Terms of Trade:
Condensate as an Exportable Commodity

Prepared by Minority Staff for Ranking Member Lisa Murkowski
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Introduction

The de facto U.S. prohibition on oil exports is unique in the advanced world. It prevents American companies from accessing global markets, which would create jobs, enhance economic growth, and strengthen our geopolitical posture. Lifting the ban would boost production by opening up crucial outlets for record volumes of American light sweet crude and condensate, for which our domestic refineries are not generally optimized at present. Refineries can be reconfigured, of course, but that entails a variety of monetary and non-monetary costs. As Washington considers lifting the ban more broadly, incremental steps could be taken in the near-term to relieve some of the pressure created by this mismatch.[1]

Since the 1970s, the Commerce Department has repeatedly updated its approach to exporting energy products, including butane, petroleum coke, specialty naphtha, residual fuel oil, and even crude oil. When unique circumstances have arisen, regulators have acted with reason and flexibility to accommodate changing market dynamics within the spirit and letter of the law. The Commerce Department's decision to authorize exports of processed lease condensate as a petroleum product – just as unfinished oils are allowed for export today – is entirely consistent with federal regulations. These authorizations provide a safety valve by which limited volumes of condensate that have already been processed through a distillation tower may be sold to overseas customers. Open questions remain about the extent to which these company-specific authorizations may be replicated in other situations.

This report demonstrates that many federal agencies routinely distinguish between crude oil and condensate. The Commerce Department, however, does not. It could align its practices with other federal agencies by adopting their approach, further authorizing exports of processed condensate and even updating its regulations to allow all condensate to be exported freely to global markets.

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[1] For a general discussion, see Phillip Brown, et al, "U.S. Crude Oil Export Policy: Background and Considerations," Congressional Research Service (R43442). See also Sen. Lisa Murkowski, *A Signal to the World* (January 7, 2014): http://1.usa.gov/1eiQ1es. For further details, also see *A Ban for One: The Outdated Prohibition on U.S. Oil Exports in Global Context* (June 26, 2014): http://1.usa.gov/1iNfofu; *Crude Pro Quo: The Use of Oil Exchanges to Increase Efficiency* (May 22 ,2014): http://1.usa.gov/1nhuUT1; *License to Trade: Commerce Department Authority to Allow Condensate Exports* (April 2, 2014): http://1.usa.gov/QDF1Tx; and *Past is Precedent: Executive Power to Authorize Crude Oil Exports* (March 3, 2014): http://1.usa.gov/1fC8fMJ.

Offshore Energy-Related Agencies

The Bureau of Safety and Environmental Enforcement (BSEE) and the Bureau of Ocean Energy Management (BOEM) are the two federal agencies within the Interior Department that oversee offshore hydrocarbon production in the United States. These agencies distinguish between condensate and crude oil in data collection on production, environmental reviews, and resource estimates.

BSEE keeps track of condensate production data. For example, according to a query of BSEE data records, 503 leases produced at least one barrel of condensate in January 2014. The BSEE database contains tens of thousands of data points on condensate production from offshore leases in the U.S.[2]

BOEM is tasked with publishing environmental impact statements for lease sales in the Outer Continental Shelf (OCS). These assessments routinely differentiate between crude oil, condensate, and gas. For example, an entire series of draft assessments of lease sales in the Gulf of Mexico published in the 2011-2013 period includes the following language:

> "In addition to oil, natural gas may also be explored for or produced in the GOM [Gulf of Mexico]. Wells and sidetracks (smaller wells drilled as auxiliaries off main wells) may produce a mixture of both oil and natural gas. ***Condensate is a liquid hydrocarbon phase that generally occurs in association with natural gas***."[3] [emphasis added]

The Energy Policy Act of 2005 mandates that the Interior Department publish an estimate of offshore oil and gas resources off the coast of certain states every two years. The Interior Department has submitted four biennial state-level reports. Each one has included the following language:

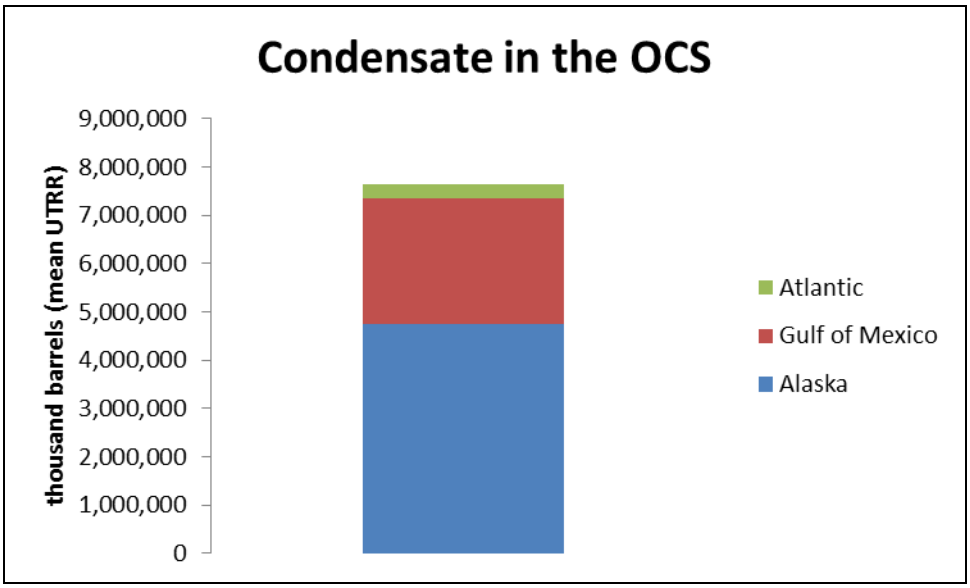
> "The petroleum commodities assessed in this inventory are crude oil, natural gas liquids (condensate), and natural gas that exist in conventional reservoirs and are producible through conventional recovery techniques. Crude oil exists in a liquid state in the subsurface and at the surface; it may be described on the basis of its American Petroleum Industry (API) gravity as "light" (i.e., approximately 20° to 50° API) or "heavy" (i.e., generally less than 20° API). ***Condensate is a very high-gravity (i.e., generally greater than 50° API) liquid***; it may exist in a dissolved gaseous

[2] The database may be accessed here: http://www.data.bsee.gov/homepg/data_center/production/production/master.asp.

[3] For example, see *Gulf of Mexico OCS Oil and Gas Lease Sales: 2012-2017*, BOEM 2012-019: http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/BOEM-2012-019_v1.aspx. See also *Gulf of Mexico OCS Oil and Gas Lease Sales: 2014 and 2016*, BOEM 2013-0116: http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/NEPA/BOEM2013-0116v1_pdf.aspx.

state in the subsurface but liquefy at the surface…***Crude oil and condensate are reported jointly as oil***."[4] [emphasis added]

The Interior Department also publishes a biennial resource assessment for the total OCS. These assessments include technically recoverable resources, which are separately assessed as crude, gas, and condensate.[5] This graph illustrates the mean ultimately technically recoverable condensate resources by OCS region:



Source: BOEM

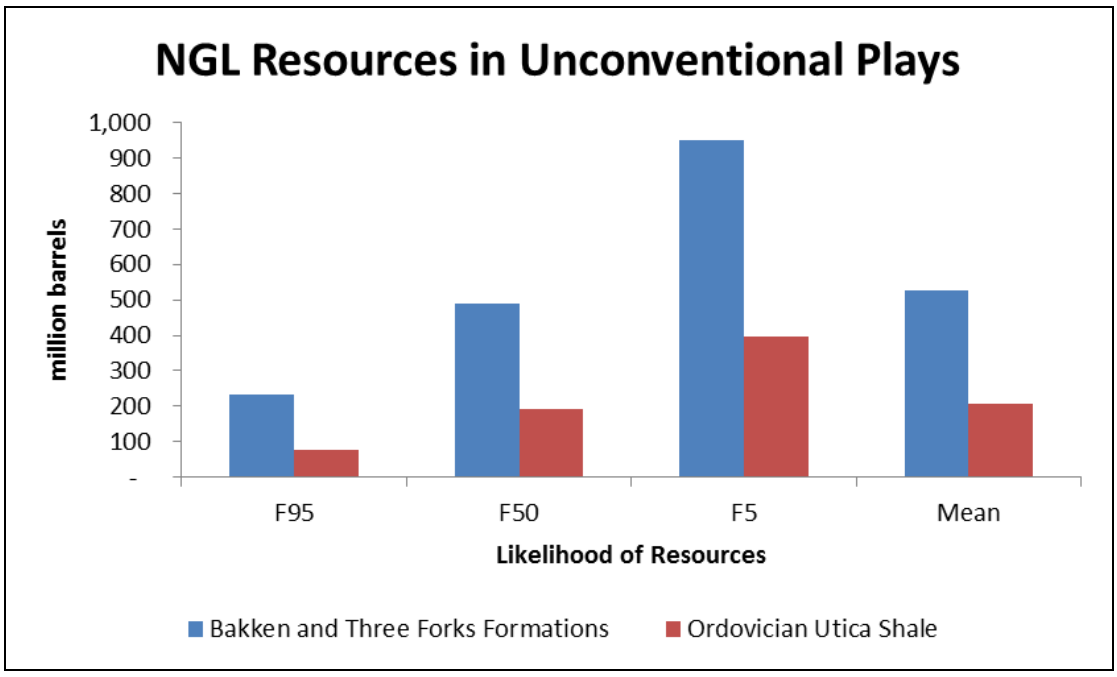
[4] See the series *Estimates of Natural Gas and Oil Reserves, Reserves Growth, and Undiscovered Resources in Federal and State Waters off the Coasts of Texas, Louisiana, Mississippi and Alabama*, prepared for the U.S. Congress. The fourth biennial report was issued in June 2014 but is not currently available on the Internet. The third biennial report, published in 2011, is available here: http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Resource_Evaluation/Resource_Assessment/2011-BOEM-EPActSection965cFianlRepor12-30-11.pdf. The second biennial report, published in 2009, is available here: http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Resource_Evaluation/Resource_Assessment/2009%20EPActSection-965c-ReportFinal.pdf. The first biennial report is available here: http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Resource_Evaluation/Resource_Assessment/2005EPActSection965cReportFinal.pdf.

[5] See the series *Comprehensive Inventory of OCS Oil and Natural Gas Resources*. The third biennial report, published in 2011, is available here: http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Resource_Evaluation/Resource_Assessment/2011-BOEM-EPActSection965cFianlRepor12-30-11.pdf. The second biennial report, published in 2009, is available here: http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Resource_Evaluation/Resource_Assessment/2009%20EPActSection-965c-ReportFinal.pdf. The first biennial report, published in 2006, is available here: http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Resource_Evaluation/Resource_Assessment/2006-FinalInventoryReportDeliveredToCongress.pdf.

Onshore Energy-Related Agencies

A variety of agencies – the U.S. Geological Survey (USGS), the Office of Natural Resources Revenue (ONRR), the Bureau of Indian Affairs (BIA), and the Bureau of Land Management (BLM) – govern onshore production from federal lands in some form. These also differentiate between crude oil and condensate in assessing resources, collecting revenue, and tracking production.

USGS performs resource assessments across the country. Its experts produce separate estimates for oil, gas, and natural gas liquids (NGLs). Condensate is included in this latter category, not as oil. The graph below illustrates resource assessments for the Bakken and Three Forks formations in North Dakota, South Dakota, and Montana, and the Utica shale in Ohio, West Virginia, Pennsylvania, and New York.[6] The NGL resources include condensate:



Source: USGS

BLM directs lease sales. In a 1998 proposed rule, BLM defined condensate as follows:

> "***Condensate means those natural gas liquids*** recovered in production equipment or pipelines that remain in a liquid state at atmospheric pressure and temperature, and consist primarily of pentanes and heavier hydrocarbons."[7] [emphasis added]

BLM employed a similar definition in 1989:

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[6] See Table 2 in *Assessment of Undiscovered Oil Resources in the Bakken and Three Forks Formations, Williston Basin Province, Montana, North Dakota, and South Dakota, 2013*: http://pubs.usgs.gov/fs/2013/3013/fs2013-3013.pdf. See also Table 2 in *Assessment of Undiscovered Oil and Gas Resources of the Ordovician Utica Shale of the Appalachian Basin Province, 2012*: http://pubs.usgs.gov/fs/2012/3116/FS12-3116.pdf.

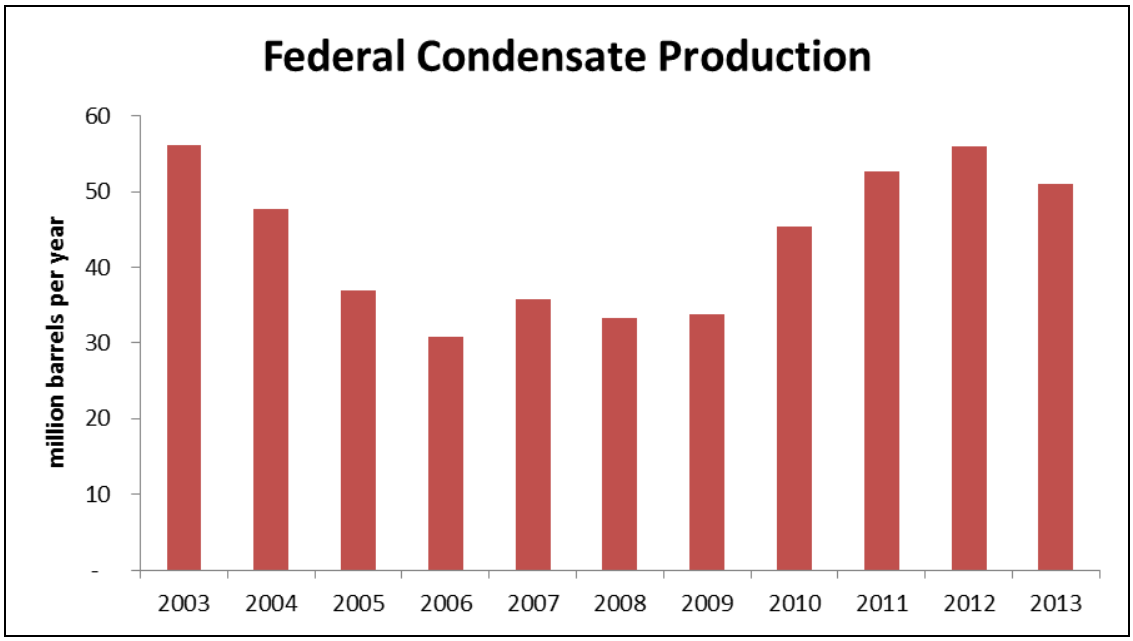
[7] 63 FR 66840.

> "***Condensate means those natural gas liquids*** recovered in lease separators, dehydrators, or other production equipment and remaining in a liquid state at atmospheric pressure and temperature, consisting primarily of pentanes and heavier hydrocarbons."[8] [emphasis added]

ONRR collects crude oil and condensate information separately for the purposes of assessing royalties. In a recent proposed rule from June 2014 published in the Federal Register, ONRR defined condensate as follows:

> "***Condensate means liquid hydrocarbons (generally exceeding 40 degrees of API gravity)*** recovered at the surface without resorting to processing. Condensate is the mixture of liquid hydrocarbons that results from condensation of petroleum hydrocarbons existing initially in a gaseous phase in an underground reservoir."[9]

BIA, which manages leases on Indian lands, used this same definition of condensate in its own proposed rule published in 2013.[10] This chart reflects annual volume data published by ONRR and includes production from all federal onshore and offshore lands, including American Indian territory:



Source: ONRR

[8] 54 FR 8056.
[9] 79 FR 35102.
[10] 78 FR 53083.

Conclusion

Multiple agencies of the federal government – including those that deal closely with hydrocarbon production– view crude oil and condensate as distinct kinds of petroleum, typically as components of a larger category (e.g., liquid hydrocarbons, hydrocarbon liquid, etc.). Condensate is also often defined as a natural gas liquid, a curious distinction given that other natural gas liquids (e.g., propane, natural gasoline, etc.) may be freely exported. While allowing the export of processed condensate is consistent with existing rules, the Commerce Department could further clarify matters and bring its regulatory structure into greater alignment by allowing for exports of all condensate. Doing so would provide certainty to international and domestic markets, and serve as a further step to put the nation on a path towards a modernized energy trade.