

Asia-Pacific Energy Regulatory Forum



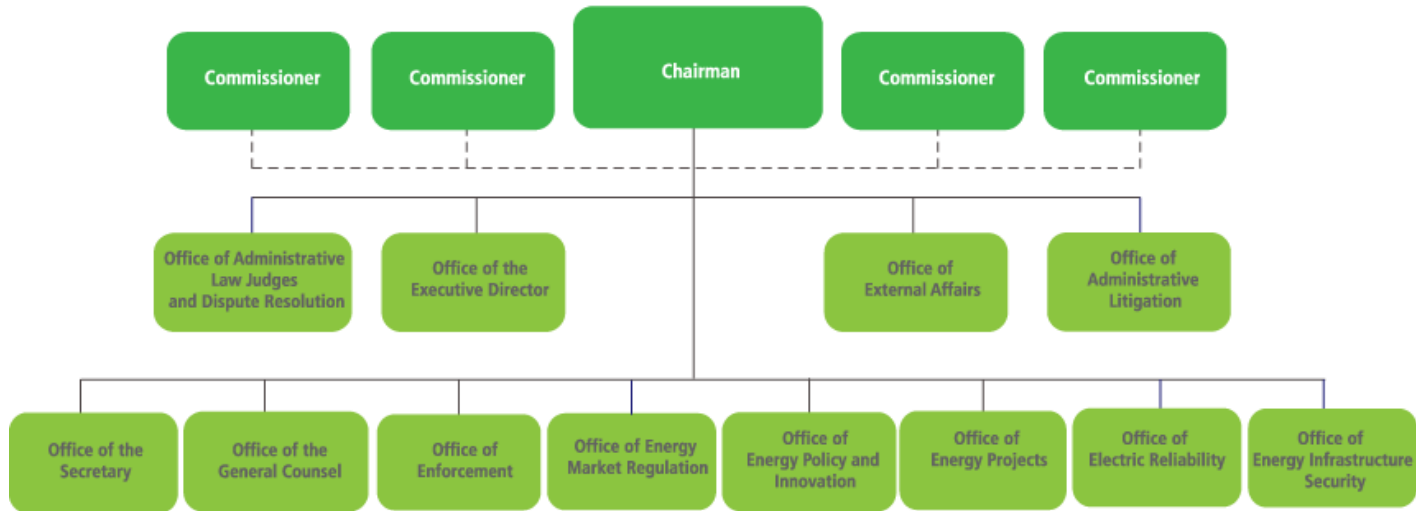
Federal Energy Regulatory Commission Overview

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Overview of FERC: Organization

Federal Energy Regulatory Commission



- ▶ Five Commissioners are appointed to staggered 5-year terms by the U.S. President, and confirmed by the Senate with no more than 3 from one party
- ▶ The President designates one as the Chair, who serves as the administrative head of the agency

Overview of FERC: Responsibilities

- ▶ Oversee the nation's wholesale electric, natural gas, hydroelectric, and oil pipeline industries
- ▶ Ensure rates, terms and conditions of service are just and reasonable and not unduly discriminatory or preferential for
 - Interstate natural gas
 - Interstate oil transportation
 - Wholesale electric sales
- ▶ Approve the siting and abandonment of interstate natural gas pipelines, storage facilities, and certain LNG import and export facilities
- ▶ Maintain the reliability of the grid (transmission, not distribution)



Significant Recent FERC Activities

▶ **Electric sector**

- ▶ Continued refinement of FERC-jurisdictional wholesale market designs in response to state policies
- ▶ Maintaining grid reliability and resilience amidst change
- ▶ Breaking down regulatory barriers to integration of innovative technologies

▶ **Natural gas sector**

- ▶ Review of natural gas pipeline infrastructure applications
- ▶ Review of natural gas export infrastructure development

▶ **Cybersecurity**

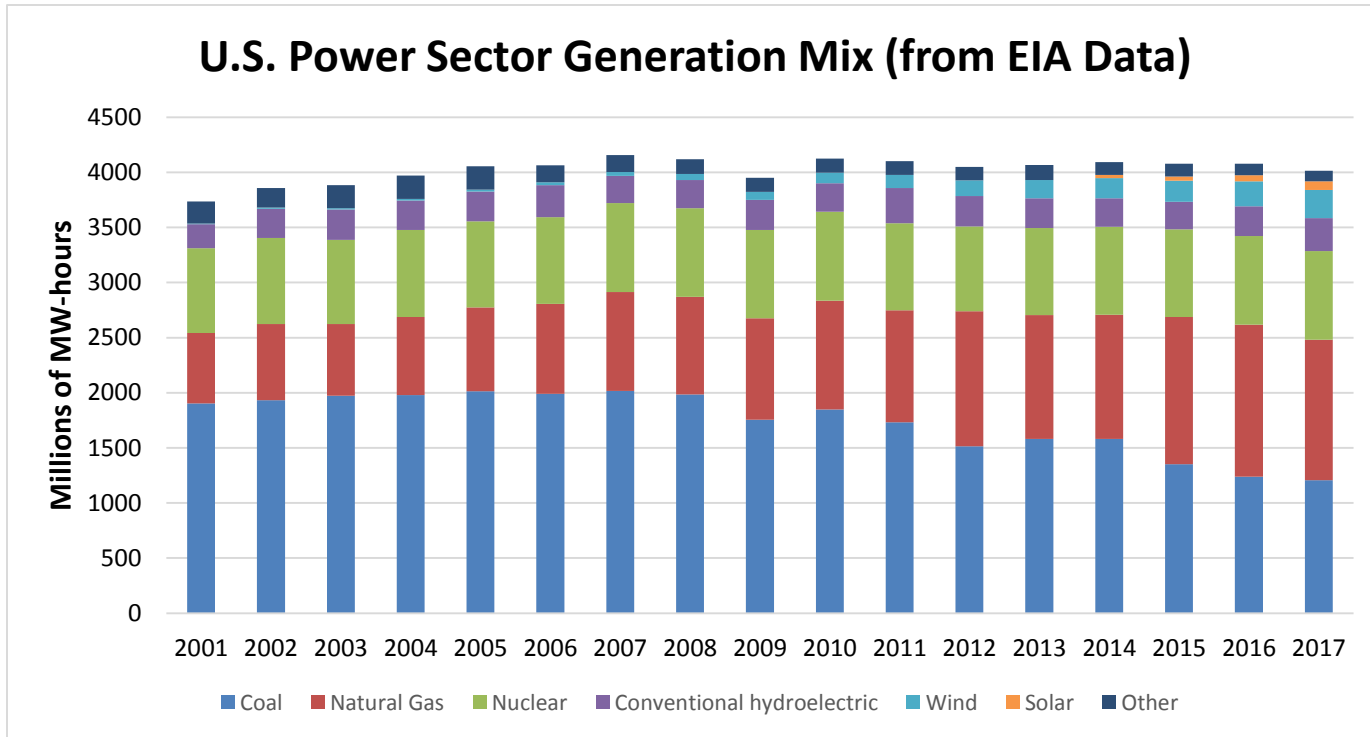


Electric Sector – Refinement of FERC Wholesale Markets

- ▶ **States are increasing efforts to maintain certain baseload generators as well as mandating more renewables**
 - ❑ 29 states have Renewable Portfolio Standards (RPS) that mandate a portion of electricity come from renewable sources. RPS policies collectively apply to 55 percent of total U.S. retail electricity sales
 - ❑ Several states have authorized Zero Emissions Credits (ZECs) to support financially-challenged nuclear facilities
- ▶ **Some market participants allege that those out-of-market subsidies distort FERC-jurisdictional markets**
- ▶ **FERC response**
 - ❑ Several contested proceedings examining the question of electric market design in light of state out-of-market subsidies
 - ❑ Generic proceedings to study energy price formation



Electric Sector – Maintaining Grid Reliability and Resilience



- U.S. has seen significant shifts in its generation mix driven by low-cost natural gas and renewable generation
- FERC has an ongoing generic proceeding (AD18-7) evaluating grid reliability and resilience amidst that changing fuel mix



Electric Sector – Breaking Down Regulatory Barriers to Innovation

- ▶ FERC has several generic and contested proceedings examining compensation and planning for enabling transmission infrastructure
- ▶ FERC has undertaken a series of initiatives to facilitate integration of innovative technologies
 - ❑ Electric storage (Order No. 841)
 - ❑ Distributed energy resources (RM16-23; RM18-9)
 - ❑ Renewables integration proceedings related to primary frequency response (Order No. 842) and provision of reactive power (Order No. 827)



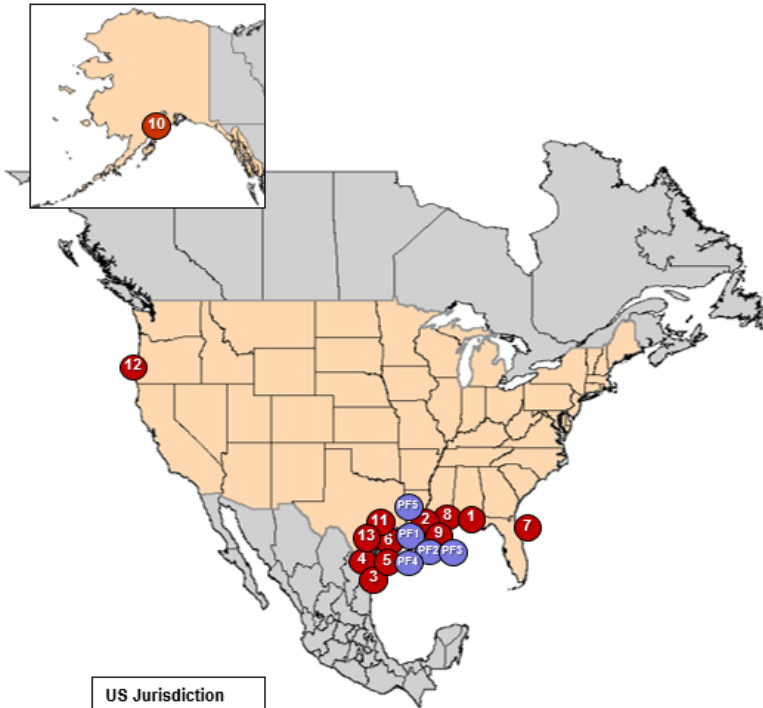
Natural Gas Sector – Pipeline Infrastructure



- ▶ Over 29,400 (MMcf/d) of natural gas pipeline capacity has been added since August 2017
- ▶ The Commission in May 2018 initiated a review of its 20-year-old Certificate Policy Statement governing how it reviews new natural gas pipeline applications

Natural Gas – Export Terminals

North American LNG Export Terminals *Proposed*



PROPOSED TO FERC

Pending Applications:

1. Pascagoula, MS: 1.5 Bcf/d (Gulf LNG Liquefaction) (CP15-521)
2. Cameron Parish, LA: 1.41 Bcf/d (Venture Global Calcasieu Pass) (CP15-550)
3. Brownsville, TX: 0.55 Bcf/d (Texas LNG Brownsville) (CP16-116)
4. Brownsville, TX: 3.6 Bcf/d (Rio Grande LNG – NextDecade) (CP16-454)
5. Brownsville, TX: 0.9 Bcf/d (Annova LNG Brownsville) (CP16-480)
6. Port Arthur, TX: 1.86 Bcf/d (Port Arthur LNG) (CP17-20)
7. Jacksonville, FL: 0.132 Bcf/d (Eagle LNG Partners) (CP17-41)
8. Plaquemines Parish, LA: 3.40 Bcf/d (Venture Global LNG) (CP17-66)
9. Calcasieu Parish, LA: 4.0 Bcf/d (Driftwood LNG) (CP17-117)
10. Nikiski, AK: 2.63 Bcf/d (Alaska Gasline) (CP17-178)
11. Freeport, TX: 0.72 Bcf/d (Freeport LNG Dev) (CP17-470)
12. Coos Bay, OR: 1.08 Bcf/d (Jordan Cove) (CP17-494)
13. Corpus Christi, TX: 1.86 Bcf/d (Cheniere – Corpus Christi LNG) (CP18-512)

Projects in Pre-filing:

- PF1. Cameron Parish, LA: 1.18 Bcf/d (Commonwealth, LNG) (PF17-8)
- PF2. LaFourche Parish, LA: 0.65 Bcf/d (Port Fourchon LNG) (PF17-9)
- PF3. Sabine Pass, LA: NA Bcf/d (Sabine Pass Liquefaction) (PF18-3)
- PF4. Galveston Bay, TX: 1.2 Bcf/d (Galveston Bay LNG) (PF18-7)
- PF5. Plaquemines Parish, LA: 0.9 Bcf/d (Pointe LNG) (PF18-8)

CANADA

For Canadian LNG Import and Proposed Export Facilities go to:

<https://www.nrcan.gc.ca/energy/natural-gas/5683>

- ▶ Since April 2012, FERC has approved 18.5 Bcf/d of new LNG export capacity
- ▶ As of October 2018, there were 23.6 (Bcf/d) of export capacity in pending applications at FERC, with an additional 3.9 Bcf/d in pre-filing



Cybersecurity

- ▶ Cybersecurity threat environment is complex and fast-evolving—and even FERC itself has been a victim
- ▶ 11 FERC-approved Critical Infrastructure Protection (CIP) standards are currently in effect. Recent examples include:
 - ❑ Supply chain risk management cyber security standards (Order No. 829)
 - ❑ Mandatory reporting of cybersecurity incidents (Order No. 828)
- ▶ FERC continues to work with stakeholders to develop and promote cyber best practices through our newest office (OEIS)



Appendix - Overview of FERC Regulatory Responsibility

TYPE OF REGULATION	INVESTOR-OWNED ELECTRIC POWER	INTERSTATE NATURAL GAS PIPELINES	LIQUIFIED NATURAL GAS FACILITIES (LNG)	NONFEDERAL HYDROPOWER PROJECTS
- Transmission	Yes	Yes	No	N/A
- Sales for Resale	Yes	Yes, but limited	No	N/A
- Corporate	Yes	No	No	N/A
- Siting	No, except for NIETC	Yes, the Commission issues certificates for construction of pipelines and related facilities	Yes, the Commission is responsible for authorizing the siting and construction of onshore and near-shore LNG import or export facilities, as well as for issuing certificates of public convenience and necessity for LNG facilities engaged in interstate natural gas transportation by pipeline	Yes, the Commission issues licenses, exemptions, and license amendments
- Environmental	No, except for programmatic EISs for some major actions.	Yes, NEPA review and interagency consultation for pipelines to be certificated	Yes, NEPA review and interagency consultation for pipelines to be certificated	Yes, NEPA review and interagency consultation for the above authorizations
- Safety	No	No, except as part of initial certification–incorporation of DOT standards	Yes, in coordination with DOT PHMSA, USCG, and other applicable federal agencies	Yes, dam and public safety
- Reliability	Yes, for the bulk power system	No	Yes, with higher emphasis on reliability of import and peakshaving facilities that serve U.S. customers	No
States	Retail sales, local distribution, siting for transmission lines and generation facilities.	Retail sales, local distribution, intrastate transportation, natural gas production and gathering	Safety Advisory Report may be issued to FERC. Also FERC lead for coordinating emergency response and cost sharing plans with federal, state, and local emergency responders	Projects that do not affect navigable waters, interstate commerce, or Federal lands or dams
Other Federal Agencies	<u>DOE</u> : Power Marketing Administrations <u>EPA</u> : air quality <u>NRC</u> : nuclear power licenses <u>USDA</u> : electric cooperatives <u>DOI/USDA</u> : siting on federal lands	<u>DOT</u> : safety <u>DOI</u> : siting in offshore waters, federal lands, national parks; endangered species <u>USFS</u> : siting in national forests <u>COE</u> : water body crossings <u>Advisory Council on Historic Preservation</u> : cultural resources <u>EPA</u> : PCBs <u>National Marine Fisheries Service</u> : offshore fisheries	<u>DOE</u> : Determination of whether exports are consistent with the public interest <u>PHMSA (DOT)</u> : promulgates federal safety standards for onshore portions of most FERC jurisdictional LNG facilities <u>USCG</u> : Regulates waterfront marine transfer areas, new construction in these areas, and conducts waterway suitability assessments. <u>OSHA/EPA</u> : regulates certain portions of LNG facilities (i.e., toxics) and where DOT and USCG does not have jurisdiction (e.g., permanently moored barges in state waters) <u>BSEE</u> : regulates activities in outer continental shelf <u>MARAD (DOT)</u> : Regulates licensing, ownership, construction, and operation of deep water ports located outside state waters	<u>DOI</u> : federal lands, national parks, fish and wildlife, endangered species <u>USFS</u> : national forests <u>Advisory Council on Historic Preservation</u> : cultural resources <u>National Marine Fisheries Service</u> : Fisheries resources