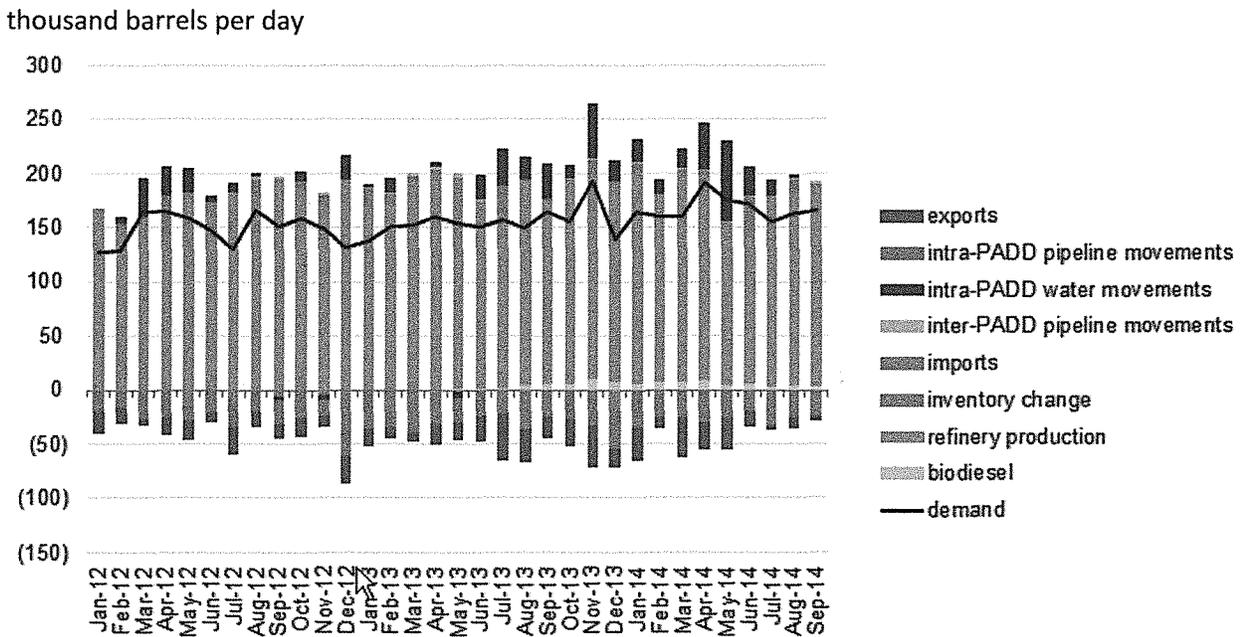
Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Distillate fuel supply/demand

Refineries in the SCSN region produce substantially more distillate fuel than is consumed in the region, 17% more in 2013. The region also receives distillate fuel by marine vessel from other sub-PADD 5 regions, 16,000 b/d in 2013, and by pipeline into Las Vegas from PADD 4, 1,200 b/d in 2013. Some of the receipts from within PADD 5 are likely to balance supply/demand of CARB specification diesel, especially during periods of SCSN refinery maintenance. The region also supplies distillate fuel to Arizona, 28,200 b/d in 2013, and exports distillate fuel to Mexico as well as to Central America and South America, about 21,500 b/d in 2013. In Arizona, diesel fuel is required to meet the standard ultra-low sulfur diesel specification, which is less stringent than the CARB diesel specification. As a result, Arizona is an outlet for Southern California diesel production that does not meet CARB specifications. Exports of distillate fuel may also include product that does not meet CARB diesel specifications.

Figure 11. Southern California and Southern Nevada distillate supply/demand balance



Note: All movements are on a net basis.

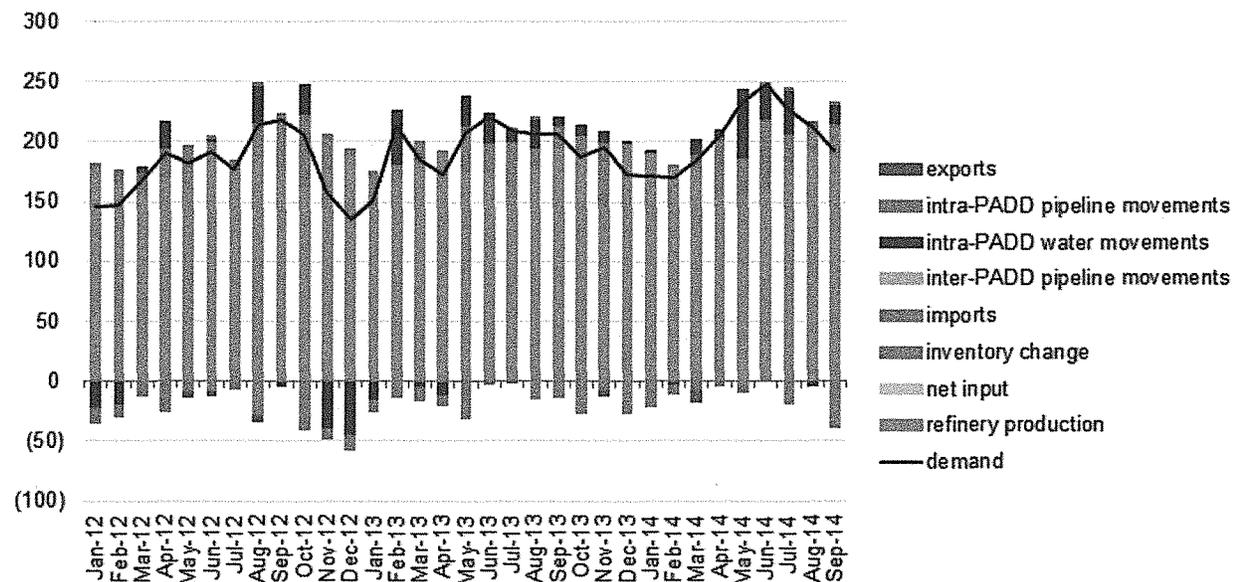
Source: Stillwater Associates analysis of EIA data

Jet fuel supply/demand

Refineries in the Southern California/Southern Nevada region do not produce sufficient jet fuel to meet in-region demand. In-region refinery production is supplemented with imports and transfers from other regions within PADD 5. The SCSN region also supplies jet fuel to Arizona by pipeline. In 2013, in-region refineries produced jet fuel sufficient to supply 92% of in-region demand. Imports and receipts from other regions of PADD 5 supplied the balance. The region typically imports more jet fuel than either motor gasoline or distillate, and imports are principally from refineries in Asia. Demand patterns for jet fuel are more variable than for gasoline and distillate, and as a result, the region can be caught short if demand rises unexpectedly or if in-region supplies are disrupted. Pipeline flows of jet fuel to Arizona have declined to an average of 6,000 b/d in 2013 as PADD 3 refineries supply increasing volumes to Arizona.

Figure 12. Southern California and Southern Nevada jet fuel supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Renewable fuels and biofuels supply/demand

The region’s demand for biofuels is driven by California’s Low Carbon Fuel Standard (LCFS), which creates demand for fuels with lower carbon intensity, including low carbon-intensity corn-based ethanol and sugar-based ethanol, biodiesel, and renewable diesel.

Ethanol blending is limited to 10% by the CARB specification for motor gasoline, which is reflected in ethanol’s 10% share of gasoline demand. Ethanol supply is from a combination of imported sugar-based ethanol and receipts from PADD 2 (Midwest) delivered by rail and truck to blending terminals.

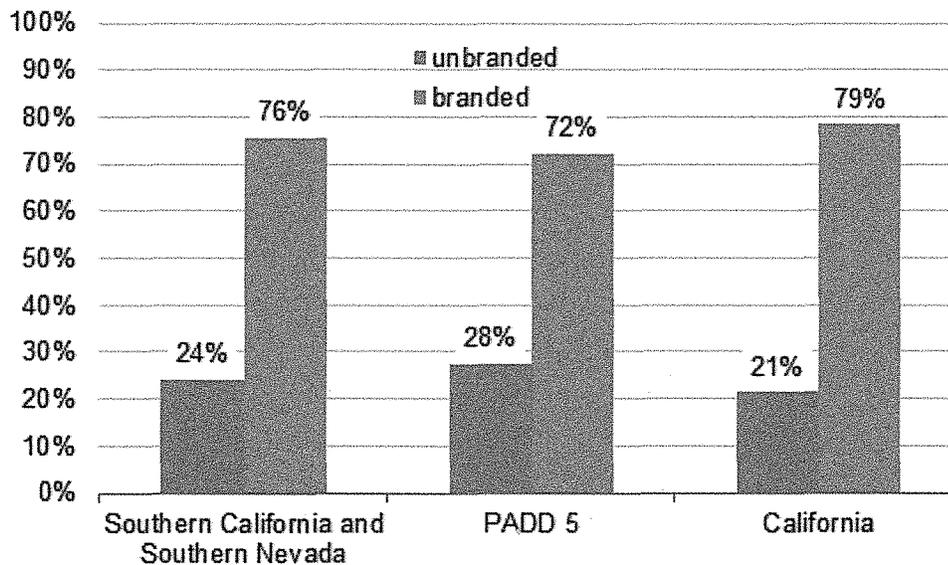
Biodiesel and renewable diesel supplied 2% of the region's distillate demand in 2013 and 4% in the first nine months of 2014. Biodiesel and renewable diesel supply is from a combination of PADD 5 production, receipts from other PADDs, and imports.

Retail markets

There are about 27 distinct branded and unbranded companies participating in the retail market for gasoline and distillate fuel in the Southern California and Southern Nevada region. About 76% of retail outlets are branded, meaning that they are associated with and display a major oil company brand, like Chevron, Shell, 76, Valero, and ARCO. The remaining 24% of retailers are referred to as unbranded because they are not affiliated with a major oil company brand. Unbranded retailers include small independent retailers as well as big box retailers. In California as a whole, 79% of retail outlets are associated with a major brand, while 21% are unbranded. The sale of BP's Southern California business to Tesoro in 2012 resulted in the most recent large-scale shift in the region's retail market structure.

Figure 13. Southern California and Southern Nevada retail market structure

percent of retail outlets



Source: Stillwater Associates analysis of Oil Price Information Service (OPIS) data for the week of December 31, 2014

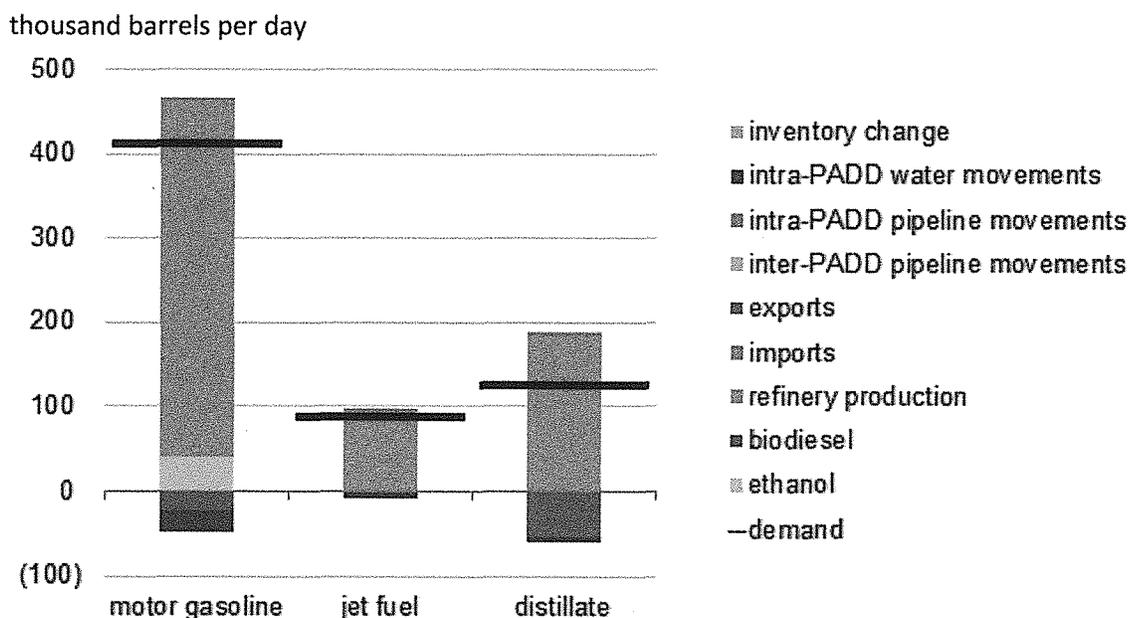
Note: OPIS data are survey rather than census data, and survey data include transactions from large commercial trucking fleet customers using company credit cards and not from cash or credit card sales to the general public.

Northern California and Northern Nevada

The Northern California and Northern Nevada region (NCNN) includes counties in California north of San Luis Obispo, Kern, and San Bernardino counties, and in Nevada north of Las Vegas. In 2013, with average motor gasoline demand of 412,000 b/d, the region accounted for 27% of total PADD 5 motor gasoline demand and 4.7% of U.S. motor gasoline demand. NCNN distillate demand of 125,000 b/d in 2013 accounted for 25% of PADD demand and 3% of U.S. demand. NCNN jet fuel demand averaged 88,000 b/d in 2013, 21% of PADD demand and 6% of U.S. demand.

The region is supplied by in-region refinery production and refineries in the region produce more motor gasoline, jet fuel, and distillate fuel than is consumed in the region. As a result, NCNN supplies other regional markets in PADD 5, primarily Southern California and Southern Nevada, with motor gasoline, jet fuel, and diesel fuel, and also exports these products. In 2013, the region exported 22,100 b/d of gasoline, 2,300 b/d of jet fuel, and 52,400 b/d of distillate fuel, primarily to Central and South America.

Figure 14. Northern California and Northern Nevada 2013 supply/demand balance



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Supply and logistics

There are nine operating refineries in two primary refining centers in the Northern California and Northern Nevada region with combined atmospheric crude distillation unit capacity of about 885,000 barrels per calendar day. Only one of the refineries is located outside California, in Nevada. The sole refinery in Nevada, Foreland Refining in Ely, produces asphalt and fuel oil rather than motor gasoline, distillate fuel, and jet fuel. Most of the California refining capacity in the NCNN region is in the San Francisco Bay area. Several smaller refineries are located in California's Central Valley.

Table 5. Northern California and Northern Nevada refineries

Company	Location	Atmospheric Crude Distillation Unit (ACDU) operating capacity b/cd	Markets served
Chevron	Richmond	245,271	Northern California (N. CA), Reno, Oregon
Tesoro	Martinez	166,000	N. CA, Reno
Shell	Martinez	156,400	N. CA, Los Angeles, Reno, Nevada, exports
Valero	Benicia	145,000	N. CA, Reno, Nevada, exports
Phillips 66 ¹	Rodeo	120,200	S. CA, Las Vegas
Kern Oil & Refining	Bakersfield	26,000	Central California
San Joaquin Refining	Bakersfield	15,000	Central California
Santa Maria Refinery	Santa Maria	9,500	local
Foreland Refining	Ely, Nevada	2,000	local

¹A portion of this facility is actually located in San Luis Obispo County but is operated as part of the Rodeo refinery.

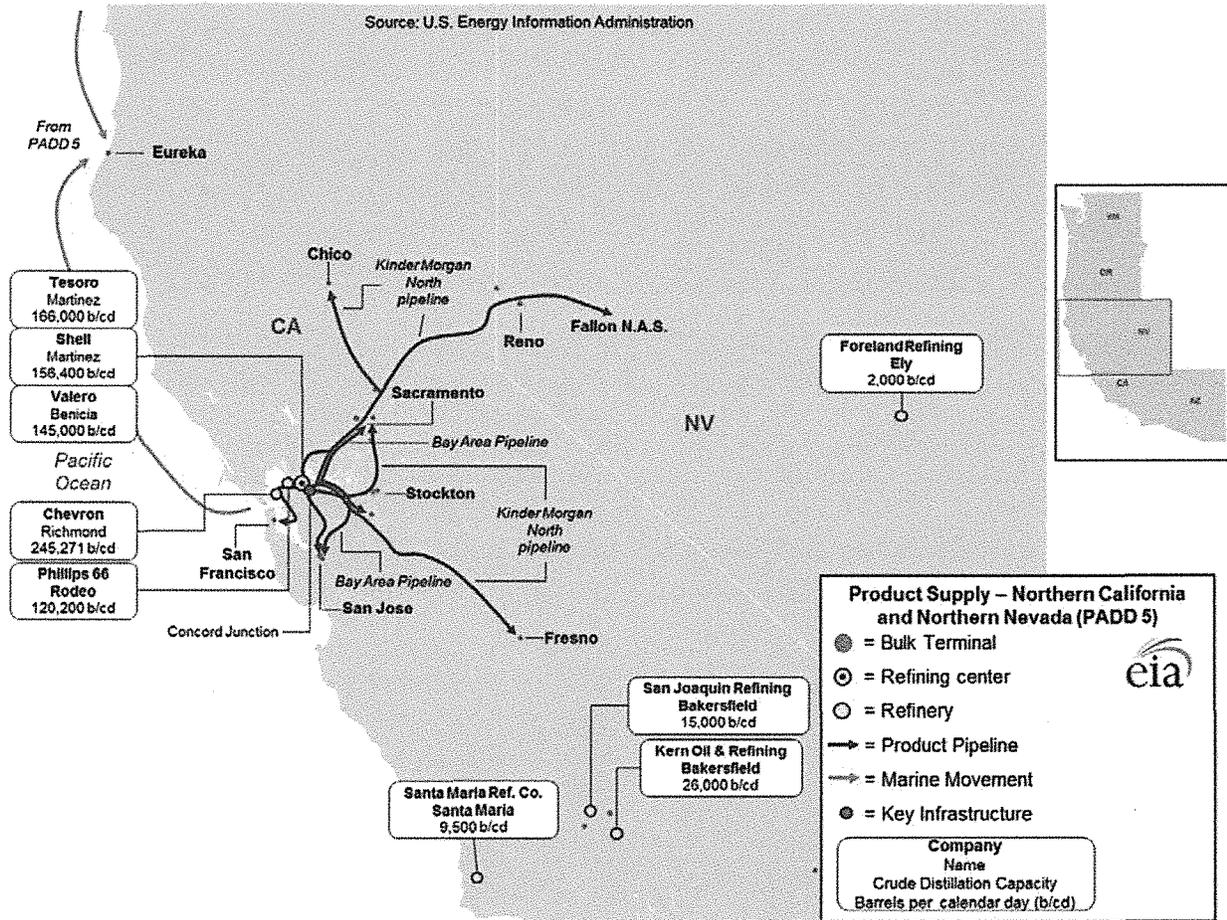
Source: Stillwater Associates analysis of EIA data

In 2013, NCNN refineries produced an average of 421,000 b/d of gasoline blending components and finished motor gasoline, 185,000 b/d of distillate, and 96,000 b/d of jet fuel. This production was more than sufficient to meet in-region demand. NCNN refineries produced product sufficient to meet 102% of regional demand for finished motor gasoline (112% when blended with ethanol), 108% of jet fuel demand, and 147% of diesel fuel demand. Production from refineries in Northern California regularly supplies parts of Southern California and Oregon by marine vessel.

Product is shipped by pipeline from the refineries in San Francisco to storage and distribution terminals in the San Francisco area and to terminals further inland in Fresno and Chico, California, and also in Nevada. The large regional product distribution pipelines are owned and operated as common carrier pipelines by Kinder Morgan, Inc. No pipelines connect the NCNN region to other PADDs or other PADD 5 regional markets, and, as a result, supply from NCNN to those areas moves by marine vessel. The major port facilities through which product is exported into the global market and from which product is shipped to other regional markets in PADD 5 are located on the San Francisco Bay.

Critical supply chain infrastructure includes the refineries, pipelines, ports, and storage facilities of the San Francisco Bay area. In particular, the Concord pipeline junction is the gathering and entry point for the Kinder Morgan pipeline system, the main distribution artery for the region. Power outages and earthquakes can affect the region's infrastructure, and heavy fog can disrupt the port facilities within the San Francisco Bay.

Figure 15. Northern California and Northern Nevada refineries and petroleum product flows

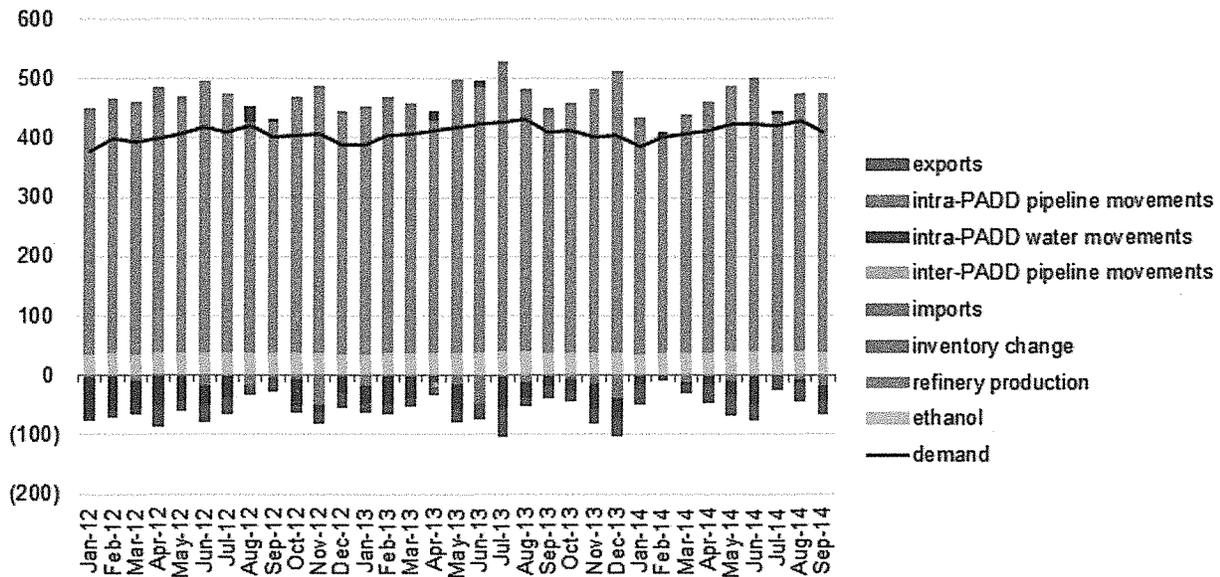


Motor gasoline supply/demand

In 2013, NCNN refineries produced an average of 421,000 b/d of motor gasoline blending components that when blended with ethanol was sufficient to supply about 112% of 2013 finished gasoline demand. Without pipeline interconnections to other regional markets in PADD 5, surplus gasoline must be shipped out of the region by marine vessel. In 2013, the NCNN region supplied about 26,900 b/d to other PADD 5 regional markets, primarily Southern California but also Reno, Nevada, and exported 22,100 b/d into the global market, principally supplying Latin America.

Figure 16. Northern California and Northern Nevada motor gasoline supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

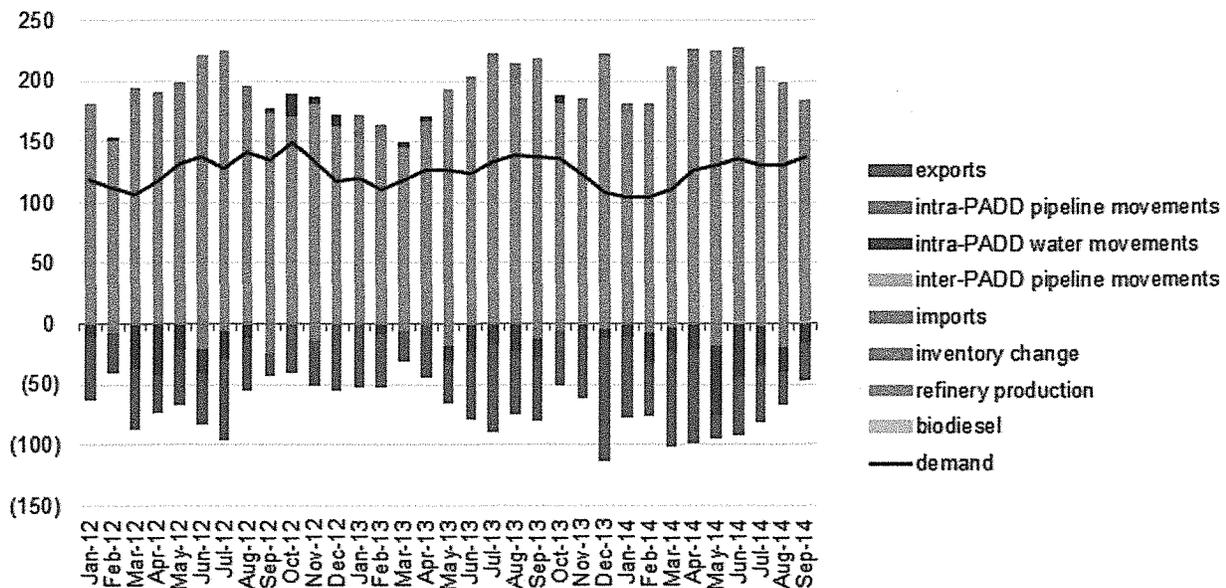
Source: Stillwater Associates analysis of EIA data

Distillate fuel supply/demand

In 2013, NCNN refineries produced an average of 185,000 b/d of distillate fuel, which when blended with biodiesel was sufficient to supply about 147% of finished distillate fuel demand. Without pipeline interconnections to other regional markets in PADD 5, surplus distillate fuel must be shipped out of the region by marine vessel. In 2013, the region transferred 8,200 b/d to other regional markets in PADD 5 and exported 52,400 b/d of distillate, mostly to Central America and South America, principally to Mexico. Because the region produces substantially more diesel fuel than is needed to meet local demand, NCNN has become an important source of diesel fuel for other regions within PADD 5 as well as the Pacific basin.

Figure 17. Northern California and Northern Nevada distillate supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

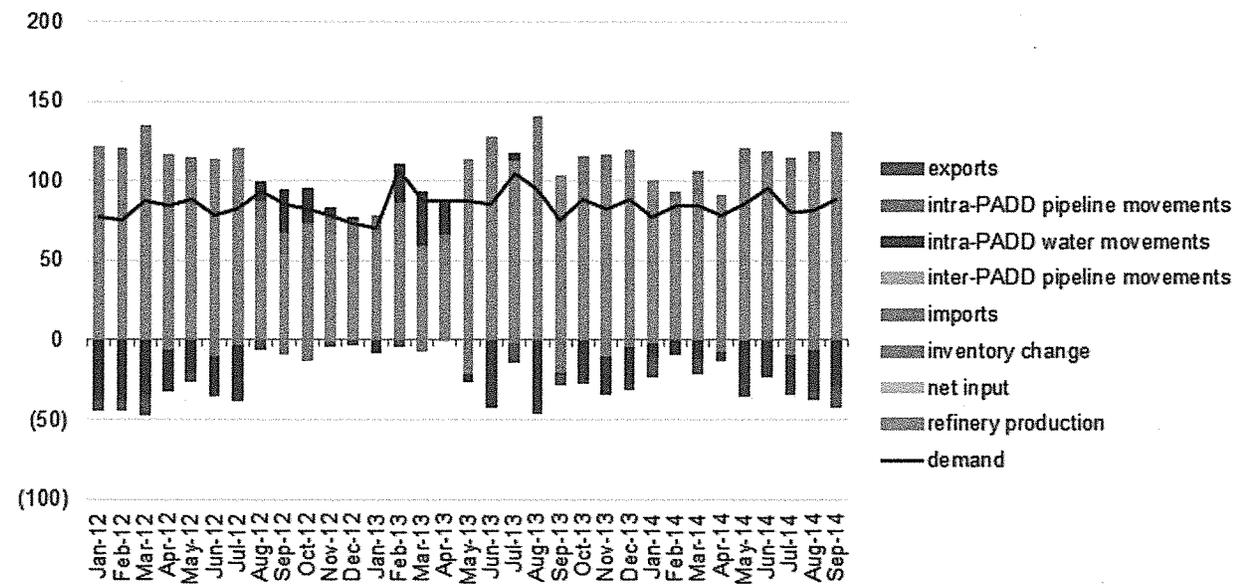
Source: Stillwater Associates analysis of EIA data

Jet fuel supply/demand

The Northern California and Northern Nevada region produces more jet fuel than is consumed in the region, albeit by a much narrower margin than distillate fuel, with in-region refineries producing about 96,000 b/d on average in 2013, 108% of regional demand. The region has also imported small volumes of jet fuel, likely to balance the timing of supply and demand and/or to take advantage of economic supply opportunities. Refinery production beyond that needed to meet in-region demand is principally shipped to other PADD 5 regional markets, but it also is exported. In 2013, about 7,200 b/d was shipped to other PADD regional markets and 2,300 b/d was exported to Canada and Latin America. The region typically produces more jet fuel than is needed to meet in-region demand. However, in the second half of 2012, following a major disruption at Chevron’s Richmond refinery, NCNN shifted from producing more jet fuel than needed to meet in-region demand, to producing less. This circumstance illustrates the sensitivity of the Northern California region as well as the sensitivity of PADD 5 as a whole to refinery disruptions.

Figure 18. Northern California and Northern Nevada jet fuel supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Renewable fuels and biofuels supply/demand

The region’s demand for biofuels is driven by California’s Low Carbon Fuel Standard (LCFS), which creates demand for fuels with lower carbon intensity, including low carbon-intensity corn-based ethanol and sugar-based ethanol, biodiesel, and renewable diesel.

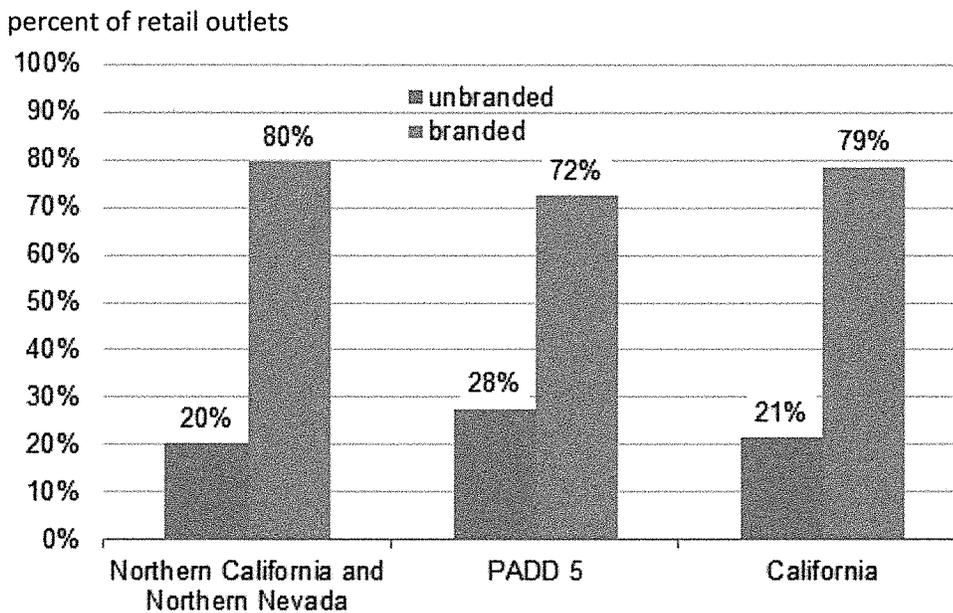
Ethanol blending is limited to 10% of the CARB specification for motor gasoline, which is reflected in ethanol's 10% share of gasoline demand. Ethanol supply is a combination of imported sugar-based ethanol and receipts from the PADD 2 (Midwest) delivered by rail and truck to blending terminals.

Biodiesel and renewable diesel supplied a very small percentage of the region's distillate demand in 2013, less than 1%. Biodiesel and renewable diesel supply is from a combination of PADD 5 production, receipts from other PADDs, and imports.

Retail markets

In the Northern California and Northern Nevada region, 80% of retail outlets are branded and 20% are unbranded. In Northern California, about 21 branded and unbranded companies participate in the retail market for gasoline and distillate fuel,¹³ compared with about 12 in the Reno/Carson City, Nevada market. In Northern California, major oil company branded outlets dominate the retail sector, and the top five brands have 76% of the number of retail outlets. The Reno/Carson City market is characterized by a mix of branded and unbranded retail outlets.

Figure 19. Northern California and Northern Nevada retail market structure



Source: Stillwater Associates analysis of Oil Price Information Service (OPIS) data for the week of December 31, 2014

Note: OPIS data are survey rather than census data, and survey data include transactions from large commercial trucking fleet customers using company credit cards and not from cash or credit card sales to the general public.

¹³ Northern California counties with less than 1% of total state gasoline sales are excluded from these numbers.

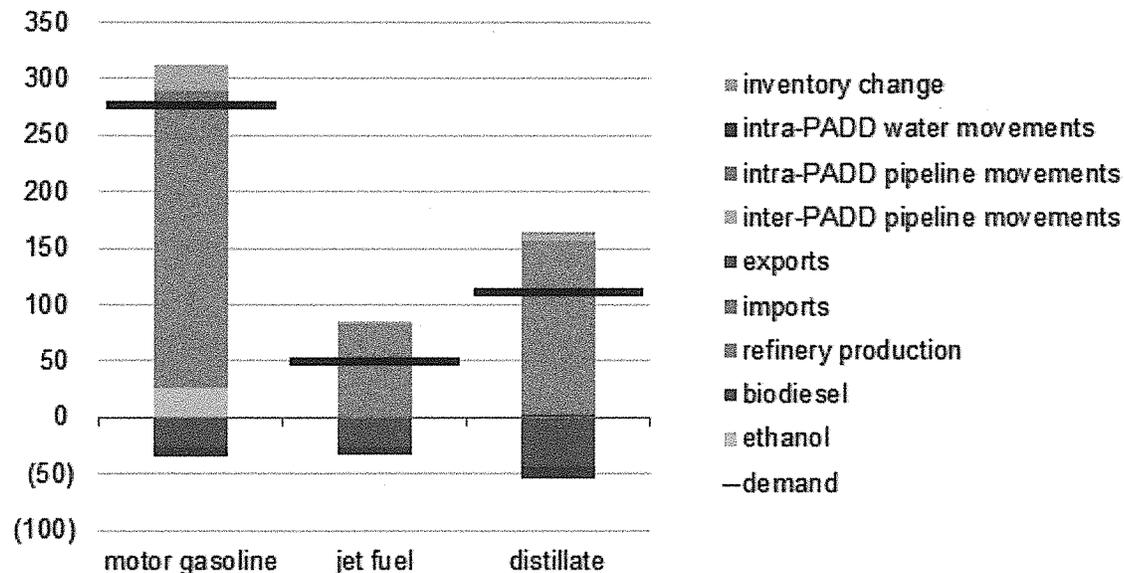
Pacific Northwest

The Pacific Northwest region (PNW) includes Oregon and Washington. In 2013, with 277,300 b/d of motor gasoline demand, the region accounted for 18% of total PADD 5 motor gasoline demand and 3% of total U.S. demand. At 111,400 b/d, PNW demand for distillate fuel was 23% of PADD 5 demand and 3% of U.S. demand. Jet fuel demand in the Pacific Northwest averaged 51,400 b/d in 2013, 12% of PADD 5 demand and 4% of U.S. demand.

The region is supplied by a combination of in-region refinery production, imports, and receipts of product manufactured at refineries in other PADDs. Refineries in the PNW produce about as much gasoline as is consumed in the region, but considerably more than enough distillate fuel and jet fuel than is needed to meet in-region demand. The region supplies distillate fuel and jet fuel to the global market and to other regions within PADD 5 and also exports motor gasoline. PNW also imports motor gasoline and a small amount of distillate. The combination of imports and exports reflects the configuration of the distribution system and gasoline grade imbalances. The PNW typically does not receive product from other regions within PADD 5. In 2013, the region exported 26,000 b/d of motor gasoline, 26,800 b/d of jet fuel, and 43,200 b/d of distillate fuel, primarily to Canada, Mexico Central America, and South America.

Figure 20. Pacific Northwest 2013 supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Supply and logistics

There are five operating refineries in the PNW region, located in and around Puget Sound, Washington. There are no refineries in Eastern Washington or in Oregon. Historically, the PNW refineries processed a

combination of Alaska North Slope crude oil, Canadian crude oil delivered by the Kinder Morgan Trans Mountain Pipeline,¹⁴ and waterborne imports of other globally-produced crude oil. More recently, Bakken crude oil produced in the United States has been added to refinery crude slates. Bakken crude oil is delivered by railroad and has displaced both ANS and waterborne imports.

Table 6. Pacific Northwest refineries

Company	Location	Atmospheric Crude Distillation Unit (ACDU) capacity b/cd	Markets served
BP	Ferndale (Cherry Point)	225,000	Western Washington, Oregon, exports
Phillips 66	Ferndale	101,000	Western Washington, Oregon, exports
Shell	Anacortes	145,000	Western Washington, Oregon, exports
Tesoro	Anacortes	120,000	Western Washington, Oregon
U.S. Oil & Refining	Tacoma	40,700	Western Washington

Source: Stillwater Associates analysis of EIA data

In 2013, PNW refineries produced an average of 253,400 b/d of motor gasoline and motor gasoline blending components, 156,300 b/d of distillate fuel, and 83,600 b/d of jet fuel. This production was sufficient to meet 91% of regional demand for motor gasoline (102% when blended with ethanol), 163% of jet fuel demand, and 138% of distillate fuel demand. Production from refineries in Washington State regularly supplies Alaska and California.

Product is shipped from the refineries by pipeline north and south to supply Portland, Oregon and Seattle, Washington, and product is shipped by marine vessel to supply the global markets and other regions within PADD 5. Many of the Portland, Oregon storage and distribution terminals have access to the Columbia River and can ship and receive product by marine vessel. Each of the five refineries also have associated dock infrastructure for loading and discharging marine vessels, which supports imports and exports of petroleum products.

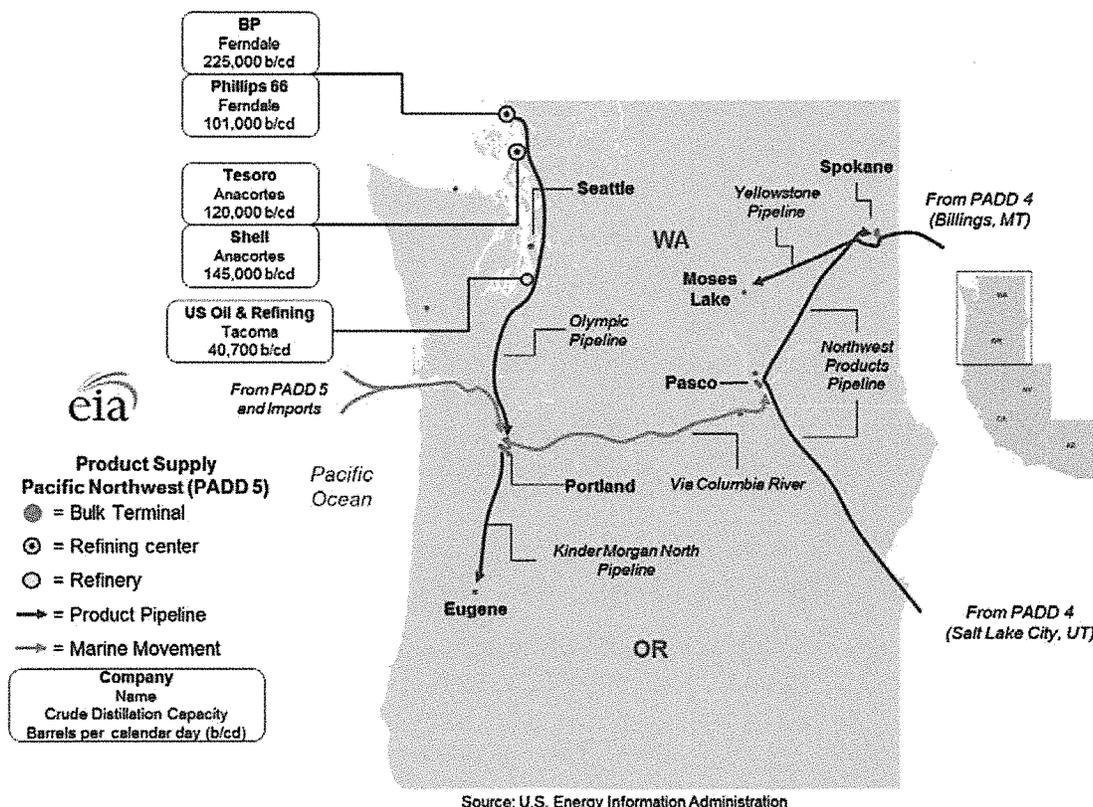
Product moves from storage and distribution terminals in Portland, Oregon south to Eugene, Oregon by pipeline. Distribution infrastructure to move product from the western portions of Washington and Oregon east is limited. The only connection between the western and eastern portions of the region is marine transport along the Columbia River, specifically between Portland, Oregon and Pasco, Washington. There is no pipeline infrastructure to move products across the Cascade Range of mountains. As a result, Eastern Washington is supplied with product from refineries in PADD 4. Product moves by pipeline from Salt Lake City, Utah into eastern Washington and Oregon and by pipeline from refineries in Billings, Montana into eastern Washington.

Critical infrastructure in the region includes the refinery complexes, pipelines, storage and distribution terminals, and the marine facilities at refineries and terminals, notably those along the Columbia River.

¹⁴ The Kinder Morgan Trans Mountain Pipeline (TMPL) transports both crude oil and refined products to the west coast of Canada and the United States. TMPL moves product from Edmonton, Alberta, to marketing terminals and refineries in the central British Columbia region, the Greater Vancouver area, and the Puget Sound area in Washington state, as well as to other markets such as California, the U.S. Gulf Coast, and overseas through the Westridge marine terminal located in Burnaby, British Columbia. Only crude oil and condensates are shipped into the United States.

Weather can disrupt the region’s marine facilities. The Olympic pipeline,¹⁵ which runs from Puget Sound to Portland, Oregon and is connected to four of the five PNW refineries, is the main north-south corridor for petroleum product transportation in the PNW region. Disruptions to flows on the Olympic pipeline can have a major impact on regional supply. Many of the storage and distribution terminals connected to the pipeline lack other supply options. As a result, during supply disruptions, product typically supplied from these terminals may need to be sourced from other terminals, which can increase supply costs and therefore prices.

Figure 21. Pacific Northwest refineries and petroleum product flows



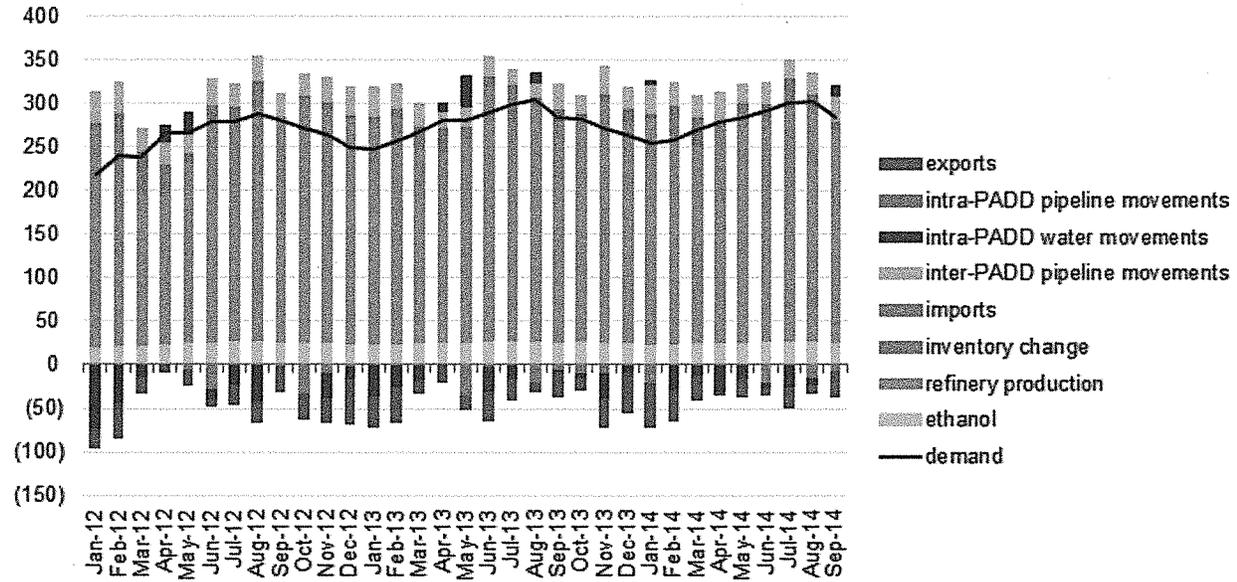
¹⁵ The pipeline runs along a 299 mile corridor from Blaine, Washington to Portland, Oregon. The system transports gasoline, diesel, and jet fuel. This fuel originates at four Puget Sound refineries, two in Whatcom County and two in Skagit County, and is delivered to Seattle’s Harbor Island, Seattle-Tacoma International Airport, Renton, Tacoma, Vancouver, Washington, and Portland, Oregon.

Motor gasoline supply/demand

In 2013, PNW refineries produced an average of 253,000 b/d of motor gasoline, including motor gasoline blending components and finished motor gasoline, about 91% of 2013 demand (102% when blended with ethanol). The PNW region also imports and exports gasoline to balance gasoline quality imbalances and is supplied with gasoline from PADD 4 because it is more efficient to supply the eastern part of the region east of the Cascade Range mountains with product from refineries in Salt Lake City, Utah and Billings, Montana. In 2013, the region imported 8,200 b/d of transportation fuels, mostly from Canada, and was supplied with an additional 15,200 b/d from PADD 4 (Rocky Mountains). The PNW typically does not receive product from other regions within PADD 5. In 2013, the region exported 26,000 b/d of motor gasoline, principally to Mexico and Canada.

Figure 22. Pacific Northwest motor gasoline supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

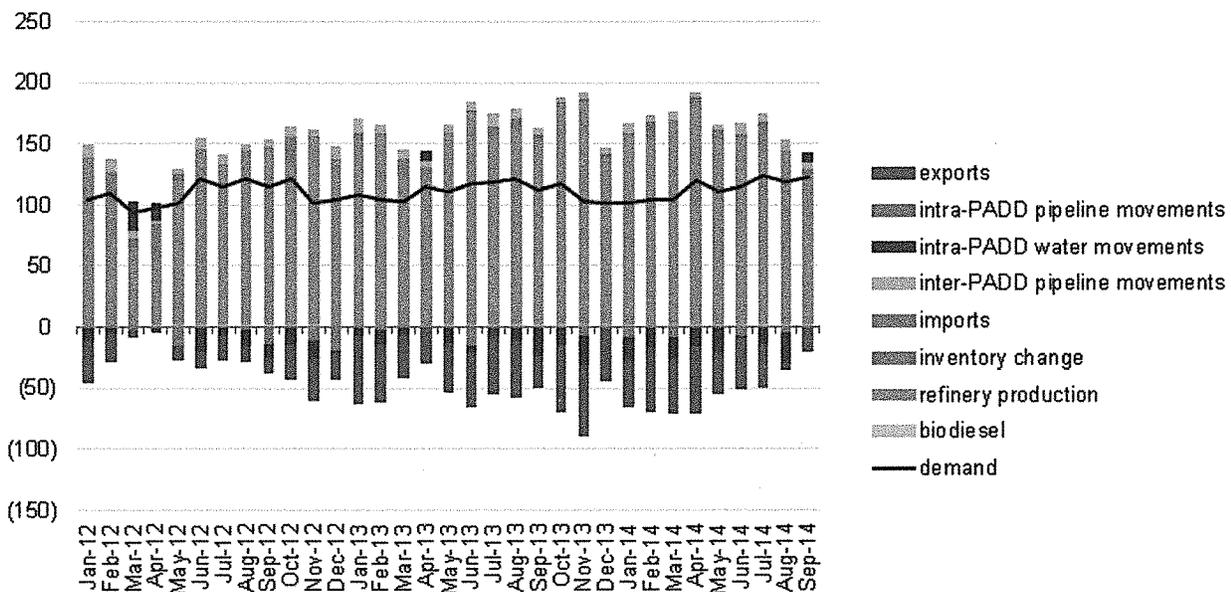
Source: Stillwater Associates analysis of EIA data

Distillate fuel supply/demand

The Pacific Northwest produces considerably more distillate fuel than is needed to meet in-region demand. In 2013, the region produced 154,000 b/d of distillate fuel, 138% of demand. The region exports significant volumes of distillate fuel into the Pacific Basin market, 43,200 b/d on average in 2013, to Central and South America, western Canada (which lacks sufficient refining capacity), and Mexico. The Pacific Northwest region also supplies distillate, 10,100 b/d on average in 2013, to the rest of PADD 5 via marine vessel. PADD 4 supplied 5,800 b/d of distillate fuel to the eastern part of the Pacific Northwest region.

Figure 23. Pacific Northwest distillate supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

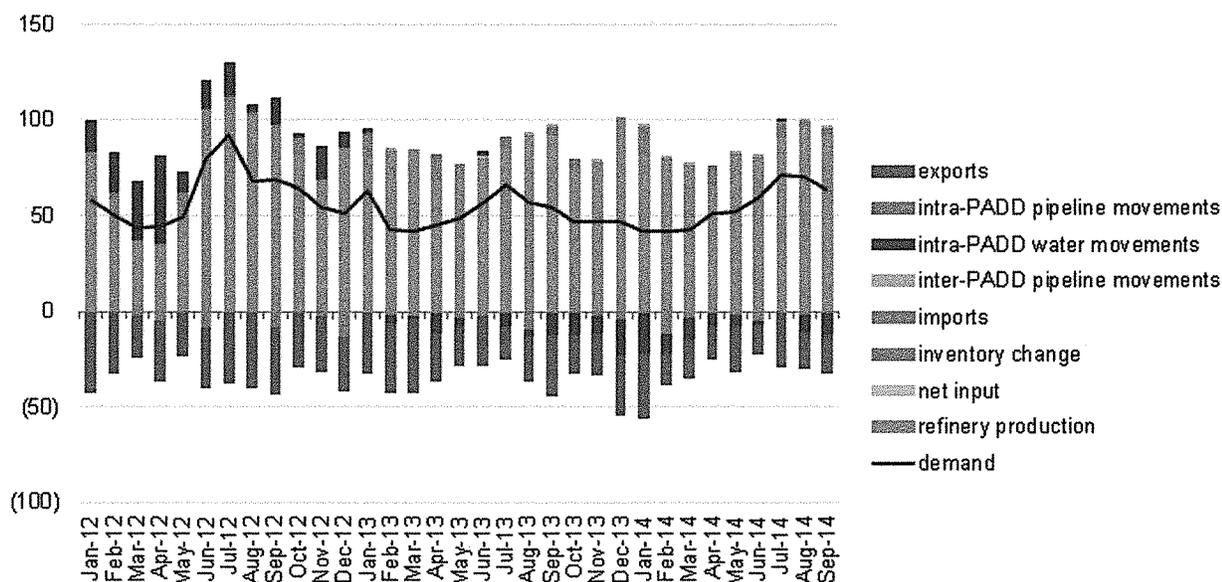
Source: Stillwater Associates analysis of EIA data

Jet fuel supply/demand

Refineries in the PNW region produced approximately 163% of in-region jet fuel demand, or 84,000 b/d on average in 2013, making the region significantly net long jet fuel. The oversupply allowed the region to export 27,000 b/d of jet fuel and to send 7,000 b/d of supplies via marine vessel to other regions of PADD 5 on average in 2013. The region's jet fuel exports were mainly destined for Canada, with smaller amounts bound for Central America, South America, and Asia.

Figure 24. Pacific Northwest jet fuel supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Renewable fuels and biofuels supply/demand

Almost all of the gasoline in the Pacific Northwest is blended with ethanol to a level of 10%, driven by the federal Renewable Fuel Standard program and the state's requirement that diesel fuel sold in Oregon must be blended with a minimum of 5% biodiesel. The Oregon Renewable Fuel Standard, which was adopted in 2005, set the requirement for biodiesel blending in the state. Oregon also has a low-carbon fuels law that was passed in 2009 but for which regulations have not been promulgated. The low-carbon fuel law was scheduled to sunset in 2015, however, in February, the Oregon state senate introduced a bill to make the law permanent. In January, the Oregon Environmental Quality Commission proposed regulations to require fuel importers and producers to reduce the carbon content of transportation fuels by 10% over the next decade, starting in January 2016.

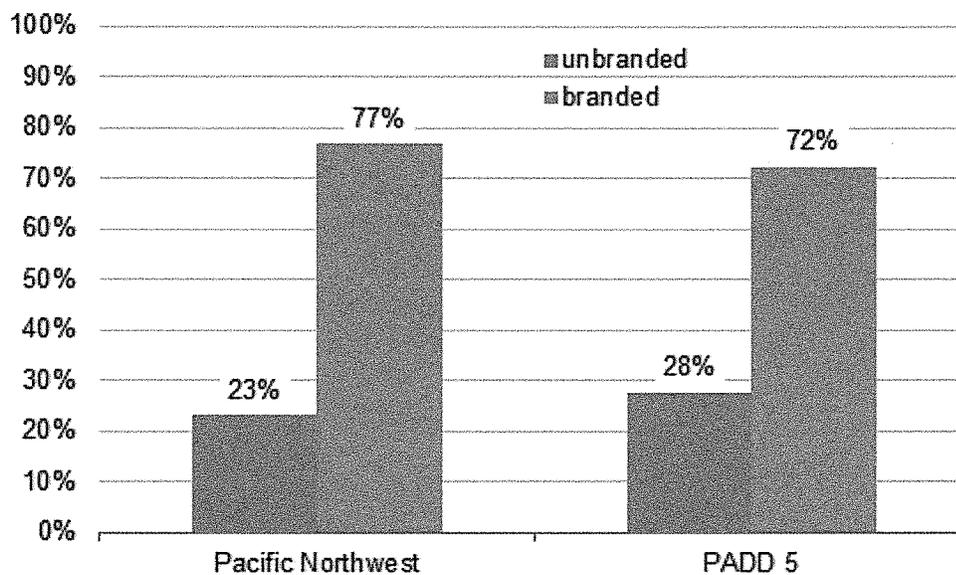
Ethanol supply to the PNW is from a combination of receipts from other PADDs, delivered by rail and truck to blending terminals, and in-region production. Biodiesel, which supplied a small percentage of the region's diesel demand in 2013 (about 2,200 b/d, or about 2% of in-region demand) is supplied primarily from in-region production.

Retail markets

Oregon is one of two states in the country that does not permit customer self-service dispensing of transportation fuels at retail outlets. The mandate has its origins in efforts to support independent gasoline wholesalers, which helped minimize the number of retail outlets owned and operated by major oil companies. The Pacific Northwest actually has a slightly higher percentage of branded outlets compared with PADD 5 overall. The region has about 25 branded and unbranded retailers, with 77% of retail stations selling branded fuels compared with the PADD 5 average of 72%. Brands in the Pacific Northwest include Chevron, Shell, 76, Conoco, ARCO, Pilot, Costco, and Sam's Club.

Figure 25. Pacific Northwest retail market structure

percent of retail outlets



Source: Stillwater Associates analysis of Oil Price Information Service (OPIS) data for the week of December 31, 2014

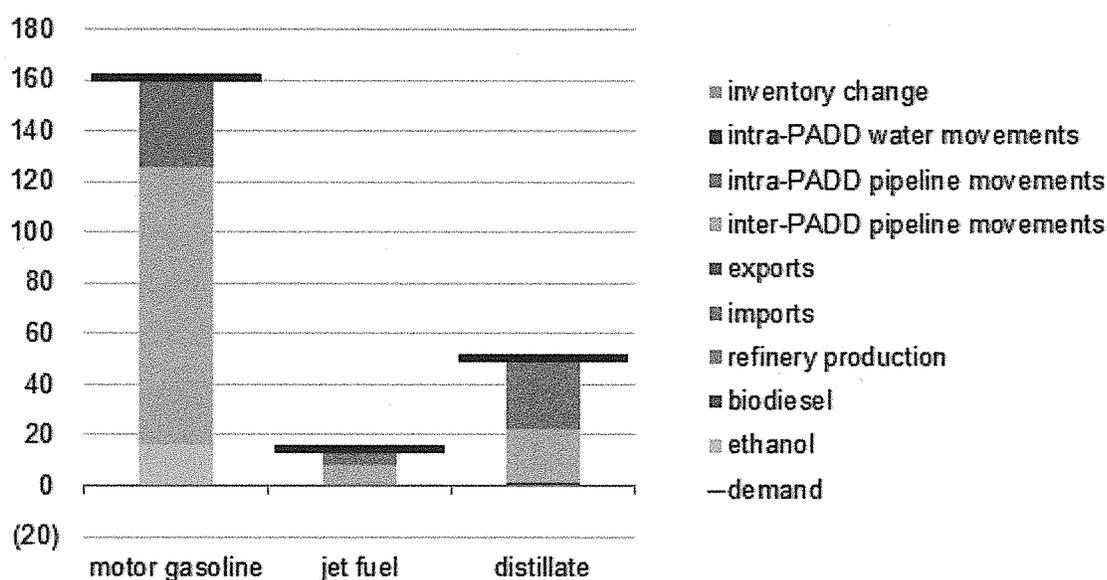
Note: OPIS data are survey rather than census data, and survey data include transactions from large commercial trucking fleet customers using company credit cards and not from cash or credit card sales to the general public.

Arizona

Arizona accounts for 11% of demand for motor gasoline in PADD 5, 3% of demand for jet fuel, and 10% of distillate fuel demand. There are no petroleum refineries in Arizona, and the region is supplied with product by pipelines that originate in Southern California and West Texas. In 2013 the region consumed 161,500 b/d of motor gasoline, 14,600 b/d of jet fuel, and 50,600 b/d of distillate fuel.

Figure 26. Arizona 2013 supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Supply and logistics

Arizona is supplied with all transportation fuels via pipeline from Southern California, New Mexico, and Texas. The 400-mile long Kinder Morgan East Line originates in El Paso, Texas and consists of two parallel pipelines that end in Phoenix, Arizona. Refineries in Texas and New Mexico can supply product into the East Line for delivery to five storage and distribution terminals in Phoenix and two in Tucson, Arizona. A disruption to fuel supply from refineries in New Mexico and West Texas into the East Line reduce East Line supply into Arizona as there may not be sufficient fuels supply or pipeline capacity from other sources to replace the lost fuels supply.

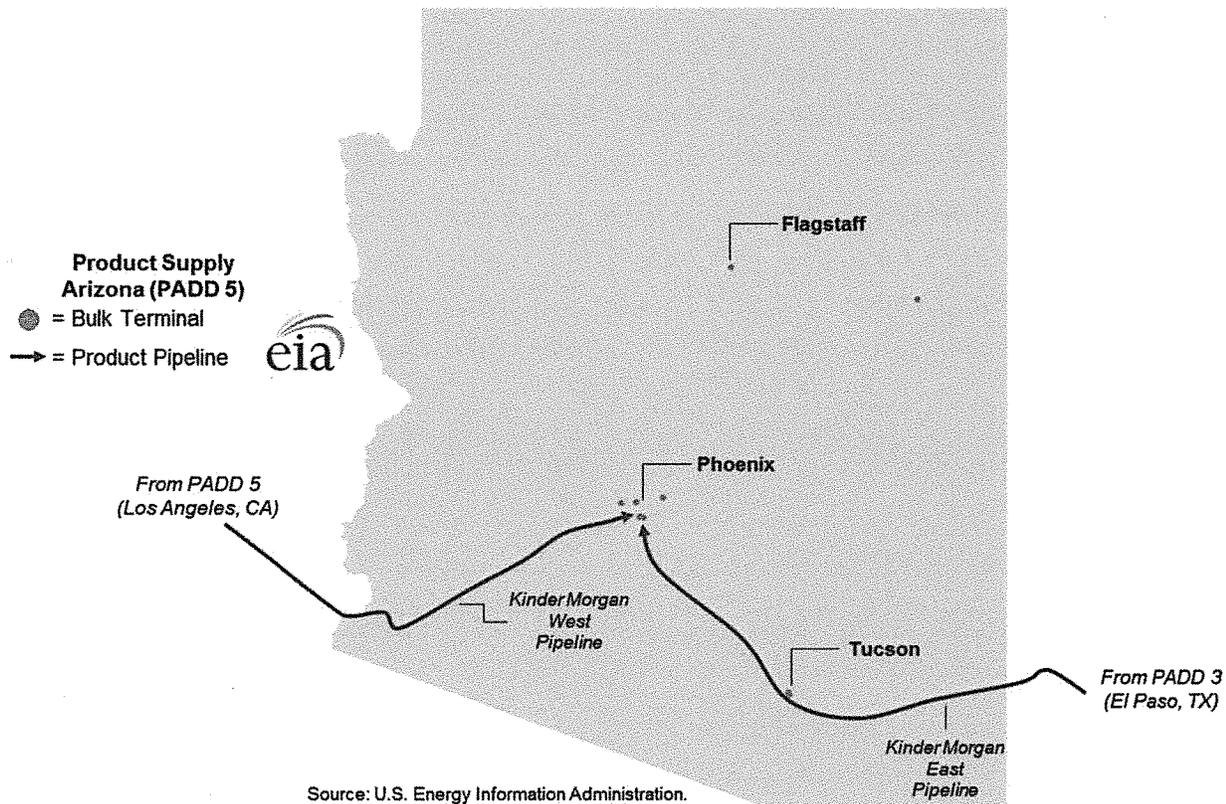
The Kinder Morgan West Line is part of the Kinder Morgan SFPP system. The West Line runs 515 miles from the Watson Station in the Los Angeles Basin to Phoenix, Arizona and delivers product into storage and distribution terminals in Phoenix.

The two pipelines of the East Line operate at close to full capacity, while the West Line operates at well below capacity. As a result, the West Line is a source of incremental supply for Phoenix should supply from the East Line be reduced. However, because the transportation time for fuels delivered into

Phoenix from Los Angeles, California, is about a week to 10 days, incremental supply to Phoenix would not be immediately available. There is no backup pipeline capacity for fuels supply from Phoenix into Tucson. Incremental supply to Tucson is via long-haul trucking.

The Kinder Morgan East and West Lines are critical to fuels supply to Arizona. Train derailments, as well as washouts and pipeline ruptures, have affected the pipelines, sections of which lie in the Union Pacific Railroad right of way. Most disruptions have been of short duration.

Figure 27. Arizona petroleum product flows



Motor gasoline supply/demand

In 2013, Arizona consumed 161,500 b/d of motor gasoline. The Kinder Morgan East pipeline supplied 109,000 b/d, or 67%, of total gasoline from refineries in New Mexico and Texas. An additional 35,000 b/d of gasoline was sourced from Southern California. Arizona's Cleaner Burning Gasoline (CBG) Program calls for a number of different specifications of cleaner burning gasoline in different areas of the state, including the greater Maricopa County area (Phoenix metropolitan area); part of Pinal County, which is between Phoenix and Tucson, and a small portion of Yavapai County; and part of Pima County, which includes the Tucson metropolitan area.

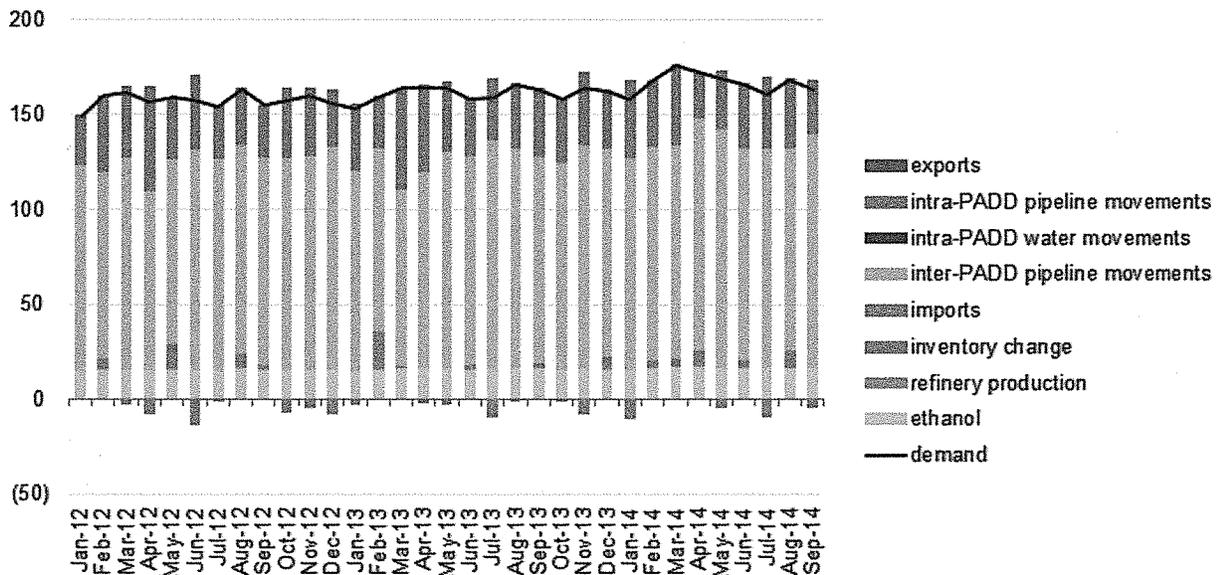
The CBG program has two key elements: a summer cleaner-burning fuel blend with a low Reid Vapor Pressure (RVP) to reduce ozone levels and a winter clean-burning fuel blend with a minimum oxygenate

content to reduce carbon monoxide levels. Winter CBG must also meet the specifications for CARB Phase 2 reformulated gasoline. Summer CBG must either meet the winter CARB Phase 2 specifications or meet specifications patterned after the federal Phase 2 reformulated gasoline (RFG) program. As a result, much of the gasoline required in Arizona is similar to CARB or federal RFG, which provides supply advantages. The petroleum component of gasoline blended specifically to meet Arizona gasoline specifications is Arizona Blendstock for Oxygenate Blending (AZBOB).

Arizona’s gasoline demand is primarily supplied by shipments from refineries in El Paso, Texas and other refineries on the Gulf Coast, with additional volumes sourced from refineries in Southern California. The same supply pattern exists for jet fuel, with most of the region’s jet fuel supplies sourced from the Gulf Coast. However, Arizona’s distillate demand is supplied mostly from Southern California refineries, representing that region’s relative net length in distillate supplies.

Figure 28. Arizona motor gasoline supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

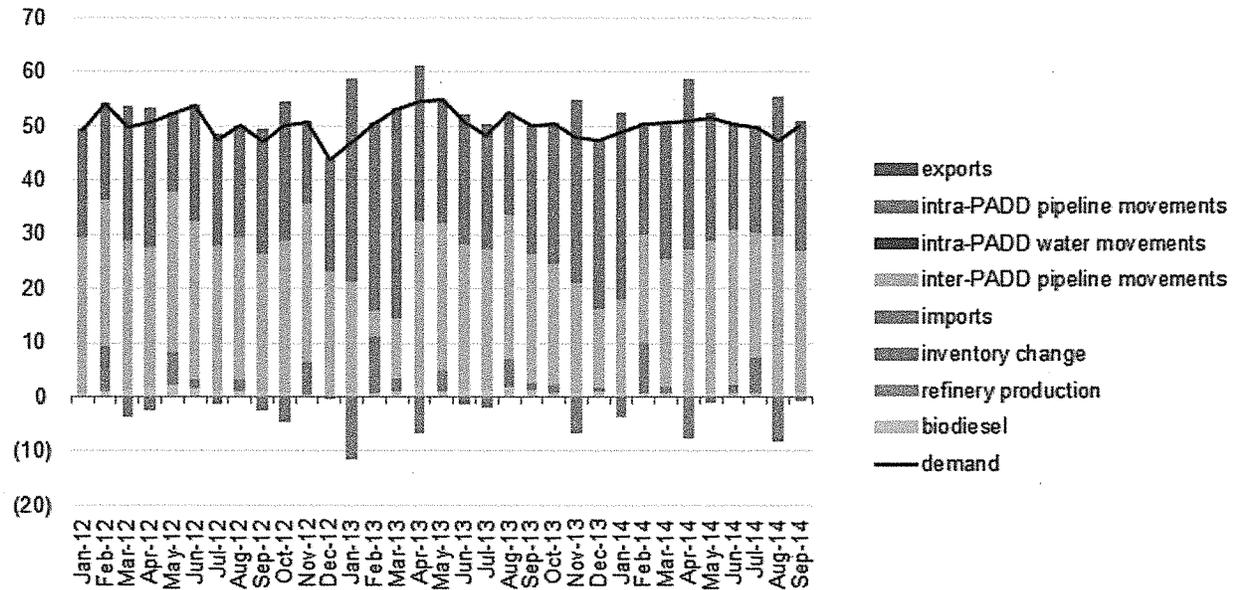
Source: Stillwater Associates analysis of EIA data

Distillate fuel supply/demand

In 2013, Arizona region consumed 50,600 b/d of distillate fuel. Supply from Southern California averaged 28,200 b/d (56% of demand), and supply from Texas and New Mexico averaged 21,300 b/d (42% of demand). Biodiesel supplied about 3% of Arizona diesel fuel demand in 2013. Arizona requires ultra-low sulfur diesel, the specifications for which are less restrictive than CARB diesel.

Figure 29. Arizona distillate supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

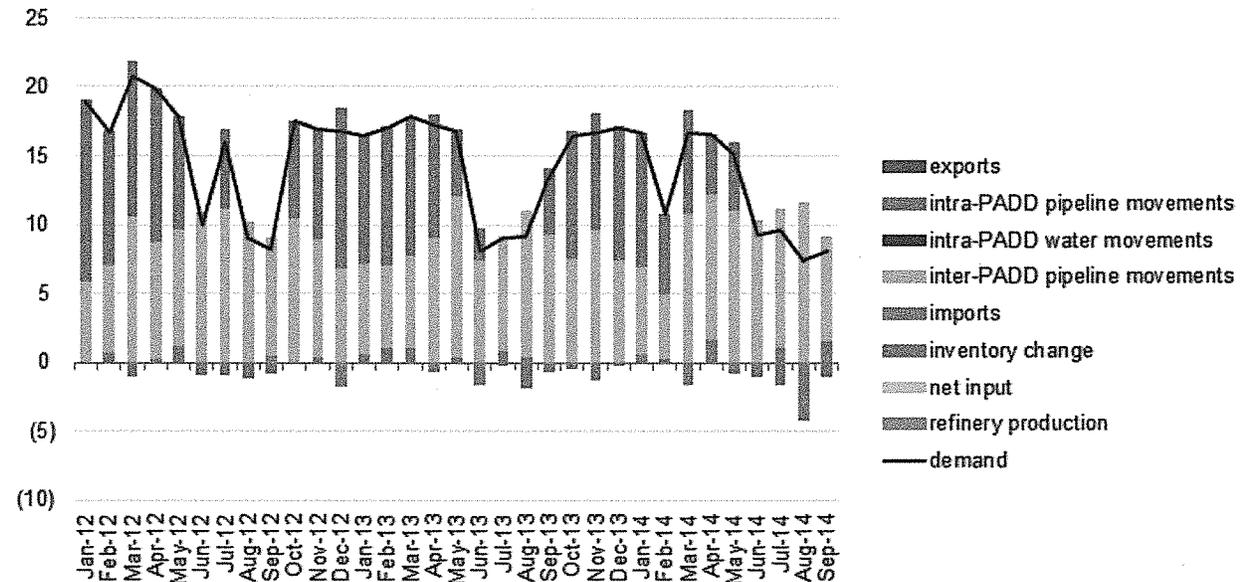
Source: Stillwater Associates analysis of EIA data

Jet fuel supply/demand

In 2013, Arizona consumed 14,600 b/d¹⁶ of jet fuel, most of which was supplied from Texas and New Mexico. Jet fuel demand is principally at the Phoenix Sky Harbor International Airport and the Tucson International Airport, both of which are supplied from the Kinder Morgan pipeline systems.

Figure 30. Arizona jet fuel supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.
Source: Stillwater Associates analysis of EIA data

Renewable fuels and biofuels supply/demand

Motor gasoline sold in Arizona is blended with ethanol to an average level of 10%, driven by the federal RFS program and also by the EPA’s State Winter Oxygenated Fuel program that requires minimum oxygenate levels to reduce carbon monoxide emissions. The winter oxygenated fuel season is generally October through February or March. Arizona has one ethanol production facility, Pinal Energy, which restarted in March 2014 after having been idle for 18 months. Arizona also has biodiesel production capacity.

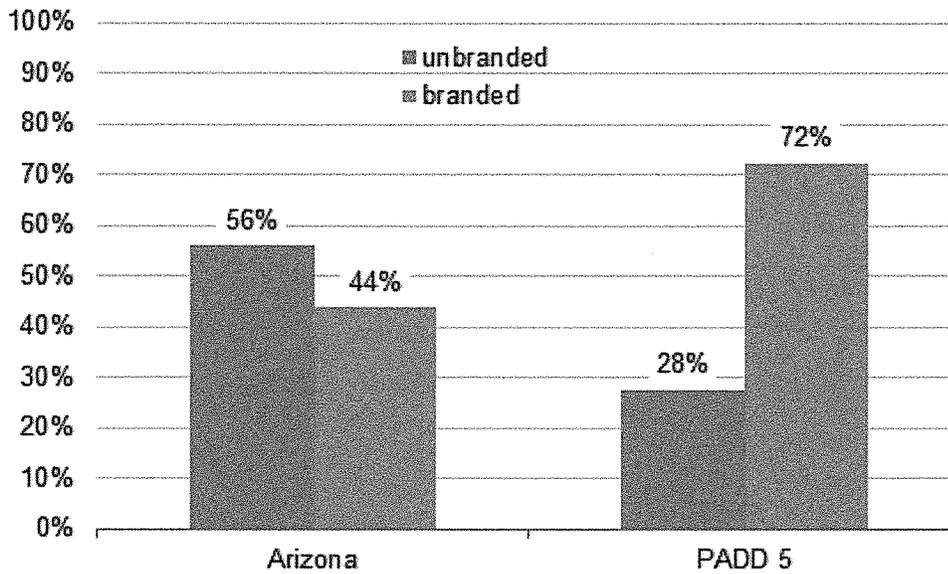
¹⁶ Non-EIA sources of data estimate Arizona jet fuel consumption at higher levels.

Retail market

There are about 23 branded and unbranded fuels retailers operating in Arizona and most, 56%, of the retail outlets are unbranded meaning they are unaffiliated with a major oil company brand, although they may purchase product from a major oil company and market that product under a different brand. Major retail brands in Arizona include Chevron, Circle K, Fry's, Quik Trip, Shell, and Valero.

Figure 31. Arizona retail market structure

percent of retail outlets



Source: Stillwater Associates analysis of Oil Price Information Service (OPIS) data for the week of December 31, 2014

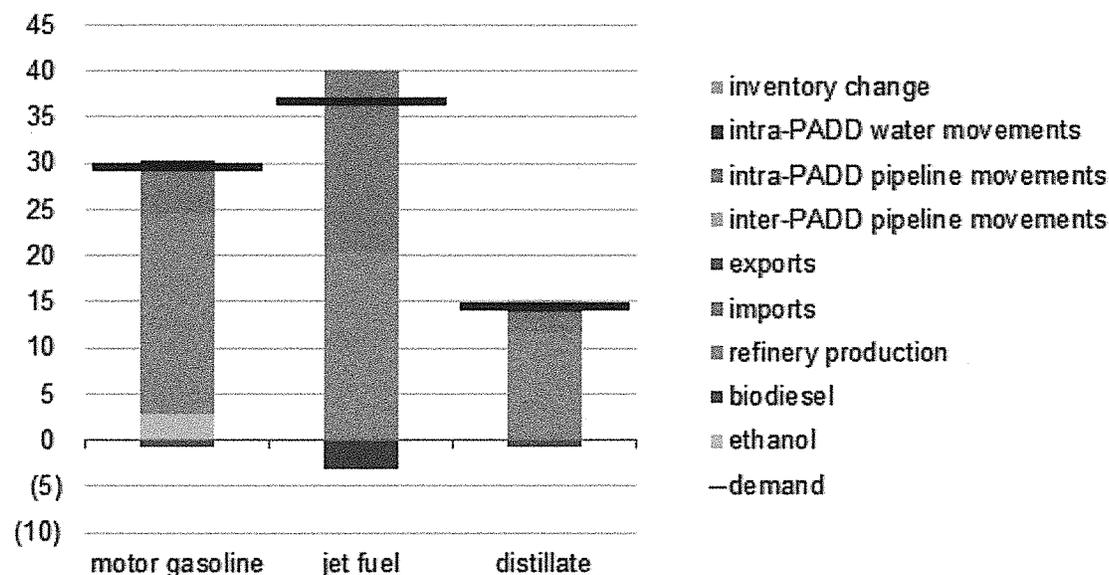
Note: OPIS data are survey rather than census data, and survey data include transactions from large commercial trucking fleet customers using company credit cards and not from cash or credit card sales to the general public.

Hawaii

Hawaii is remote and isolated from other PADD 5 regional markets and other PADDs. Hawaii relies primarily on in-region refinery production and imports. In 2013, refineries in Hawaii produced 21,500 b/d of motor gasoline, 20,300 b/d of jet fuel, and 11,800 b/d of diesel fuel sufficient to meet 72% of motor gasoline demand, 55% of jet fuel demand, and 81% of distillate fuel demand. Refinery production was supplemented with motor gasoline imports of 5,400 b/d, jet fuel imports of 19,700 b/d, and distillate imports of 2,200 b/d. Hawaii was also supplied with small volumes of motor gasoline and diesel fuel from other PADDs and a small volume of diesel fuel from other PADD 5 regional markets.

The state's island geography supports air travel, and as a result, Hawaii's jet fuel demand, which averaged 36,700 b/d in 2013, is higher than demand for both motor gasoline and diesel fuel. Hawaii's jet fuel demand accounted for 8% of PADD 5 demand in 2013, compared with 2% of motor gasoline and 3% of diesel fuel demand. The state's diesel demand is boosted by demand from the electric power sector and U.S. Navy demand for marine fuels.

Figure 32. Hawaii 2013 supply/demand balance



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Supply and logistics

There are two operating refineries in Hawaii with a combined atmospheric crude distillation unit capacity of 147,500 barrels per calendar day (b/cd). The Chevron Barbers Point refinery with capacity of 54,000 b/cd refines light and very low-sulfur-content crude oil into motor gasoline, distillate fuel, and jet fuel. The Par Petroleum Ewa Beach refinery, doing business as Hawaii Independent Energy, has atmospheric crude distillation capacity of 93,500 b/cd, and produces mostly jet and diesel fuels. The Ewa Beach refinery processes a mix of sweet and moderately heavy crude oils, including imports and oil from

the Alaska North Slope. In addition to transportation fuels, Hawaiian refineries produce significant quantities of heavy fuels used in electric power generation.

Table 7. Hawaii refineries

Company	Location	Atmospheric Crude Distillation Unit (ACDU) capacity b/cd	Markets served
Chevron USA	Honolulu (Barbers Point)	54,000	Hawaii
Par Petroleum dba Hawaii Independent Energy	Ewa Beach (Kapolei)	93,500	Hawaii

Source: Stillwater Associates analysis of EIA data

In the first quarter of 2013, the refinery at Ewa Beach (then owned and operated by Tesoro Corporation) was idled and did not operate for several months. As a result, 2013 data on refinery transportation fuels supply are atypical for Hawaiian petroleum product markets. Par Petroleum purchased the Tesoro refinery and restarted it in the second quarter of 2013. The refinery is now doing business as Hawaii Independent Energy. With the restart, supply is now more consistent with historical patterns.

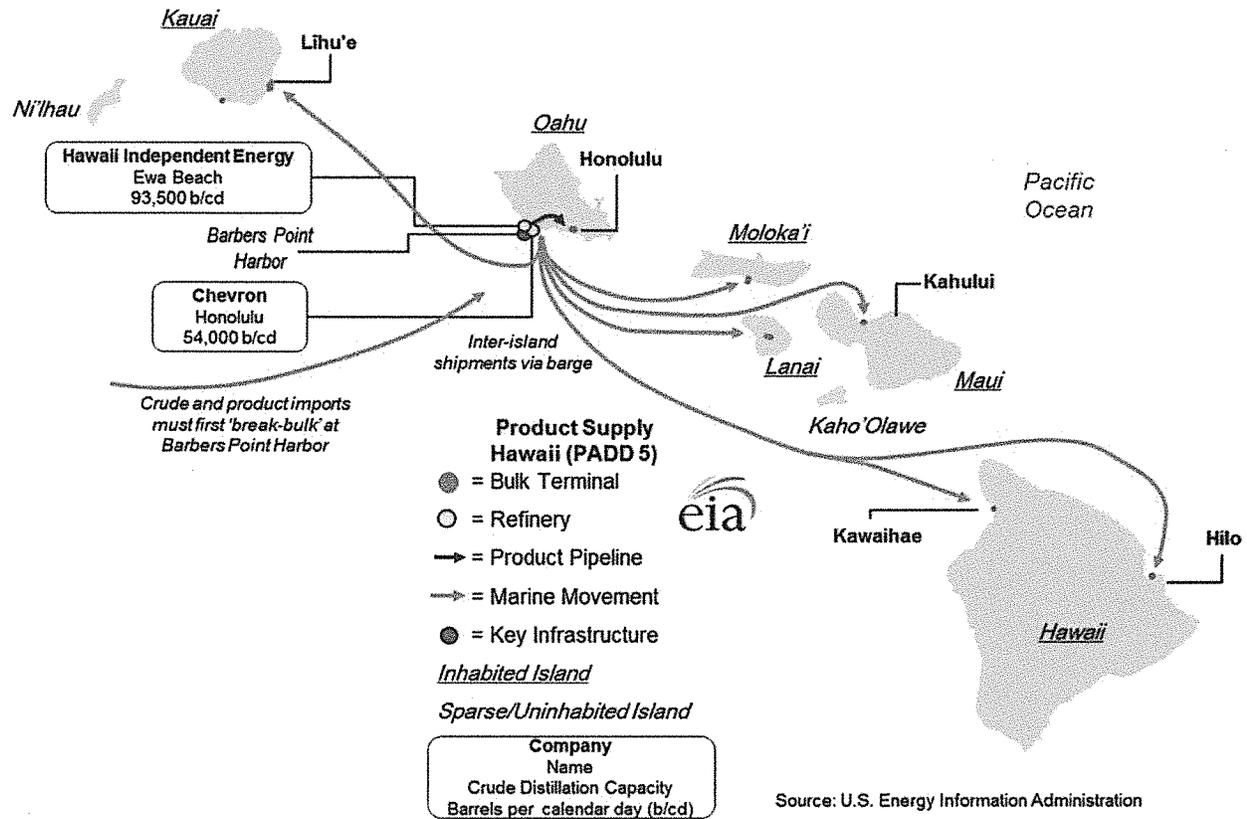
In 2013, refineries in Hawaii produced 21,500 b/d of motor gasoline, 20,300 b/d of jet fuel, and 11,800 b/d of diesel fuel sufficient to meet 72% of motor gasoline demand (81% when blended with ethanol), 55% of jet fuel demand, and 75% of diesel fuel demand. Refinery production was supplemented with motor gasoline imports of 5,400 b/d, jet fuel imports of 19,700 b/d, and diesel imports of 2,200 b/d. Hawaii was also supplied with small volumes of motor gasoline and diesel fuel from other PADDs and supplied a small volume of diesel fuel from other PADD 5 regional markets.

Product from the refineries on Oahu moves by pipeline to supply storage and distribution terminals on Oahu and by marine vessel from the Barbers Point Harbor to terminals on the islands of Maui, Kauai, and Hawaii. Product that arrives in Hawaii by marine vessel from other U.S. regions is also processed through the Barbers Point Harbor where large seagoing marine vessels can be accommodated. Large cargoes are offloaded, and then smaller volumes are shipped by barge to the storage and distribution terminals on the other islands. There are 14 storage and distribution terminals outside the Honolulu area, many of which are small.

Product is also shipped to Honolulu International Airport by pipeline across Pearl Harbor and by truck from Honolulu area terminals.

The two refineries on Oahu and the Barbers Point port facilities and associated barge fleet are critical to Hawaii transportation fuels supply.

Figure 33. Hawaii refineries and petroleum product flows

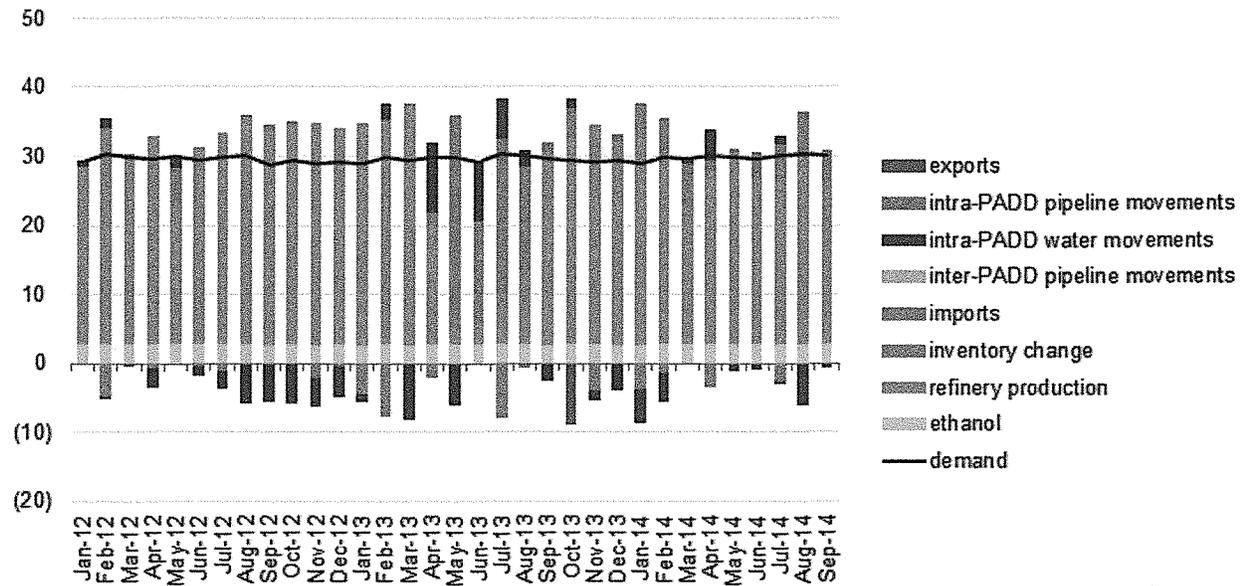


Motor gasoline supply/demand

Hawaii is typically a tightly balanced market for motor gasoline. In 2012, in-region refinery production when blended with ethanol was sufficient to supply 99% of motor gasoline demand. On average in 2013, in-region refinery production in Hawaii was sufficient to supply only 72% of demand (81% when blended with ethanol). Imports and receipts from other PADDs supplied the balance. After the restart of the closed refinery, EIA data indicate that balances are more consistent with historical levels.

Figure 34. Hawaii gasoline supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

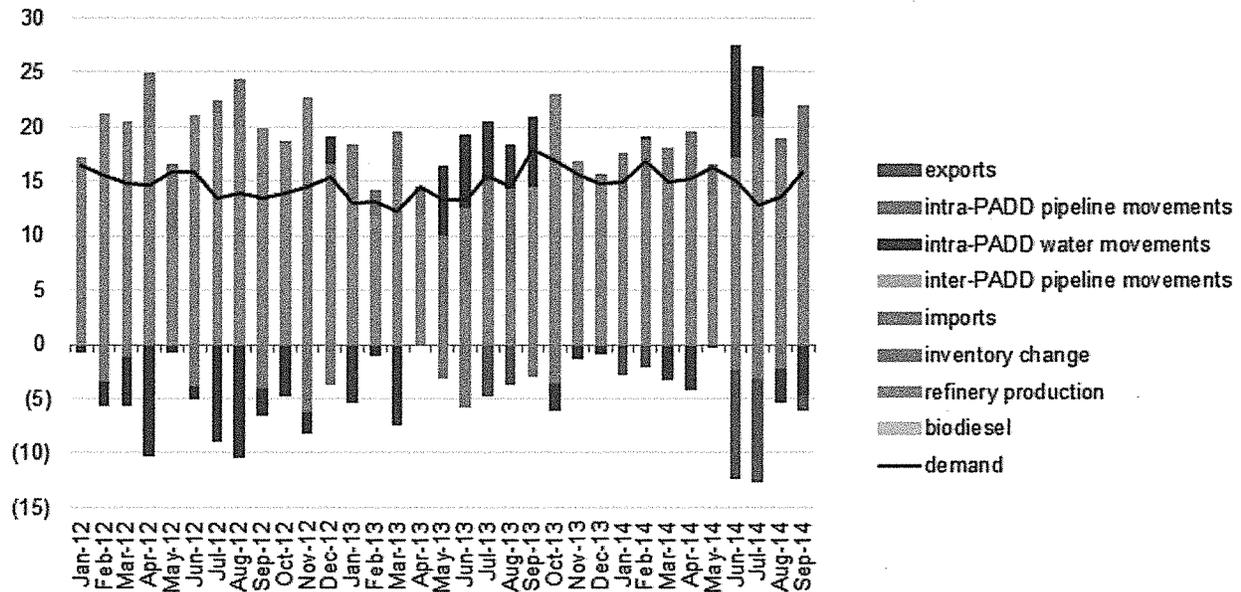
Source: Stillwater Associates analysis of EIA data

Distillate fuel supply/demand

Refineries in Hawaii typically produce more distillate fuel than is consumed locally. In 2012, in-region refineries produced 129% of average distillate demand and in the first nine months of 2014 produced 104% of average demand. However, refineries in Hawaii are configured to produce some diesel fuel to meet power generation demand. The refineries also lack de-sulfurization capacity. This creates an imbalance between the distillate fuels produced in Hawaii, with excess supplies of heavy higher-sulfur diesel fuel and a shortage of lower-sulfur distillate fuels like ULSD. As a result, Hawaii exports or ships to other parts of PADD 5 heavier distillate fuels, and either imports ULSD or receives it from other PADD 5 regional markets. The lack of desulfurization capacity at Hawaiian refineries limits crude slate flexibility and favors crude oil with very low sulfur content.

Figure 35. Hawaii distillate fuel supply/demand balance

thousand barrels per day



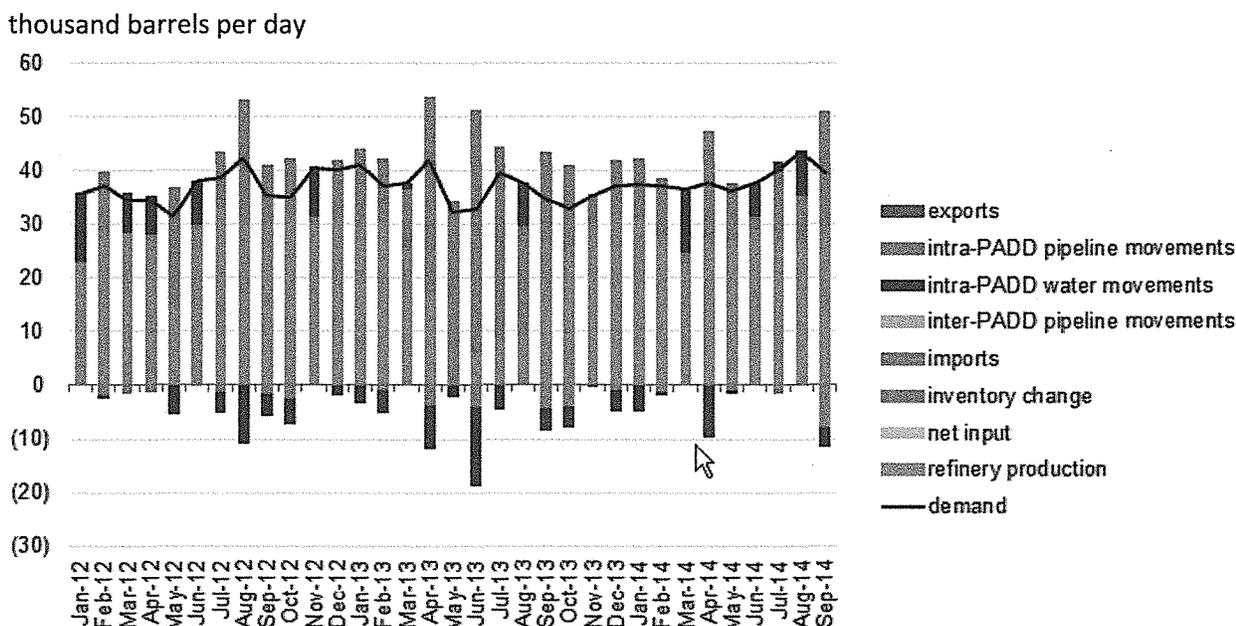
Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Jet fuel supply/demand

Hawaii consumes more jet fuel than motor gasoline or diesel fuel. As in-region refineries cannot produce sufficient quantities of jet fuel to meet demand, Hawaii imports substantial volumes of jet fuel. In 2013, Hawaii imported 19,700 b/d of jet fuel (54% of demand) and in 2012 the state imported jet fuel to meet 21% of demand. Jet fuel is occasionally transferred to Hawaii from other regions of PADD 5.

Figure 36. Hawaii jet fuel supply/demand balance



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Renewable fuels and biofuels supply/demand

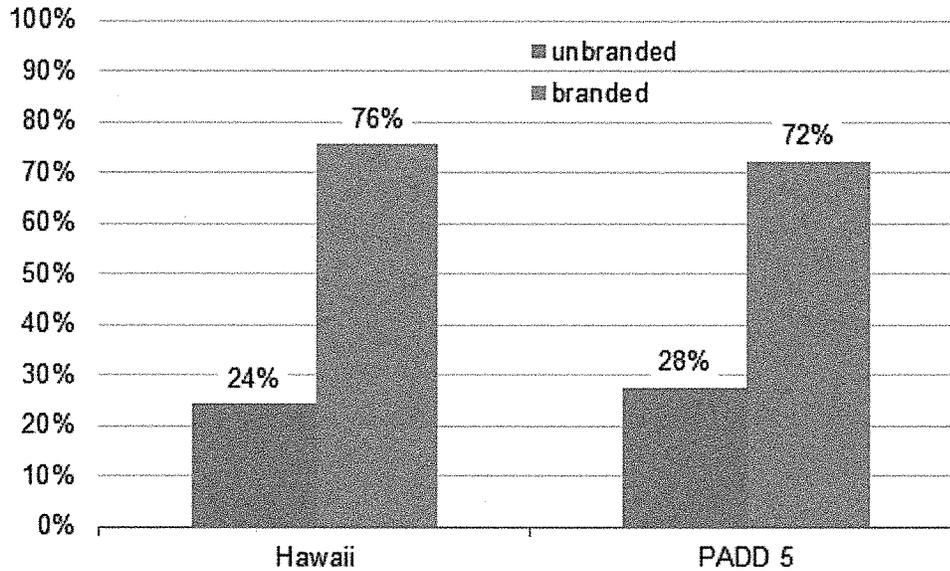
Transportation fuels sold in Hawaii must comply with the federal Renewable Fuels Standard (RFS) that mandates transportation fuels sold in the United States contain a minimum volume of renewable fuels. However, Hawaii recently passed legislation to eliminate the mandate to blend ethanol into gasoline. It is unclear what practical impact the legislation will have because producers will still be required to blend renewable fuel into gasoline and diesel under the federal Renewable Fuel Standard program. Ethanol is currently shipped to Hawaii from the other regional markets in PADD 5 or from Brazil. Ethanol shipped from the West Coast typically originates in the Midwest and moves to the West Coast by rail. Plans to produce ethanol in Hawaii using locally grown feedstocks have been slow to materialize despite state incentives.

Retail market

There are about nine branded and unbranded retailers of transportation fuels in Hawaii, and 76% of retail outlets sell branded fuels. Chevron, 76, Aloha, Tesoro, and Shell are among the major retail brands in Hawaii.

Figure 37. Hawaii retail market structure

percent of retail outlets



Source: Stillwater Associates analysis of Oil Price Information Service (OPIS) data for the week of December 31, 2014

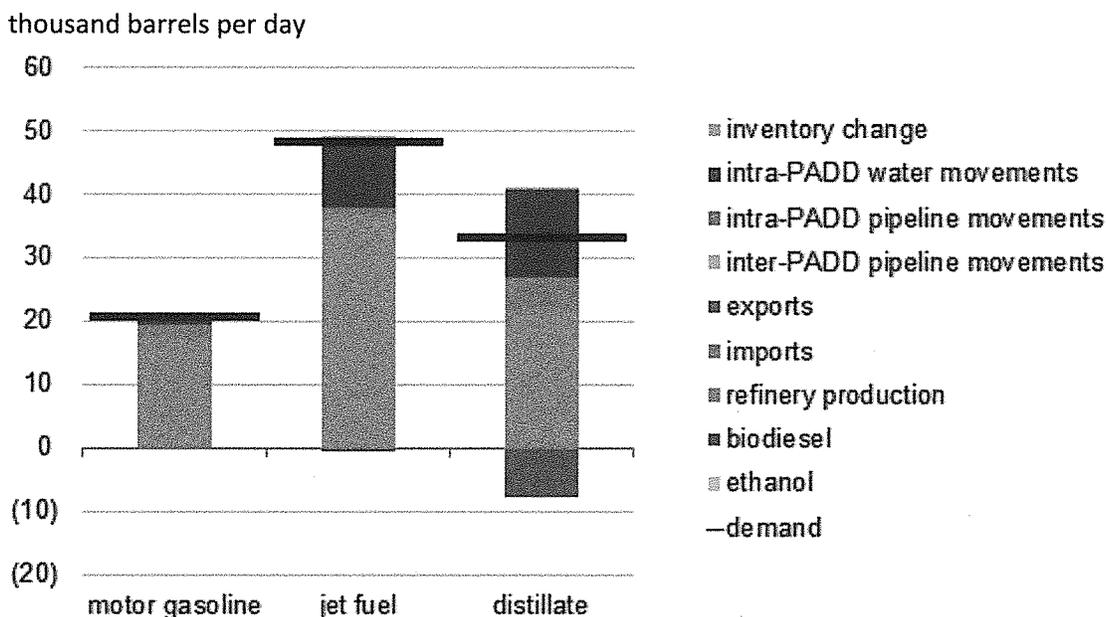
Note: OPIS data are survey rather than census data, and survey data include transactions from large commercial trucking fleet customers using company credit cards and not from cash or credit card sales to the general public.

Alaska

Alaska has the lowest population of all PADD 5 regions, and as a result, Alaska's demand for motor gasoline accounts for a small percentage of total PADD demand. However, the region's remoteness and wide geographic expanse make air travel essential, and Alaska's demand for jet fuel is higher than for motor gasoline. The region's distillate fuel demand is supported by resource extraction activities and oil production in the north. In 2013, Alaska's demand for motor gasoline was 20,800 b/d, less than 2% of total PADD 5 demand; jet fuel demand was 48,400 b/d, 11% of PADD 5 demand; and diesel fuel demand was 33,400 b/d, 7% of PADD 5 demand.

The region is supplied primarily by in-region refinery production, by production from refineries in other regions of PADD 5 that is delivered by marine vessel from Washington and California, and by imports.

Figure 38. Alaska 2013 supply/demand balance



Note: All movements are on a net basis.

Source: Stillwater Associates analysis of EIA data

Supply and logistics

There are five operating refineries in Alaska with combined atmospheric crude distillation unit capacity of 165,200 barrels per calendar day (b/cd). A sixth refinery, Flint Hills Resources North Pole refinery, with 126,535 b/cd crude distillation capacity, was closed in 2014 and is being dismantled and converted to a storage and distribution terminal.

The operating refineries are dispersed across the state. On the North Slope, two of the three major crude oil producers, BP and ConocoPhillips, operate small distillation-only refineries that process Alaska North Slope (ANS) crude oil to produce arctic diesel fuel for production operations. The refineries inject unsold distillation products back into the Trans-Alaska Pipeline System (TAPS). Petro Star also operates

two distillation-only refineries, one in North Pole in central Alaska and the other in Valdez in southern Alaska. Both of these facilities blend unsold distillation products back into TAPS.

Tesoro operates the largest and most complex refinery in Alaska at Kenai. The Tesoro refinery produces a wider range of transportation fuels, including motor gasoline, jet fuel, and diesel fuel. The refinery also produces asphalt.

Table 8. Alaska refineries

Company	Location	Atmospheric Crude Distillation Unit (ACDU) capacity b/cd	Markets served
Tesoro	Kenai	65,000	Anchorage
Petro Star	Valdez	55,000	South Alaska/Islands
Petro Star	North Pole	19,700	Fairbanks/Central Alaska
Conoco Phillips	Prudhoe Bay	15,000	Conoco Phillips Production Operations
BP	Prudhoe Bay	10,500	BP Production Operations

Source: Stillwater Associates analysis of EIA data

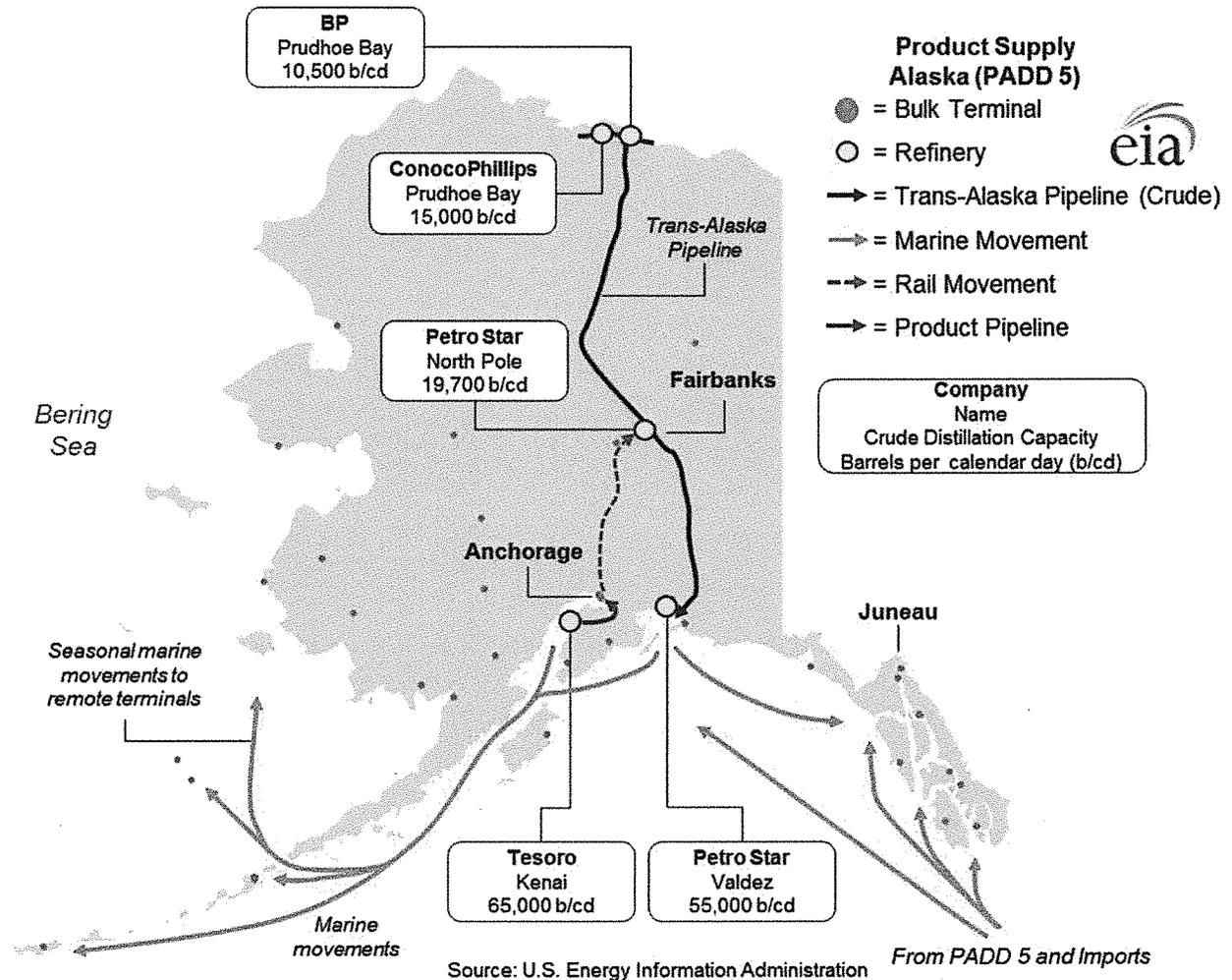
On an annual average basis, the refineries in Alaska supply 83% of motor gasoline demand, 76% of jet fuel demand, and 66% of diesel fuel demand. However, Alaska's seasonal weather patterns result in seasonal differences in consumption. Supply/demand balances and supply patterns vary across the year. Refinery supply is supplemented with receipts from other PADD 5 regions and imports. Product is regularly supplied to southeastern Alaska by marine vessel from Washington and California. Alaska also exports a small amount of fuel to Canada and Asia.

Shipment of product within Alaska is by pipeline between Kenai and Anchorage, by rail between Anchorage and Fairbanks, and by marine vessel. The Anchorage-to-Fairbanks rail line and the pipeline to Anchorage are critical to the supply chain.

There are 42 small storage/distribution terminals outside the Anchorage area that serve isolated areas. Deliveries to some locations are seasonal, occurring only during the summer and fall when barge movements are possible. In Southeast Alaska, where there are few roads, fuels are supplied by barge from the U.S. West Coast and Canada.

Jet fuel is delivered to the Ted Stevens International Airport via both pipeline and trucks from Anchorage-area terminals.

Figure 39. Alaska refineries and petroleum product flows



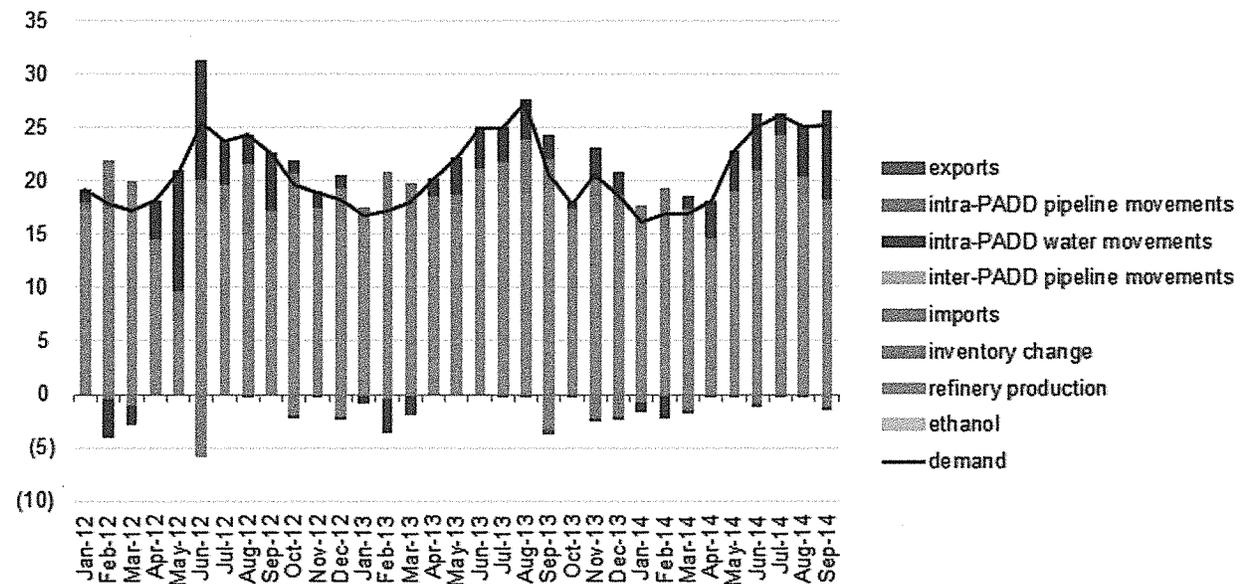
Motor gasoline supply/demand

Motor gasoline demand in Alaska is highly seasonal. Demand in the peak summer months is significantly higher than in the winter months. In the winter months, in-region refinery production of gasoline is almost sufficient to meet demand; during the summer, a combination of imports and marine deliveries from other PADD 5 regions supplements in-region refinery production. In 2013, Alaska motor gasoline demand averaged 20,800 b/d. In January 2013, demand was about 16,800 b/d and in July demand was 25,000 b/d.

Alaska does not require the blending of ethanol with motor gasoline so ethanol does not represent the typical 9%–10% of motor gasoline as it does in other regions of PADD 5.

Figure 40. Alaska motor gasoline supply/demand balance

thousand barrels per day



Note: All movements are on a net basis.

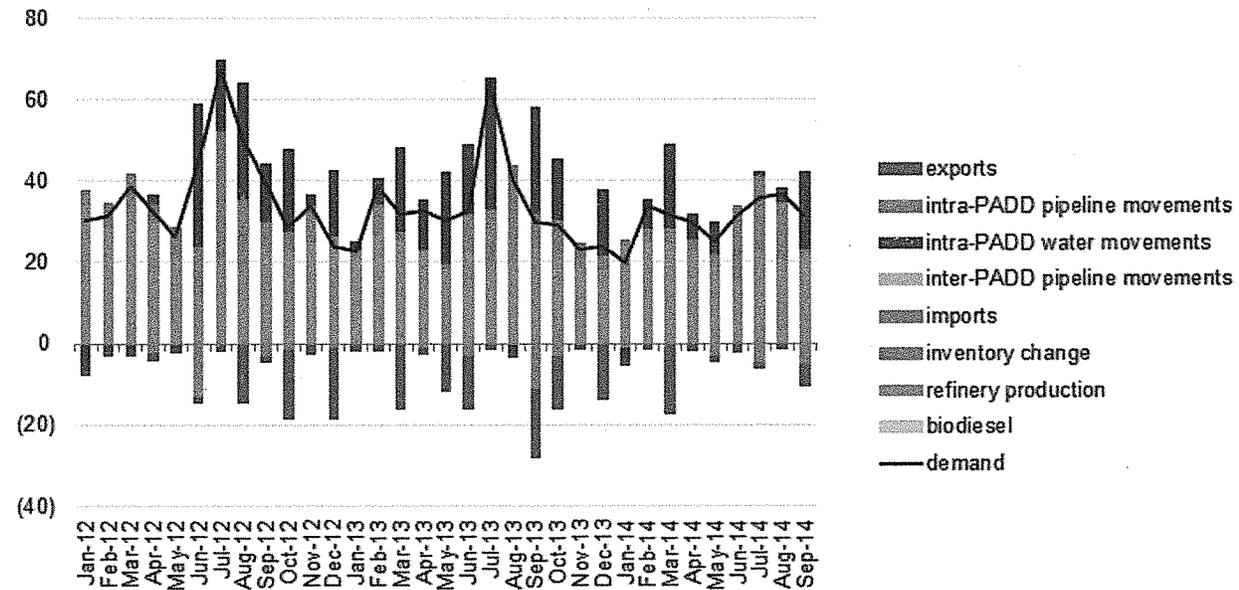
Source: Stillwater Associates analysis of EIA data

Distillate fuel supply/demand

Alaskan distillate demand, 33,400 b/d on average in 2013, is supplied mostly by in-region refinery production (66%), imports (15%), and marine movements from other regions (41%). Some of the refineries in Alaska’s North Slope produce off-road diesel fuels for use in oil and natural gas exploration and production activities. Diesel is also exported from Alaska to Canada and Asia.

Figure 41. Alaska distillate fuel supply/demand balance

thousand barrels per day

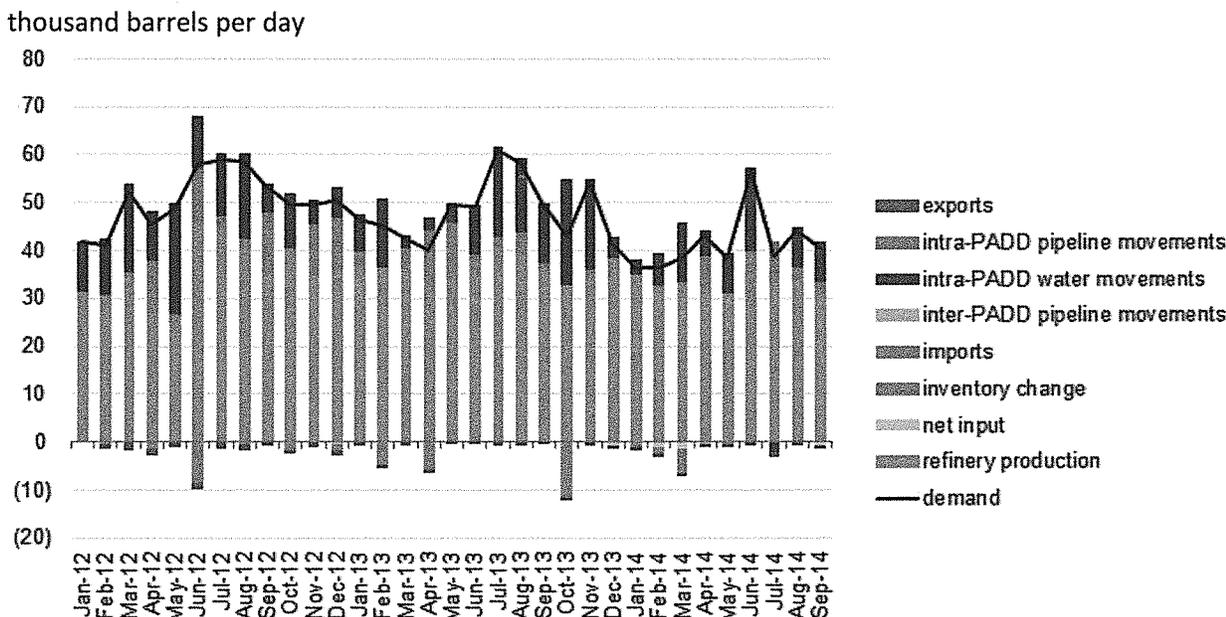


Note: All movements are on a net basis.
 Source: Stillwater Associates analysis of EIA data

Jet fuel supply/demand

Jet fuel is a critical transportation fuel in Alaska. With vast distances to cover across rugged terrain, aviation is often the only way to access many parts of the state. Alaska’s jet fuel consumption of 48,400 b/d on average in 2013 accounts for 11% of PADD 5 jet fuel demand. Jet fuel demand is typically higher in summer months than in winter. In-region refineries produced jet fuel sufficient to supply 76% of average demand in 2013. Imports of 1,500 b/d and receipts of jet fuel from other PADD 5 regions, Washington and California, supplied the balance.

Figure 42. Alaska jet fuel supply/demand balance



Note: All movements are on a net basis.
 Source: Stillwater Associates analysis of EIA data

Renewable fuels and biofuels supply/demand

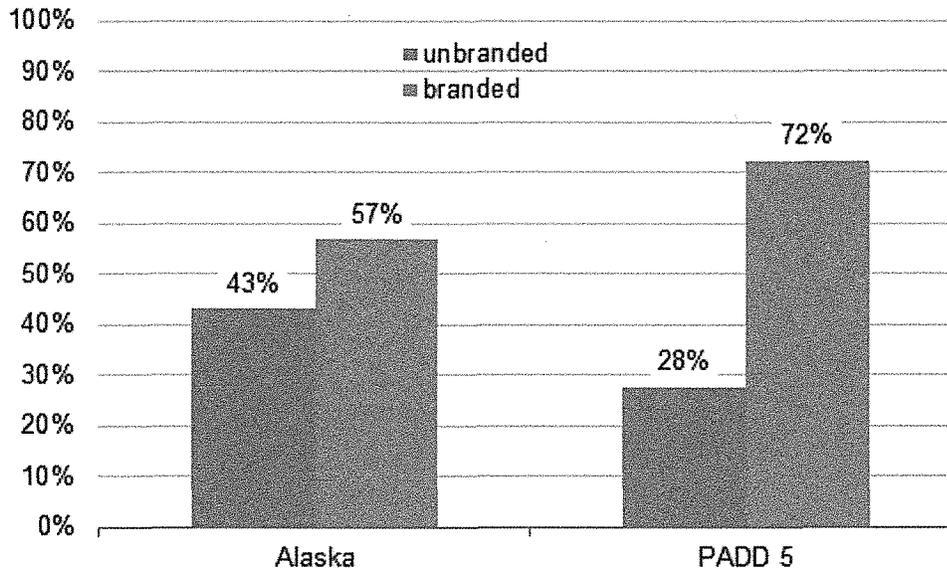
There is minimal biofuels demand in Alaska. There is no requirement to blend ethanol into motor gasoline. EIA data indicate that there is one biodiesel production facility in the state as of April 2015.

Retail market

There are 9 branded and unbranded retailers with approximately 165 retail outlets in Alaska. Most of the retail locations (57%) are branded. Major retail brands include Holiday, Tesoro, Chevron, and Shell.

Figure 43. Alaska retail market structure

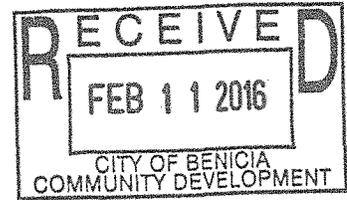
percent of retail outlets



Source: Stillwater Associates analysis of Oil Price Information Service (OPIS) data for the week of December 31, 2014

Note: OPIS data are survey rather than census data, and survey data include transactions from large commercial trucking fleet customers using company credit cards and not from cash or credit card sales to the general public.

Benicia Planning Commission
Valero CBR Project
Public Comment, Janet S Johnson
2/10/2106



Good evening, Commissioners. Thank you for continuing this hearing yet another night and for allowing the public such a generous amount of time to comment. I'm here representing the Sunflower Alliance and the Richmond Progressive Alliance.

I live in Richmond, three miles from the Chevron refinery. I am retired from the skilled trades, and I am not unfamiliar with refineries and refinery culture: My father-in-law went to work for Standard Oil out of college and was a safety engineer at Chevron until his retirement; and a few years ago I worked as a contract worker at Chevron Research. I have the utmost respect and admiration for refinery workers. They have an enviable esprit de corps not unlike that of the military or first responders. They've got to have one another's backs, because the work they do is incredibly dangerous.

As was shown by the findings of the Chemical Safety Board in the August 6, 2012 explosion and fire at Chevron,¹ it is not a lack of safety consciousness on the part of refinery workers that leads to accidents. In that incident, it was the decision on the part of Chevron management to defer maintenance that led to sulfidation corrosion of a carbon steel pipe in the crude distillation tower. Moreover, the subsequent explosion and fire occurred as a result of a management decision to not shut down the unit after the leaky pipe was first discovered. The 19 refinery workers on the scene were incredibly lucky to escape with their lives.

¹ Animation of Fire at Chevron's Richmond Refinery, August 6, 2012:
<https://www.youtube.com/watch?v=QiILbGbk8Qk>

I bring this up merely to point out that it's important to keep ones eyes wide open when dealing with the oil industry. When the Valero representative last night spoke about the need for secrecy about proprietary information as to crude shipments and crude stocks, the single reason he offered was the intense competition in the industry. That competitiveness stems from the need to wring maximum profits from their refining business, which as has been pointed out is by far the most profitable segment of the oil industry. But clearly, industry competition can also lead to bad decisions on the part of management such as those I've just mentioned at Chevron.

The cities of Richmond and Benicia differ in many ways, but one thing they have in common is the money and influence their respective refineries bring to their communities. Chevron has a number of media outlets and dispenses its largesse in a city badly in need of resources. When they donate to local nonprofits, they are able to publicize how much they love Richmond. More importantly, however, they buy silence about the health effects of their toxic emissions from the staff of these nonprofits, whose leaders are important community figures.

For years, Chevron maintained a desk in the Richmond City Manager's office, but that hardly compares to the influence of your consulting attorney Mr. Hogin, whose clients include the Western States Petroleum Association, and whose CV lists handling challenges to a wide variety of development projects, including oil wells and oil refineries.²

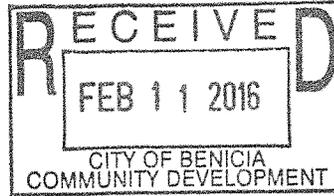
In conclusion, I'd like to quote Jovanka Beckles, one of the three Richmond City Council members who defeated \$3 million of Chevron money in the last election. She recently wrote in another context that the best opportunities for change—and parenthetically, if generations to come are going to have a habitable world to live in, we

² <http://www.wss-law.com/index.php?pageID=attorneys-info&aID=12>

must transition from a fossil-fuel based economy—the best opportunities for change are frequently at the local level, and they ripple outward to bring changes to other cities, states and eventually the country. “We’re in this together,” she said, “and we have to think outside the box.” End quote.

Your decision will be based upon your own reading of the FEIR, and the preponderance of written and oral testimony here points to the conclusion that this document is seriously flawed. Please vote to reject it. Thank you for your time.

1/9/16
Rich McChesney
North Coast General Manager
Performance Mechanical, Inc.

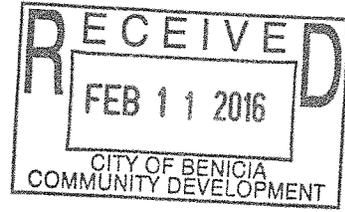


I am speaking in favor of the Crude by Rail project. My comments are related to the safety, quality and integrity of Valero.

PMI has been involved in many projects at the Valero refinery since they purchased it in the year 2000. PMI has performed over 1.6 million man-hours on various projects and turn-arounds with the largest being the Flue Gas project. I can tell you first hand that Valero's highest concerns are the safety of its employees, construction workers and the community and in the quality and reliability of the refinery. The VPP (Voluntary Protection Program) accreditation, which teams OSHA, Labor and Valero, is a by-product of the seriousness that Valero takes in their safety program. PMI knows very well it is no easy feat to achieve this and maintain it after receiving VPP status at our shop in Gardena California. When it comes to safety and quality, Valero is second to none. Each time we are fortunate enough to enter the refinery to do work we are utilizing the most skilled union craftsmen to install the best technology and materials available to insure safe and reliable improvements to the refinery. At a previous informational meeting, the Valero management said it best, "You want Valero running this refinery". We at PMI are in agreement. Keeping the refinery viable with projects like "Crude by Rail" enables maintenance and improvements to be planned and executed employing our community and making it safer for our environment. We are excited to be working with Valero on the Crude by Rail project and look forward to its start and successful completion. Please approve this project.

2/11/2016

Pat Toth-Smith
315 west K st.
Benicia, Ca. 94510



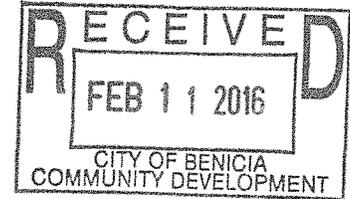
Dear Planning Commission Members,

I need to make a slight correction from my comments on 2/9/2016. When I watched the Ruszel video at the DEIR planning commission meeting on 8/14/2016, I am not sure I saw the cars on the shoulder of I-680, but I know they were backed up the exit lane onto the merge lane of I- 680. The third lane I had spoken about.

I recalled today why I remembered vividly, cars backed up on the shoulder of I-680. A few weeks ago, I was driving to my swim club in Fairfield around 12 noon on a week day through the I- 780/I-680 merge. What I saw as I was coming out of the first merge, and was going into the I-680 Benicia Bridge traffic merge, was about 3 or 4cars parked on the shoulder waiting to get into the Bayshore road exit that was backed up onto the I-680 the merge lane. This was due to a Park Ave train crossing. I thought I should go back and take a picture, but only having my camera phone I decided not to... I did not know I would need this information, so I didn't. I apologize for my slight inaccuracy, but I wanted to have the correct information in the record for this report.

Thank You, Pat Toth-Smith

Planning Commissioners, Members of the Benicia City Council and City Staff
250 East L St.
Benicia, CA
94510



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95688

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95616

Dear Planning Commissioners, Members of the Benicia City Council and City Staff;

I fully support what my fellow Davis residents have already stated orally and submitted in writing, but I would like to highlight a few separate issues. If the Valero project is completed, the amount of crude oil travelling via rail through CA will increase exponentially. Trains will be comprised of approximately 100 cars and extend a mile in length. These will transport tens of thousands of gallons of oil. If only one train arrived in Benicia daily, risk would increase exponentially. Union Pacific could transport, and Valero could receive, even more trains than that. Please be cognizant of the reality that the DOT 111 tanks in current use are not designed to carry toxic substances or those that are flammable: crude oil is both.

Spending half my time living in Vacaville, I want to add its residents' voices to this discussion. In conjunction with Fairfield and Travis Air Force Base, they are building a mixed-use station to be shared by Amtrak, local and regional buses, bicyclists and pedestrians. This will be serviced by the same Capitol Corridor/Union Pacific trains/tracks as the rest of the communities involved in this decision. The crude oil will pass within feet of an elementary school, a park, two special education sites (serving pre-school and junior high-aged students), a baseball diamond and two prisons, including California Medical Facility, which is for inmates who have special medical and/or psychiatric diagnoses. A spill, fire or explosion near these would be catastrophic.

I have studied History at UC Davis for quite some time. As a result, I feel I can offer an additional perspective. Governor Leland Stanford, and his Big Four colleagues, convinced their California constituencies that elected officials needed their expertise to legislate and then to administer those laws effectively, beginning a tradition which continues today.

The Interstate Commercial Commission, begun in 1857, was used to regulate trade. Various US departments, agencies, and laws covering: banking, communication, energy, environment and government oversight all received regulation after disasters and maleficence. Benicia has an opportunity to do something before an unfortunate incident or major crisis occurs. You have a chance to use good judgment and foresight beforehand.

Please deny certification of this EIR and/or deny Valero's permit.

Sincerely,
/s/ Brent Posey
Cell: 530-848-7260
brentposey3@hotmail.com
resident of both Solano and Yolo Counties