



September 13, 2016

TO: Members, Subcommittee on Energy and Power

FROM: Committee Majority Staff

RE: Hearing entitled “The Department of Energy’s Role in Advancing the National, Economic, and Energy Security of the United States”

I. INTRODUCTION

On Thursday, September 15, 2016, at 10:00 a.m. in 2322 Rayburn House Office Building, the Subcommittee on Energy and Power will hold a hearing entitled “The Department of Energy’s Role in Advancing the National, Economic, and Energy Security of the United States.”

II. WITNESSES

- **Ernest J. Moniz**, Secretary, U.S. Department of Energy.

III. BACKGROUND

A. Changed Energy Landscape

The United States’ energy landscape has undergone remarkable changes over the past decade. The energy-scarcity mindset that developed during the 1973-1974 Arab Oil Embargo has given way in recent years to growing natural resource estimates, rising production rates, adequate supplies of energy, and the resulting affordable prices. The United States is now the leading producer of oil and natural gas in the world, while reliance on imports is at a historic low.¹ North America’s energy systems are increasingly interconnected. According to the Department of Energy (DOE), the value of energy supplies traded among the U.S., Canada, and Mexico exceeded \$150 billion annually in recent years.²

As domestic production of oil and gas reaches record levels, prices have fallen dramatically and remained low, with nation-wide social, economic, and energy security

¹ U.S. total petroleum and other liquids production averaged 15 million barrels per day (MMbbl/d) in 2015; U.S. dry natural gas production totaled 25.7 trillion cubic feet (Tcf) in 2015. See, [U.S. Energy Information Administration, United States' Key Energy Statistics and World Rank](#); U.S. net imports of crude oil and petroleum products averaged 4.6MMbbl/d in 2015, a 63% decline from 2005. See, [U.S. Energy Information Administration, U.S. Net Imports of Crude Oil and Petroleum Products](#).

² Testimony of Melanie Kenderdine, Director of Energy Policy and Systems Analysis, U.S. DOE, before the House Committee on Foreign Affairs, June 9, 2016.

implications. Natural gas spot prices in 2015 were at their lowest level since 1999.³ These conditions, combined with more stringent emissions regulations and state and federal renewables policies, have contributed to an evolving electricity generation mix for the country, with further changes to the way we generate, transmit, and distribute electricity underway.⁴ Low natural gas spot prices have also enabled some U.S.-based businesses to gain an export advantage over other parts of the world and led to a number of expansions and additions to the U.S. petrochemical and manufacturing sectors.

The more recent decline in oil prices has also had both positive and negative effects. While consumers benefit from lower gasoline prices, capital-intensive investment in the energy sector has stalled and jobs have been eliminated, with spill-over effects to businesses that serve this sector and state and local governments that benefited from tax revenues. Employment in oil and natural gas production reached a high of 538,000 jobs in October 2014. Since then, oil and natural gas production employment has declined 26 percent, a loss of more than 142,000 jobs through May 2016. However, domestic oil producers have continued to adjust to these market conditions, driven in part by continued advances in siting and drilling technology.⁵

The potential domestic economic and national security benefits derived from increasing energy resources are limited in several ways by aging and inadequate infrastructure. The April 2015 Quadrennial Energy Review (QER) concludes that in key areas, the nation's energy infrastructure has not kept pace with the changed energy landscape. The QER identifies vulnerabilities across energy transmission, storage, and distribution infrastructure that have resulted in unnecessary bottlenecks and price spikes. Among the findings, the report confirms that it has become increasingly more challenging to site, permit, finance, and construct energy infrastructure projects, making it essential to promote more timely permitting decisions. The report contains recommendations to Congress addressing permitting and other matters, many of which have been the subject of past hearings and legislation before the Committee.⁶

³ Natural gas spot prices in 2015 at the Henry Hub in Louisiana, a national benchmark, averaged \$2.61 per million British thermal unit (MMBtu), the lowest annual average level since 1999. Daily prices fell below \$2/MMBtu this year for the first time since 2012. Henry Hub spot prices began the year relatively low and fell throughout 2015. *See, U.S. Energy Information Administration, Today in Energy, January 5, 2016.*

⁴ *See, e.g., Committee Letter to FERC Chairman Norman Bay regarding current and future state of the organized electricity markets*, sent June 10, 2016; *U.S. Energy Information Administration, Today in Energy, July 21, 2016.* , *U.S. Energy Information Administration, Today in Energy, March 23, 2016.*

⁵ The effects of the reduction in drilling and employment in crude oil and natural gas production have been relatively modest, with production levels in May down 6% and 1%, respectively, relative to their level in May 2015. Compared to October 2014, the peak month for employment in the sector, May 2016 crude oil production was 2% lower, while natural gas production was flat. *See, U.S. Energy Information Administration, Today in Energy, August 5, 2016.*

⁶ *See, e.g.,* Committee hearings and votes: “[Title II: 21st Century Workforce](#)” held on April 23, 2015; “[Strategic Petroleum Reserve Discussion Draft and Title IV Energy Efficiency](#),” held on April 30, 2015; [Discussion Drafts Addressing Hydropower Regulatory Modernization and FERC Process Coordination under the Natural Gas Act](#),” held on May 13, 2015; “[Discussion Draft Addressing Energy Reliability and Security](#),” held on May 19, 2015; “[Quadrennial Energy Review and Related Discussion Drafts](#),” held on June 2, 2015; “[H.R. _____, “To modernize energy infrastructure, build a 21st century energy and manufacturing workforce, bolster America’s energy security and diplomacy, promote energy efficiency and government accountability, and for other purposes,](#)” held on July 22, 2015; and “[Markup of H.R. _____, the North American Energy Security and Infrastructure Act of 2015 and H.R. 702,](#)” held on September 16, 2015.

B. Recent Energy Legislation

The 114th Congress has enacted several significant pieces of legislation to modernize the nation's energy policy. The Budget Act of 2015 (P.L. 114-74) and the Fixing America's Surface Transportation Act (FAST Act) (P.L. 114-94) each contains provisions to modernize the Strategic Petroleum Reserve (SPR) and improve its emergency response capability. The FAST Act also contains provisions enabling DOE to improve emergency preparedness for energy supply disruptions, protect critical electric infrastructure security, and prioritize energy security in federal decision making. Finally, the Consolidated Appropriations Act of 2015 (P.L. 113-235) lifted the 1970's-era export restrictions on crude oil. The Department of Energy and the Federal Energy Regulatory Commission (FERC) are currently in the process of implementing many of these new requirements.

Congress is currently considering legislation to address a wide range of energy issues. The House and Senate have appointed conferees to resolve the differences in S. 2012, the Energy Policy and Modernization Act. Both the House and Senate-passed versions of S. 2012 contain language addressing the siting and permitting process for pipelines and hydroelectric generation, electric grid cybersecurity, liquefied natural gas export permits, water conservation and efficiency measures, and energy workforce development initiatives. Many of these provisions require activities that fall under DOE's jurisdiction.

1. Bipartisan Budget Act of 2015

The Bipartisan Budget Act of 2015 became law on November 2, 2015. Section 402 of the Act requires the Secretary of Energy to complete a long-term strategic review of the SPR within 180 days after enactment of the Act and develop and submit to Congress a proposed action plan, including a proposed implementation schedule.

DOE's Long-Term Strategic Review was released to the public on September 7, 2016.⁷ The report contains new findings raising serious questions about the SPR's ability to provide economic and national security to the nation. According to DOE's findings, the SPR may only be able to effectively distribute about half as much oil as it is designed to supply in emergency situations.⁸ DOE has identified two specific projects, *Life Extension II* and *Marine Terminal Distribution Capability Enhancements*, to modernize the SPR. Based on preliminary cost estimates, DOE anticipates that up to \$800 million in total project costs could be required for life extension and an additional \$1.2 billion to support work on the marine terminal project.

Section 403 of the Act requires that the Secretary of Energy drawdown and sell a total of 58 million barrels of crude oil from the SPR over eight consecutive years, commencing in Fiscal Year (FY) 2018 and continuing through FY 2025.

Section 404 of the Act authorizes the Secretary of Energy to sell up to \$2 billion worth of crude oil between FY 2017 and FY 2020 to fund a modernization program for the SPR. On April

⁷ See, [Long-Term Strategic Review of the U.S. Strategic Petroleum Reserve Report to Congress](#).

⁸ According to DOE's review, the SPR could be more than 2MMbbl below the design drawdown rate of 4.415MMbbl/d in certain supply outages.

5, 2016, the Administration submitted an amendment to its FY 2017 budget request to Congress, requesting the authority to drawdown and sell \$375,400,000 worth of oil pursuant to Section 404. According to the amended request, the proceeds would fund SPR modernization activities, including life extension of SPR infrastructure and marine terminal distribution enhancements.⁹

2. Fixing America's Surface Transportation Act

The FAST Act became law on December 4, 2015. Section 32204 of the Act requires the Secretary of Energy to drawdown and sell a total of 66 million barrels of crude oil from the SPR over three consecutive years, commencing in FY 2023 and continuing through FY 2025.

Section 61001 of the Act requires the Secretary of Energy to develop and adopt procedures to enhance communication and coordination between DOE, Federal partners, State and local government, and the private sector to improve emergency response and recovery.

Section 61002 of the Act resolves a conflicting legal mandate between the Federal Power Act and environmental laws and regulations in order to prevent electric generators from having to choose between complying with an emergency order from DOE or violating an environmental obligation.

Section 61003 of the Act establishes DOE as the lead sector-specific agency for cybersecurity in the energy sector and provides the Secretary of Energy with new authorities to address grid security emergencies. The provisions also facilitate the protection and voluntary sharing of information between the private sector and the Federal government.

Section 61004 of the Act requires the Secretary of Energy to submit a plan to Congress evaluating the feasibility of establishing a Strategic Transformer Reserve for the storage, in strategically-located facilities, of spare large power transformers and emergency mobile substations to temporarily replace critically damaged equipment.

Section 61005 of the Act requires the Secretary of Energy, in collaboration with the Secretary of State, to establish U.S. energy security methods to ensure that energy-related actions that significantly affect the supply, distribution, or use of energy are evaluated with respect to their potential impact on energy security. The provision requires the Secretary of Energy to submit a report to Congress not later than one year after the date of enactment of the Act that includes recommended U.S. energy security valuation methods.

3. Consolidated Appropriations Act of 2016

The Consolidated Appropriations Act of 2016 became law on December 18, 2015. Division O of the Act contains a provision substantially similar to H.R. 702, legislation that passed the House on October 9, 2015, prohibiting the Federal government from imposing restrictions on the export of crude oil. The Act repeals statutory authority to restrict exports that had been in place since 1975.

⁹ See [FY 2017 Budget amendments](#) for the Department of Energy.

C. DOE's Energy Security Responsibilities and Emergency Authorities

DOE was established as a Cabinet agency in 1977 pursuant to the Department of Energy Organization Act. The Act consolidated the core nuclear security and research and development programs and responsibilities of predecessor agencies with various other Federal energy-related agencies and activities into a single department, under the authority of a single Cabinet Secretary, and provided a framework for a comprehensive and balanced national energy plan. According to the Department, "the mission of the Energy Department is to ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions."

While the private sector owns and operates the vast majority of energy infrastructure, and a significant portion of the governing legal, regulatory, and policy development occurs at the state and local levels, DOE exercises jurisdiction over many aspects of the nation's energy systems. DOE also administers a number of emergency authorities relating to energy security.

DOE has a growing responsibility to prepare for and respond to a wide range of emerging threats and hazards that have the potential to impact the nation's energy security. As such, a careful review of DOE's current activities and legal authorities is warranted.

IV. ISSUES

The following issues will be examined at the hearing:

- National, economic, and energy security challenges and opportunities presented by a changing energy landscape;
- Implementation of Bipartisan Budget Act of 2015, Consolidated Appropriations Act of 2015, and Fixing America's Surface Transportation Act (FAST Act);
- As the lead sector-specific agency for cybersecurity in the energy sector, how has DOE been working in a leadership role with the other agencies that handle issues related to cybersecurity; and,
- DOE's energy security responsibilities and emergency authorities, including those relating to energy system planning, physical and cyber-security, emergency response, global supply chains, and international agreements.

V. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Brandon Mooney or Tom Hassenboehler of the Committee staff at (202) 225-2927.