U.S. DEPARTMENT of ENERGY | Hydrocarbons and Geothermal Energy Office

Office of Coal

Stabilize, Optimize, and Grow

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October 6, 2026

Mission and Vision

Mission

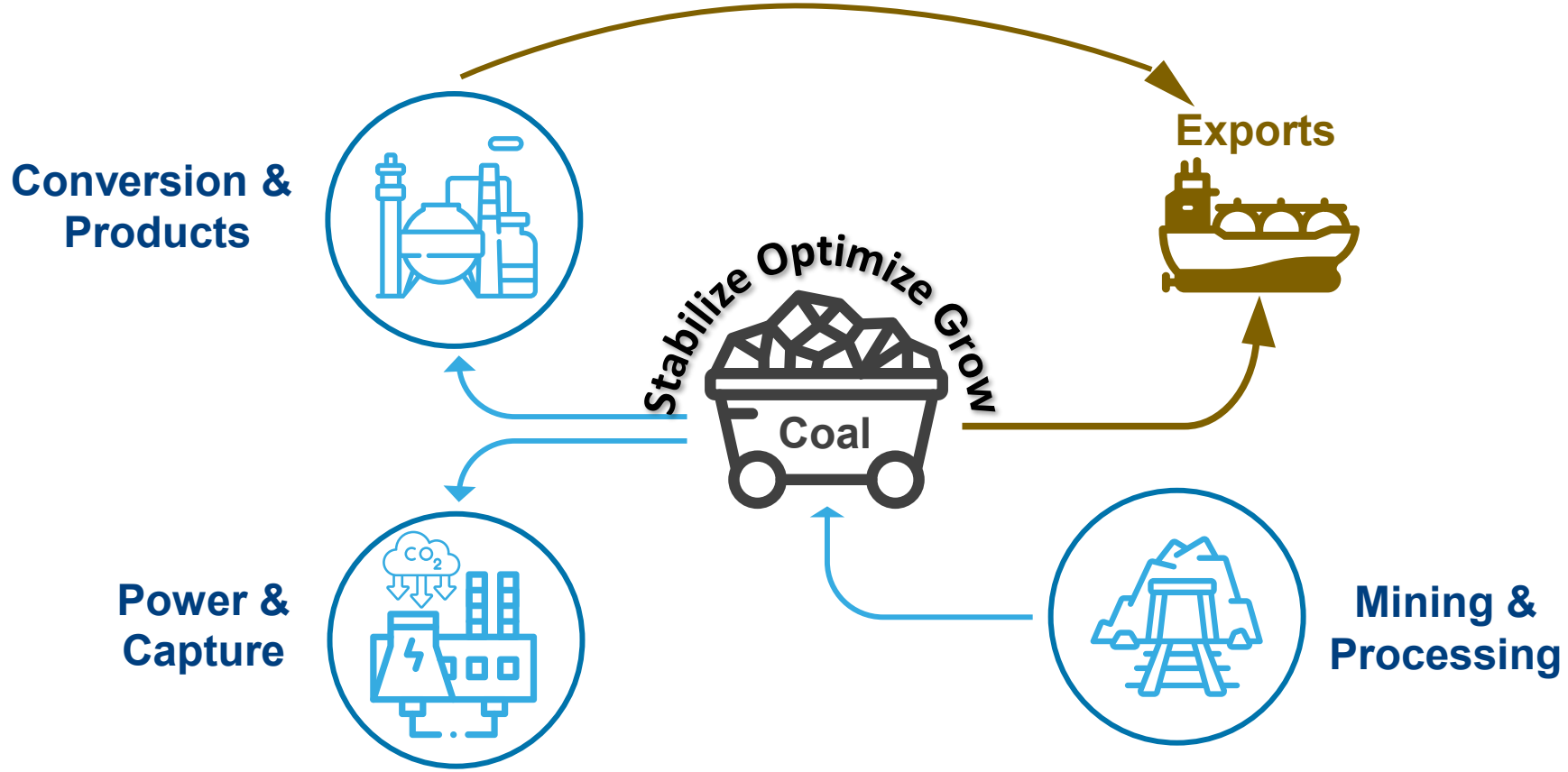
Unleash the full potential of America's hydrocarbon and geothermal resources to provide affordable, reliable, and secure energy.

Vision

An America that leads the world with affordable, reliable, and secure energy; powering prosperity, freedom, and human flourishing.

Office of Coal

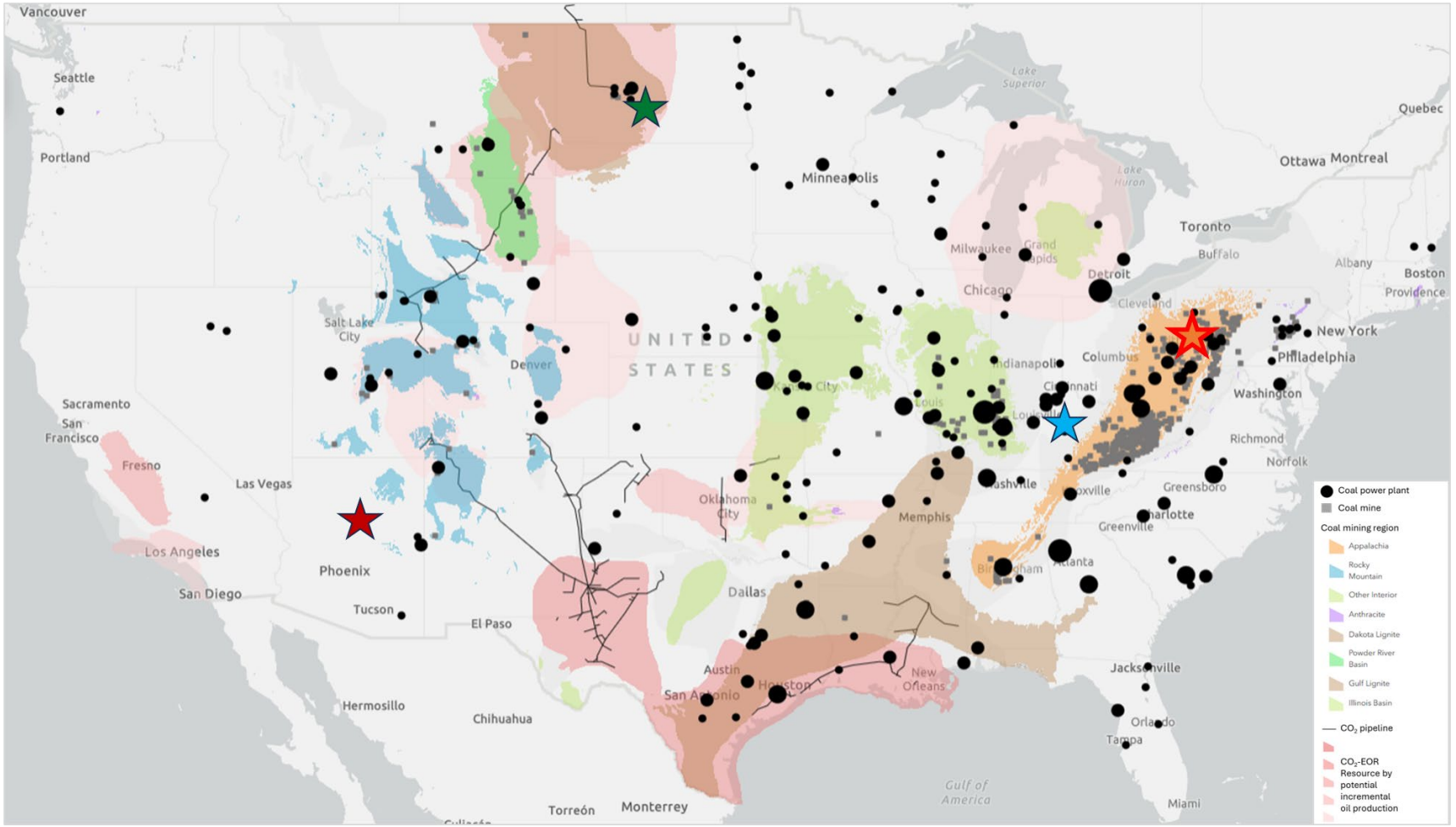
Restoring coal as a cornerstone of the U.S. energy mix



Stabilize, Optimize and Grow the Entire Coal Industry Value Chain

Regional Coal Workshops 2026

- ★ Southwest: February 19, 2026
  Virtual
  https://events.usea.org/events/872
- ★ Southern - February 25, 2026
  Lexington, KY
  https://events.usea.org/events/876
- ★ Eastern - March 4, 2026
  Pittsburgh, PA
  https://events.usea.org/events/877
- ★ Northern - March 11, 2026
  Bismarck, ND
  https://events.usea.org/events/875



Key Actions Recommended by Participants

Technology R&D:

- Support plant modernization: turbine/boiler upgrades, heat rate improvements, flexible cycling capability.
- Develop modular, load-following, fuel-flexible coal plant designs for future grid needs**. Relatively simple, ready-to-deploy coal power technologies are the most critical need.**
- Fund large pilot and demonstration projects for carbon capture, chemical looping, gasification, and oxy-combustion.
- Deploy AI/ML predictive maintenance, digital twins, and advanced sensors and controls across existing fleet.
- Invest in advanced mining and mineral processing technologies – Develop and use AI tools, robotics, and automation.
- Advance coal-to-products R&D to produce high-value products (graphene, carbon fiber, battery graphite) and recover critical minerals and rare earth elements (REE) from coal ash.

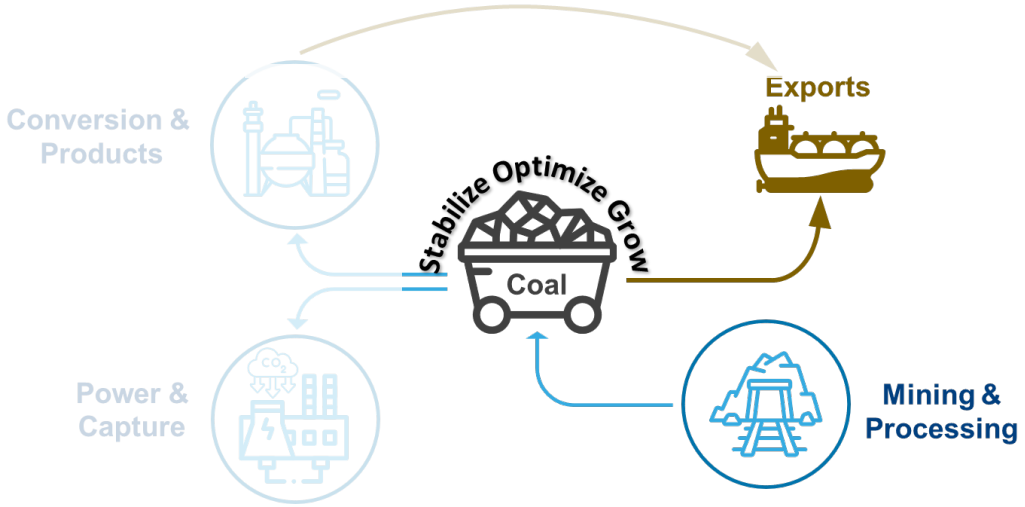
The National Coal Council (NCC)

Meeting at the White House – January 2026

- Originally established in 1984, the National Coal Council (NCC) provides advice and recommendations to the Secretary of Energy on general policy matters relating to coal and the coal industry.
- After being disbanded in 2021, the NCC was reinstated in the Summer of 2025.
- The NCC held its first meeting at the White House on January 15, 2026.
- The NCC delivered two studies for the Secretary in July:
  - Considerations for Maintaining and Growing the U.S. Coal Fleet
  - Opportunities to Expand U.S. Coal Export Options

Mining & Processing

Mission: Modernize coal mining and processing, extend the life of existing mines, and grow the industry by enabling recovery of coal from seams previously considered unmineable.

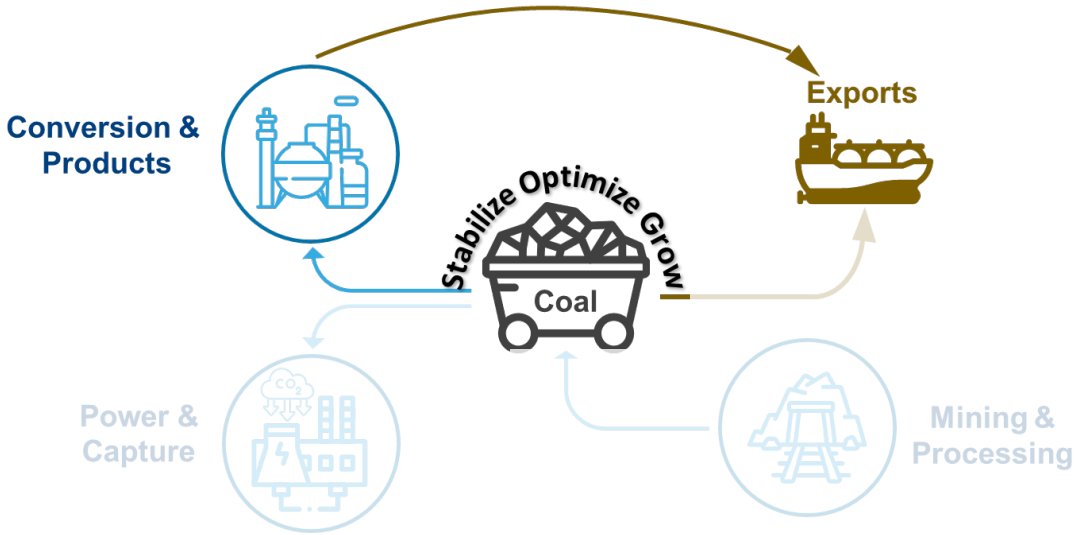


- Mining safety and efficiency improvement via artificial intelligence (AI) tools, robotics and automation, digital twins, etc.
- Plasma-assisted advanced processing
- Enhanced coalbed methane recovery and underground gasification
- Reducing technical barriers to increase U.S. exports of metallurgical and thermal coal

Conversion & Products

Mission: Bolster domestic energy security, resilience, and production via coal-derived fuels, chemicals and products. Generate opportunities for new export markets for coal-derived products.

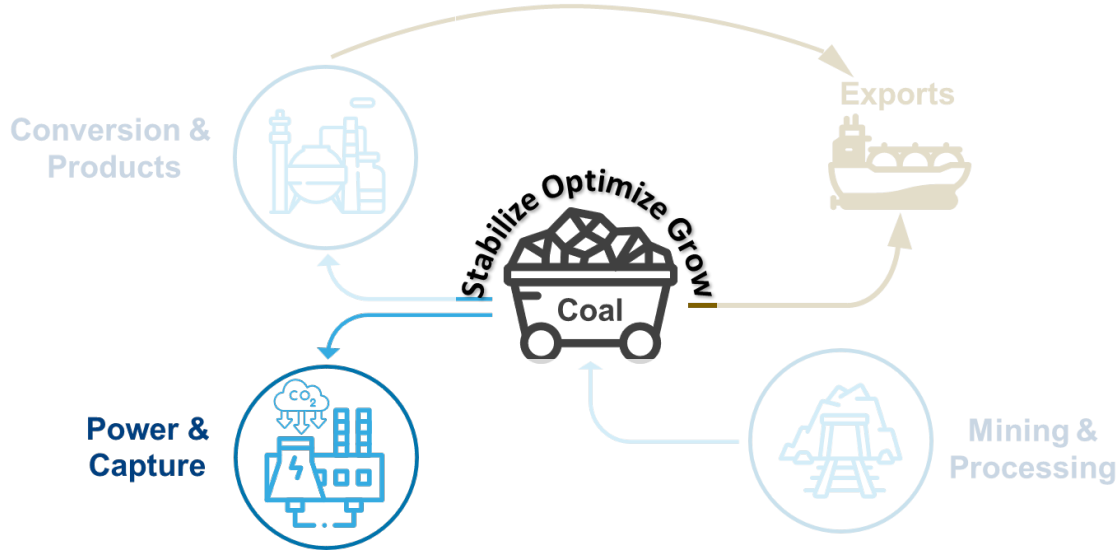
- High-value carbon-based materials from coal
- Conversion of waste to products (graphite, carbon fibers, pitch, etc.)
- Cost-effective and selective upgrading of coal by-products to fuels and chemicals



Power & Capture

Mission: Develop technologies that stabilize, optimize, and grow the American coal electric generation industry, restoring it as a cornerstone of the U.S. energy mix.

- **Stabilize**: Modernize existing coal power assets, along with the deregulation efforts by the U.S. Environmental Protection Agency.
- **Optimize:** Capture/condition CO_2 for enhanced hydrocarbon recovery and capture/convert other plant waste streams (SO_2, wastewater, coal combustion residuals) to co-products (gypsum, etc.) to diversify revenue stream
- **Grow**: High efficiency designs and flexible operation



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