NATIONAL PETROLEUM COUNCIL NEWS

FOR IMMEDIATE RELEASE

ENERGY SECRETARY REQUESTS NATIONAL PETROLEUM COUNCIL ADVICE ON TWO MAJOR TOPICS

WASHINGTON, September 27, 2017—Energy Secretary Rick Perry and Interior Secretary Ryan Zinke addressed the 127th meeting of the National Petroleum Council (NPC) this week in Washington, DC. During his remarks, Secretary Perry requested the advice of the Council on two major topics: to analyze U.S. infrastructure for transporting oil and natural gas; and to define pathways for commercializing carbon capture, utilization, and storage (CCUS).

Secretary Perry noted that current infrastructure is inadequate to handle the rapid changes in the oil and gas industry that are driven by technological advances. "All that energy has to be delivered. And that means that our energy transportation infrastructure must be up to the job. We have to invest more in our infrastructure. I think it's been more than a decade since NPC has done a study of oil and natural gas-related infrastructure: the needs, challenges, and opportunities that are in front of us. Given all that has changed over the last 15 years, I believe we need a new study."

The Secretary's formal request for the study asks for a comparison between the current state of pipelines and other energy transportation assets, and expected needs for transport under varying supply and demand assumptions. It should identify technological advances that can improve safety, reliability, and environmental impacts of the transport system. The study also should explore options to improve infrastructure siting that will make the system more resilient.

Secretary Perry also requested that the NPC conduct a study on carbon capture, utilization, and storage. Deputy Secretary of Energy Dan Brouillette said that substantial progress has been made in CCUS technologies. However, he pointed out that a single oil and gas company injects 26 times more CO2 per day than is handled by the nation's largest and newest carbon capture and storage facility, as an illustration of why this industry is the right group to examine the CCUS issue.

The CCUS study will also examine future energy demands, and identify current barriers to economic deployment of CCUS facilities at scale. It should lay out a road map to an economic framework to advance the development and deployment of CCUS, and identify legal, regulatory, or liability obstacles to commercial CCUS investment.

Perry praised the past work of the NPC, noting in particular that the 2014 and 2016 NPC reports on emergency preparedness were critical to the successful response to Hurricane Harvey earlier this year. NPC Chair Greg Armstrong added, "the importance of the emergency preparedness reports to the Harvey response is a perfect example of why the NPC exists: we are here to share the collective experience of the industry to provide a public benefit."

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In other action, the Council elected Greg L. Armstrong, Chairman and Chief Executive Officer of Plains All American Pipeline LP in Houston, Texas, to serve as Chair of the NPC. J. Larry Nichols, Chairman Emeritus of Devon Energy Corporation in Oklahoma City, was elected to serve as Vice Chair of the Council.

The NPC is a federal advisory committee to the Secretary of Energy. The sole purpose of the Council is to advise, inform, and make recommendations to the Secretary of Energy, at his request, on matters relating to oil and natural gas, and the oil and natural gas industries.

The Council membership is comprised of approximately 200 members, representing all segments of the oil and natural gas industries as well as a broad cross section of non-industry members.

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(Editor's note: Attached are copies of the letters from Secretary Perry requesting the two new studies referred to in this release.)

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The Secretary of Energy
Washington, DC 20585

September 21, 2017

Mr. Greg L. Armstrong
Chair
National Petroleum Council
1625 K Street, NW
Washington, DC 20006

Dear Mr. Armstrong:

Recent hurricanes in the Gulf Coast and Southeastern United States have highlighted the importance of oil and natural gas infrastructure. When operating effectively, it is easy for the Nation to take for granted the critical assets that move energy to support our daily lives. Hurricanes Harvey and Irma reminded us of the importance of the pipelines, barges, railroads, and other components of the energy delivery system, as well as system vulnerabilities.

The U.S. energy landscape has undergone significant changes in the past decade, with dramatic expansion of oil and natural gas supply and the development of resources in areas beyond traditional oil and natural gas producing regions. In recent years, objections to and restrictions on the construction of needed transportation infrastructure have increased, slowing the development of new infrastructure and hindering economic growth. The U.S. energy transportation infrastructure is the envy of the world, but requires continuing upgrades and renewal to ensure an efficient and resilient system.

Abundant oil and natural gas resources, technology innovation, and business ingenuity have positioned the United States to embark on a new era of American leadership and energy dominance that can boost the economy and enhance energy security, all while protecting and likely improving the environment. In order for the Nation to fully capitalize on its abundant oil and natural gas resources, transportation infrastructure (e.g., pipeline, waterway, truck, rail, storage, and related system components) must be expanded, upgraded, and maintained.

I request that the National Petroleum Council undertake a study to analyze the changing dynamics of U.S. oil and natural gas transportation infrastructure. This study should explain the extent of the transportation infrastructure today and the United States' infrastructure needs under varying demand assumptions. The study should include a review of any constraints to growing domestic oil and gas production caused by infrastructure limitations that reduce domestic demand or energy exports. The Council should evaluate technology and policy options for improving infrastructure siting and related permitting processes, which in turn could improve safety, environmental performance, and resilience of the system.

Key questions to be addressed include:

- What are the important changes in future supply and demand patterns, and what transportation infrastructure improvements are required to leverage the regional and national opportunities offered by these changes?
- What advances in technology could improve the U.S. oil and natural gas transportation system, in terms of safety, reliability, efficiency, and environmental performance? In what new technology areas should research be progressed?
- How can State and Federal governments leverage efforts to support U.S. petroleum and natural gas supply and transportation infrastructure capacity improvements?
- Are there regulatory requirements or policies that may be causing unintended consequences on energy system resilience? If so, what solutions can accomplish the regulatory objective more effectively?
- What emerging issues should policy makers be aware of and what actions should be considered to address these issues?

For the purposes of the study, I am designating Deputy Secretary Dan Brouillette to represent me. He will provide the necessary coordination between the Department and the Council, and other government agencies as required. Mark Maddox, Acting Assistant Secretary for the Office of Fossil Energy, will work with the Deputy Secretary to identify government co-chairs for study subcommittees, as required.

Sincerely,

Rick Perry

Rick Perry

The Secretary of Energy
Washington, DC 20585

September 21, 2017

Mr. Greg L. Armstrong
Chair
National Petroleum Council
1625 K Street, NW
Washington, DC 20006

Dear Mr. Armstrong:

As the United States and other nations explore options to promote economic growth and ensure energy security while protecting the environment, one key opportunity is the deployment of carbon capture, utilization, and storage (CCUS) technologies. Integrating technology and deploying CCUS at scale remains a commercial investment challenge. Such would require significant capital investment and major new infrastructure, as well as the cooperation of multiple industries and government institutions. Substantial progress has been made in demonstrating the technical and environmental performance of CCUS technologies in specific settings in the United States and internationally. For example, earlier this year, the United States' first and the world's largest commercial post-combustion carbon capture system at a coal-fired power plant became operational. Nonetheless, a roadmap of remaining technology and project development challenges that can enable the successful economic deployment of large-scale CCUS across a spectrum of industries and fuel types remains elusive.

Oil and natural gas companies, including related support service companies, have extensive core competencies in designing, constructing, and operating large-scale capital-intensive energy and industrial projects, and a proven track record in delivering reliable and affordable fuels and feedstocks to energy consumers. This experience includes some of the world's largest facilities for carbon dioxide capture, processing, and use. The National Petroleum Council (NPC) is well-positioned to provide advice to the Department of Energy on the development and deployment of commercial CCUS technologies.

I request that the National Petroleum Council undertake a study to define potential pathways, including research and development, regulatory, and policy options, for integrating CCUS at scale into the energy and industrial marketplace, with specific emphasis on the petroleum industry. This study should address the entire CCUS value chain from capture through use and/or storage and consider technologies applicable to power generation, industrial processes, and enhanced oil recovery, as well as different fuel types or energy sources such as coal, oil, and natural gas. Factors to consider include—technology options and readiness, market dynamics, cross-industry integration and infrastructure, legal and regulatory issues, policy mandates, economics and financing, environmental footprint, and public acceptance.

Key questions to be addressed include:

- What are the United States' and global future energy demand outlooks and, based on these outlooks, the environmental benefits resulting from the application of CCUS technologies in various end-use sectors?
- What research and development, technology, and infrastructure barriers must be overcome to ensure the economic deployment of CCUS at scale in various end-use sectors?
- How should the success of CCUS at scale be defined?
- What actions can be taken to establish an economic framework that guides public policy and stimulates private-sector investment to advance the development and deployment of CCUS technologies capable of achieving substantive gains in efficiency, economics, and environmental performance?
- What regulatory, legal, liability, or other issues should be addressed to progress commercial CCUS investment and enable the U.S. industry to be the global technology leaders?

The study, while focused on the petroleum industry, should draw on available analyses from a breadth of sources. The National Coal Council (NCC) has issued several important reports that could inform this effort, and potentially be a valuable resource to identify possible study participants. The Department encourages collaboration and information sharing between the NPC and NCC. In addition, international organizations such as the International Energy Agency, the Global Carbon Capture and Storage Institute, and others may also add valuable contributions.

For the purposes of the study, I am designating Deputy Secretary Dan Brouillette to represent me. He will provide the necessary coordination between the Department and the NPC, and other government agencies as required. Mark Maddox, Acting Assistant Secretary for Fossil Energy, will work with the Deputy Secretary to identify leads from the Office of Clean Coal and Carbon Management and the Office of Oil and Natural Gas to serve on the study team.

Sincerely,

Rick Perry

Rick Perry