

EXECUTIVE SUMMARY

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SHALE GAS AND TIGHT OIL

The shale revolution quietly began over a decade ago as high natural gas prices encouraged entrepreneurs in the upstream oil and gas sector to experiment with new techniques to extract hydrocarbons from resources long known to be trapped in very tight, ultra-low permeability shale formations. Hydraulic fracturing, a decades old practice using targeted charges to enhance permeability and porosity in oil and gas reservoirs, was combined with horizontal drilling to make production of oil and gas resources in shale formations both technically and commercially feasible. While this practice initially targeted natural gas resources, it also proved to be successful in extracting oil and other liquids from shale; so began the light tight oil revolution.

The year 2010 was a key turning point for tight oil production in the US. Specifically, a soft domestic economy reduced gas demand and rapidly growing domestic gas output rendered gas-directed drilling ventures to be much less profitable than they had been at the peak of gas-directed rig activity just two years prior. As gas prices fell, producers turned to liquids-rich opportunities, largely because oil prices had not dropped as precipitously as gas prices. As a result, US crude output began to rise steadily after four decades of decline from its 1970 peak. The result has been transformative, as increased oil production has not only backed out foreign crude imports, but has also underpinned a surge in American refining.

In this study, Al Troner reviews, analyzes, and tracks the changes that have emerged in US oil and gas over recent years, and surveys the implications of modification, or full abolition, of the decades-long US crude oil export ban. The tight oil plays within the United States including the “big three”—Bakken, Eagle Ford, and Permian—as well as up-and-coming fields—Uinta and SCOOP—and less certain tight oil plays—Utica, Marcellus, Monterrey, and Tuscaloosa Marine—are all analyzed. The impact of the influx of tight oil and condensate has and will continue to have implications for the downstream sector and the domestic energy market and, should the ban on US oil exports be lifted, increased domestic production will have direct global implications, the extent of which are still uncertain, which is why they garner attention in this report. Since changes in US energy policy involve both national politics as well as bureaucracies in at least three separate US departments—Commerce, Energy and, at times, Treasury—progress to end this ban will likely be slow and policy changes may be often unclear. As this paper shows, this in particular has been the case in the Department of Commerce’s June/August rulings. The Bureau of Industry and Security (BIS) confirmation that stabilized and minimally distilled condensate was no longer considered crude oil opened the way for exports of US field condensate. However, while company applications were approved to Enterprise and Pioneer, nearly two dozen others remain

pending, as their requests have been “held without action,” a bureaucratic procedure that allows an indefinite pause in the review process, reportedly to allow officials to seek additional information to aid decision making. In effect, it put any attempt by any other company to export condensate on indefinite hold, effectively stalling an industry push.

Meanwhile there are many benefits that the US and the global energy market could reap from allowing at least US condensate to flow freely to other markets. To start, it should provide a substantial boost for tight oil development, with a parallel emphasis on separating, segregating, and exporting field condensate, once processed in a manner to make it BIS-compliant. Moreover, it will make a dent in the US trade deficit, increase federal and state tax revenues, and further increase employment, boost infrastructure development, and provide a sustained lift to the field services, construction, and manufacturing sectors. Condensate sales also have the potential to more closely bind US and Asian economic interests, a point that is particularly salient for the Sino-American economic relationship.

In addition, it is argued in this report that significant geopolitical shifts will emerge should there be changes in US export policy. If US exports increase and stabilize with softening global prices, the geopolitical weight of taking policy actions that could be destabilizing to other oil exporters, such as Russia, would be reduced. Even OPEC, while vital to world oil supply, will see its geopolitical heft somewhat diminished. Consumers in the global community will be greatly assured by the emergence of a stable, alternative source of supply to exporters whose political stability has become increasingly questionable. Longer term, the US, along with its North American neighbors Canada and eventually Mexico, which is in the wake of historic energy reforms, could challenge Mideast exporters to capture the future energy

needs of still growing Asia Pacific. Only North America has the size, the geologic potential, the political stability, the capital, and the technology to challenge the Mideast for Asian market supremacy. If successful, this transformation ultimately may well be the story of the 21st century.