

ELECTRICITY RESILIENCE TAKES CENTER STAGE

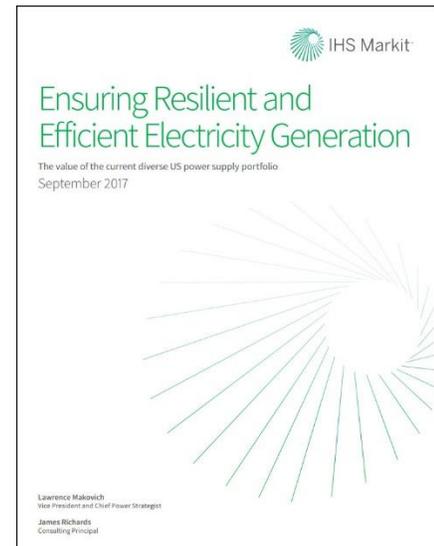
In his presentation on September 27th at NCC's 2017 Annual Fall Meeting, **Dan Byers, Vice President of Policy for the U.S. Chamber's Global Energy Institute**, listed grid management policies as number 2 on his top 10 list of coal-relevant issues. He noted that market distortions have been gradually pressuring traditional baseload resources and that while "reliability" was not an immediate concern, "resiliency" risks from disruptive events are growing as grid diversity is reduced.

<http://www.nationalcoalcoal.org/page-Meeting-Presentations.html>

The Global Energy Institute recently co-sponsored a study – along with the **Edison Electric Institute** and the **Nuclear Energy Institute** – authored by **IHS Markit** which quantified the importance of maintaining all of America's electricity resources – coal, natural gas, nuclear and renewables – for a vibrant economy. The study concluded that the nation's current energy mix, with significant contributions from coal and nuclear, is saving the U.S. \$114 billion per year in electricity costs, lowering the average retail price by 27%. Absent this diverse, balanced portfolio, potential higher prices could lead to a loss of 1 million jobs within 3 years, a loss of \$158 billion in U.S. GDP within 3 years and a loss of up to \$845 per year in income for every U.S. household.

<https://www.ih.com/Info/0917/electricity-generation-special-report.html>

See page 6 for matrix of power generation attributes.



Acknowledging that "America's greatness depends on a reliable, resilient energy grid powered by an 'all of the above' mix of generation resources," on September 28th, Energy Secretary Perry proposed that the Federal Energy Regulatory Commission (FERC) issue a rule "to establish just and reasonable rates for wholesale electricity sales."

Pursuant to the Secretary's authority under Section 403 of DOE's Organization Act, Secretary Perry urged the Commission to issue a final rule requiring its organized markets to develop and implement reforms that would fully price generation resources necessary to maintain the

reliability and resiliency of the nation's grid.

[Secretary Perry's Letter to FERC on Proposed Rulemaking](#)

DOE's stated intent for the proposed rule is to:

- Ensure the diversity and reliability of generation supply.
- Boost the resilience of our grid against outages.
- Maximize reserve resource capacity for times of unusually high demand, including severe weather events.

Article continues on page 5.

DOE REPORT HIGHLIGHTS ECONOMIC & JOB BENEFITS OF U.S. COAL

<http://misi-net.com/publications/DOECoal-0917.pdf>

Current data greatly underestimate the size and importance of the coal industry, according to a new report prepared for the U.S. Department of Energy by Management Information Services, Inc. (MISI). The report analyzes the current state of the U.S. coal industry and jobs, and forecasts future trends under different possible scenarios.

Failure to include contractor employment undercounts mining jobs by 30-40% and including indirect jobs effects increases the jobs generated by a factor of 3 to 4. The report also notes that coal is vital to U.S. manufacturing and railroads and that coal-related jobs are essential to many regional and local economies.

MISI forecasted and compared the jobs impacts of seven scenarios involving assumptions about economic growth, technologies, tax credits and research & development. All of the scenarios generate substantially more jobs than the Reference Case – between 5 and 10 million additional jobs and more than 15-20 million cumulative jobs in total.



The Trump Administration's goal of achieving 3% GDP growth is projected to create an additional 3.2 million coal-generated jobs for a total of nearly 25 million jobs. Utilizing both carbon capture and storage (CCS) tax credits and DOE R&D greatly increases and maximizes the number of jobs created.

MISI President, Roger Bezdek, Ph.D. will be presenting a webcast on the report on October 25, 2017, 2-3 pm Eastern via the American Coal Council's Coal Q&A webcast program. Registration details:

[ACC Coal Q&A Webcast on Coal Jobs](#)

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NCC Community News

NCC members are invited to submit news items regarding their companies and organizations to Janet Gellici at info@NCC1.org.



Steve Winberg

DOE Nomination Proceeding [Winberg Nomination Announcement](#)

President Trump has nominated NCC member, Steven E. Winberg to be Assistant Secretary of Energy – Fossil Energy. On September 26th, the Senate Energy & Natural Resources Committee conducted a hearing on Winberg's nomination which can be viewed at the following link.

[Senate Hearing on Winberg Nomination](#)

Richard Bajura

West Virginia University

U.S.-China Clean Coal Industry Forum

November 30-December 1 – Morgantown, WV

<https://www.usea.org/event/us-china-clean-coal-industry-forum-2017>

Registration is now open for the U.S.-China Clean Coal Industry Forum organized jointly by the U.S. Department of Energy and The National Energy Administration of the People's Republic of China with support from USEA, NETL and West Virginia University.

The Forum is designed to convene U.S. and Chinese industry and government executives to address key issues in the clean coal sector while fostering cooperation and expanding business opportunities between the two countries.

Danny Gray, Charah LLC

Charah Receives Employee Safety Award

[Charah Employee Safety Award Announcement](#)

Congratulations to Charah on receiving a prestigious award from Duke Energy for its outstanding record of employee safety at the Crystal River Energy Complex in Florida.

Tomasz Wiltowski, Southern Illinois University

Video on NCC Appointment

<http://www.wsiltv.com/story/36340636/siu-professor-to-serve-on-national-coal-council>

Check out the local Illinois news coverage of Professor Wiltowski's recent appointment to serve on the NCC.

NCC ASSOCIATES NEWS

Chuck McConnell, Rice University

Article Featured in Morning Consult

<https://morningconsult.com/opinions/energy-supply-our-citizens-must-transcend-politics/>

McConnell weighs in on "Energy Supply for Our Citizens Must Transcend Politics" in this op-ed piece.

COAL RESOURCES & NEWS

U.S. Department of Energy

www.energy.gov

[Office of Fossil Energy](#)

National Energy

Technology Laboratory

www.netl.doe.gov

[Coal & Power Systems](#)

Lights Out? Now Australia's Got a Coal Shortage

[Bloomberg](#)

WVU report: Increased coal production lifts business index

[Herald-Dispatch](#)

Energy Dominance: Ukraine Just Got Its First Shipment of US Coal -

[Daily Caller](#)

New climate change calculations could buy the Earth some time – if they're right

[Washington Post](#)

ExxonMobil's Futuristic FuelCell Carbon Capture Just Might Work -

[Bloomberg](#)

Is the world warming to clean coal? -

[CapX](#)

Illinois studying ways to boost in-state use of coal from its mines

[S&P Global](#)

Top 10 Reasons We Work on Conservative Clean Energy

[ClearPath](#)

Baltimore coal terminals seeing rebound in U.S. exports

[Baltimore Sun](#)

CNX Coal Resources and OMNIS to Develop First Solid Energy Refinery to Produce Clean Coal -

[PR News Wire](#)

National Coal Council
NationalCoalCouncil.org

NCC Member Focus

**Charlie McNeil was appointed to the NCC in August 2017. His breadth and depth of experience in many facets of the energy industry will be a tremendous asset to the NCC.
Welcome aboard, Charlie!**

Charles S. McNeil has broad experience in the coal, oil and gas, mining and power industries. Since 1993, Charlie has served as CEO of NexGen Resources which he founded.

Prior to forming NexGen, Charlie held Board, CEO and senior executive positions with Kaiser Steel, Kaiser Oil & Gas, Kaiser Coal, Kaiser Power, Perma Resources and Consol Energy. His experience includes responsibility for planning and operations of major companies, overall profitability of energy and industrial operations, start-up of new oil and gas, mining and power companies, acquisitions and divestitures, investments in diversified industries and both corporate and project financing.

Charlie is a licensed Professional Engineer in the State of Colorado and a member of the Society of Mining Engineers of AIME. He is a former director of the National Coal Association and the Colorado Mining Association. He is also a member of the American Coal Council, Tau Beta Pi Engineering Society, American Energy Society, the National Coal Transportation Association, the Rocky Mountain Coal Mining Institute, the Western Energy Alliance and the Colorado Oil and Gas Association.

Charlie earned his Bachelors of Science degree in Mining Engineering from the Colorado School of Mines and was honored with the Mines Distinguished Achievement Medal in 1998. At Mines, he is a member of the Foundation Board of Governors, the President's Council, the Guggenheim Society, and was appointed by the Colorado Governor to serve on the Board of Trustees.

And although we're not sure how he finds the time he is active in serving the Denver community on numerous charitable, arts and non-profit organization boards.



CHARLES S. MCNEIL
CHAIRMAN & CEO
NEXGEN RESOURCES CORPORATION

NexGen Resources Corporation is a natural resources company founded by Charlie McNeil in 1993. The company supplies all of the coal requirements for Xcel Energy's Texas power plants, provides alternative fuel and clean coal technology commercialization, explores and develops oil and gas resources, and provides mine development and operations. NexGen also manages a diverse portfolio of real estate assets and has been involved in over 15 company start-ups.



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ELECTRICITY RESILIENCE

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The proposed “Grid Resiliency Pricing Rule” follows up on an August 2017 DOE Staff Report to the Secretary on Electricity Markets and Reliability which explored three primary issues:

- The evolution of wholesale electricity markets.
- Whether wholesale energy and capacity markets are adequately compensating attributes such as on-site fuel supply and other factors that strengthen grid resilience.
- The extent to which continued regulatory burdens are responsible for forcing the premature retirement of baseload power plants.

<https://www.energy.gov/staff-report-secretary-electricity-markets-and-reliability>

DOE’s proposed rule directs FERC to take final action within 60 days from the publication of the Notice in the Federal Register or to issue the proposed rule as an interim final rule. FERC has issued a Notice Inviting Comments that are due on or before October 23rd, 2017.

https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20171002-3039

In related activity, the **House Energy and Commerce Committee Energy Subcommittee** hosted a hearing on October 3rd examining grid reliability in its sixth in a series of hearings on “Powering America.” [House Energy Subcommittee Hearing Defining Reliability](#)

Among those testifying at the hearing was **Paul Bailey**, President & CEO of the **American Coalition for Clean Coal Electricity** (ACCCE) who noted that the retirement of a large amount of traditional baseload generating capacity could affect the reliability and resilience of the electric grid. Bailey cited the following daunting statistics:

- Today’s U.S. coal fleet is comprised of 1,004 individual generating units located at 377 power plants that represent a total of 262,000 MW of electric generating capacity.
- Some 60,000 MW of coal-fueled generating capacity (20% of the coal fleet) had retired by the end of last year.
- An additional 41,000 MW have announced plans to retire.
- Together, these retirements represent one-third (1/3) of the nation’s coal fleet.

He referenced a recent ACCCE white paper, noting that the contributions of the coal fleet to grid reliability and resilience are not being properly valued in wholesale electricity markets, which almost two-thirds (2/3) of the coal fleet (174,000 MW) presently serves.

<http://www.americaspower.org/wp-content/uploads/2017/08/PA-Coal-Fleet-Study.pdf>

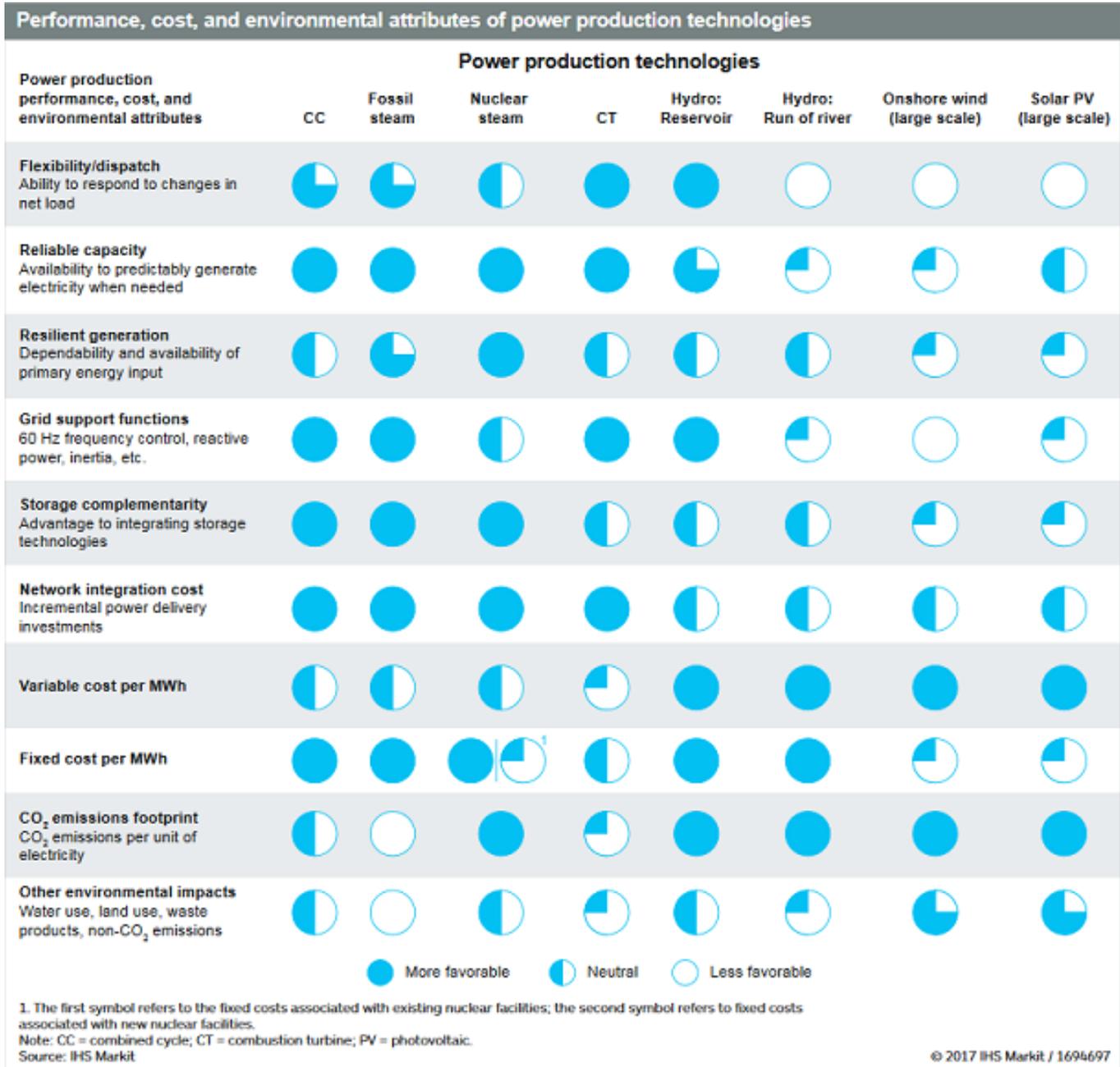
In mid-September, members of Secretary Perry’s **Electricity Advisory Committee** received a report on a recent **National Academy of Sciences, Engineering and Medicine** report on “Enhancing the Resilience of the Nation’s Electricity System.” According to the Congressionally mandated report, “With growing risks to the nation’s electrical grid from natural disasters and as a potential target for malicious attacks, the U.S. Department of Energy (DOE) and the U.S. Department of Homeland Security (DHS) should work closely with utility operators and other stakeholders to improve cyber and physical security and resilience.”

<https://www.nap.edu/catalog/24836/enhancing-the-resilience-of-the-nations-electricity-system>

ELECTRICITY RESILIENCE

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The IHS Markit report on “Ensuring Resilient and Efficient Electricity Generation” identified numerous attributes associated with various energy resources, summarized in the graphic below.





NCC ACTIVITIES & NEWS

NCC Forming Subcommittee on New Markets for Coal Carbon Fiber Submarines One of Many New Applications

New markets for coal are being pursued worldwide for various applications. China, Korea and Japan are already pursuing conversion of coal to synthetic oil, transportation fuels, hydrogen and industrial chemicals. They are doing so at scale using hundreds of millions of tons of coal per year.



Environmental criticisms of China attend the effort, but in the United States emerging technology advances can hugely improve the environmental footprint and economic profile. In the U.S., efforts are also underway to convert coal into advanced materials such as carbon fibers used in aerospace, infrastructure, automotive, energy and even to build submarines. An interesting project underway at the Oak Ridge National Lab in Tennessee used carbon fibers to build an experimental mini-sub for the U.S. Navy. No kidding!

<https://www.bloomberg.com/news/articles/2017-09-13/-beautiful-coal-seeks-new-life-as-carbon-fiber-for-submarines>

The NCC is pleased to announce the formation of a new subcommittee dedicated to advancing new markets for coal. The **New Markets for Coal Subcommittee** focuses on addressing technology and policy issues associated with coal conversion, along with coal beneficiation, extraction of Rare Earth Elements, CO₂ utilization and other emerging markets for U.S. coal. The Subcommittee is chaired by NCC member **Fred Palmer** and reports to the Coal Policy Committee.

An initial scoping conference call meeting is planned for **November 2nd, 11 a.m. Eastern**. NCC members interested in participating in the scoping meeting or in joining the NMC Subcommittee should contact Janet Gellici at jgellici@NCC1.org.

NCC Hosts Meeting on Coal Exports - October 17th

The NCC invites its members and industry associates with an interest in advancing U.S. coal exports to participate in a conference call on **Tuesday, October 17th, 3 p.m. Eastern**. The meeting is designed to solicit input on critical issues affecting the export of U.S. thermal and metallurgical coal to international power and industrial markets. The meeting will be chaired by **Justin Burk, Commercial Director, Peabody Energy** and **David Lawson, Vice President Coal, Norfolk Southern Corporation**.



Those interested in participating in the conference call meeting should contact Janet Gellici at jgellici@NCC1.org for further details.

MORE NCC ACTIVITIES & NEWS

Hold the Date for NCC's Spring 2018 Meeting

Plans are underway to host the NCC's 2018 Annual Spring Meeting in Washington, DC on April 11-12. Details are not quite firmed up but NCC members are asked to hold these dates. Once confirmed, meeting details will be emailed to all NCC members.



NCC's Chair's Leadership Council Meets with DOE Representatives

In late September, members of the NCC's Chair's Leadership Council (CLC) met with representatives of the U.S. Department of Energy (DOE) and National Energy Technology Laboratory (NETL) to review NCC priority issues and activities and receive an update on DOE initiatives related to coal.

Among the NCC priorities addressed:

- Optimize the Existing Coal Fleet
- Advance New Markets for Coal
- Robust Support for RDD&D for Advanced Coal Technologies
- Advance Export Markets for Coal

NCC CHAIR'S LEADERSHIP COUNCIL MEMBERS



EVEN MORE NCC ACTIVITIES & NEWS

NCC 2017 Fall Meeting Roundup

NCC hosted its 2017 Annual Fall Meeting, September 26-27 in Birmingham, Alabama at the Ross Bridge Resort at the invitation of **Southern Company**. We were delighted to welcome **Dr. Grace Bochenek, Director, National Energy Technology Lab (NETL)** as our keynote presenter. Dr. Bochenek kicked off with an inspiring C-O-A-L cheer, followed by a comprehensive presentation on NETL's innovation driven efforts in "Creating the 21st Century Energy Ecosystem."



The industry keynote presentation was delivered by **Dan Byers, Vice President – Policy**, with the U.S. Chamber of Commerce's **Global Energy Institute**. Dan provided an insightful Top 10 List of Coal-Relevant Issues

ranging from natural gas prices and grid management policies, through policy reform initiatives and coal exports.

We then heard from **Andy Roberts, Vice President, WoodMackenzie** on the evolving nature of the U.S. power sector and how changes are impacting coal. Andy addressed issues including decarbonization, electrification of vehicles, access to energy and decentralization.

Roy Hill, President & Chairman, Clean Energy Technology Association provided a rousing presentation on the clarion call for U.S. energy independence and clean energy development, along with a brief update on development of CETA's technology deployment efforts.

We rounded out our program with a presentation on global coal markets and opportunities for U.S. coal exports by **Hans Daniels, CEO, Doyle Trading Associates**. Hans provided a historical perspective on U.S. coal exports and the status of coal import/export markets in Europe, China, India, Indonesia, Colombia, Australia and Mongolia.

Following the meeting, nearly 40 executives participated in a tour of the **National Carbon Capture Center**. Thank you to the good folks at **Southern Company** for



providing us with an informative tour of NCCC's impressive operations.

We especially loved the colorful hardhats!

THANK YOU!

NCC extends its appreciation to our sponsors:

Event Sponsors

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Arch Coal, Boral Resources, Charah, ClearPath & Dominion

Presentations and videos will be posted on the NCC website at

<http://www.nationalcoalcouncil.org/page-Meeting-Presentations.html>



News Worthy from the Department of Energy

\$20 Million for Technology Commercialization

On September 13th, the Department of Energy (DOE) announced the availability of \$19.7 million in funding to help businesses move promising energy technologies from DOE's National Laboratories to the marketplace. The funding is being offered through DOE's Office of Technology Transition's Technology Commercialization Fund (TCF) and will support 54 projects across 12 National Labs involving more than 30 private-sector partners.



Proposals for this round of funding cover two topics:

- ~ Projects for which additional technology maturation is needed to attract a private partner.
- ~ Cooperative development projects between a lab and industry partner(s) designed to bolster the commercial application of a lab developed technology.

Details on the funding opportunity can be accessed at:

<https://energy.gov/technologytransitions/articles/secretary-energy-rick-perry-announces-nearly-20-million-help>

\$36 Million to Advance Carbon Capture Technologies

On September 22nd, DOE announced approximately \$36 million in federally funded financial assistance to advance carbon capture technologies through the DOE Office of Fossil Energy's Design and Testing of Advanced Carbon Capture Technologies funding opportunity. In making the announcement, Secretary Perry noted that "Carbon capture technologies are one of the most effective ways we can continue to leverage the sustainability of our Nation's fossil fuel resources while advancing environmental stewardship."

Projects for this funding opportunity will fall under two areas of interest:

- ~ Scaling of Carbon Capture Technologies to Engineering Scales Using Existing Host Site Infrastructure
- ~ Initial Engineering, Testing and Design for a Commercial-Scale, Post-Combustion CO₂ Capture System

Details at: <https://energy.gov/articles/secretary-energy-rick-perry-announces-36-million-projects-advance-carbon-capture>

\$4 Million in Cost-Shared Federal Funding for Rare Earth Elements Recovery

On September 28th, DOE announced nine projects to receive approximately \$4 million in cost-shared federal funding to improve the technical, environmental and economic performance of new and existing technologies that extract, separate and recover rare earth elements (REE) from domestic U.S. coal and coal by-products.

The projects are focused on one of two areas:

- ~ Advanced, Novel Technology Development for Initial REE Extraction
- ~ Optimization of Current State-of-the-Art Separation Technologies for Initial REE Extraction

Details on all nine projects at: <https://energy.gov/fe/articles/doe-announces-nine-new-projects-advance-technology-development-recovery-rare-earth>

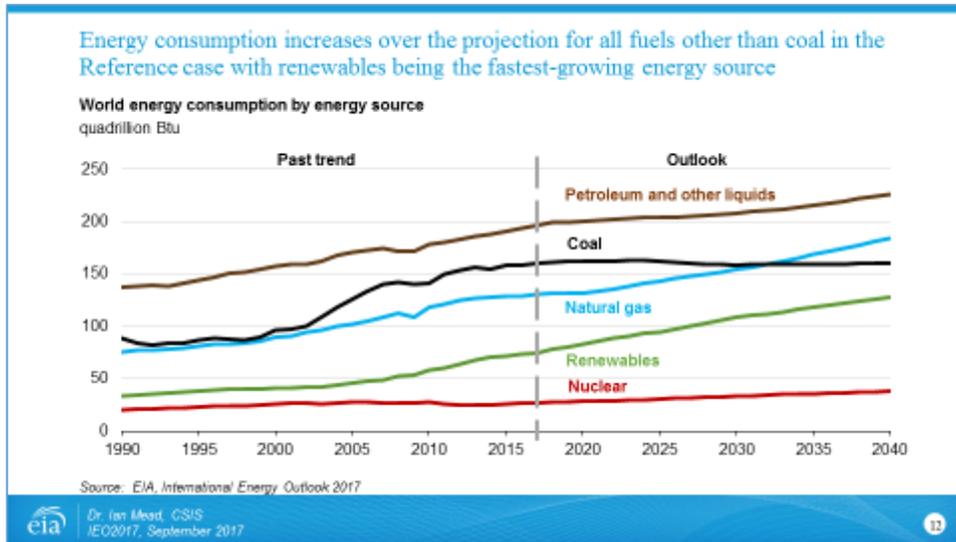
More News Worthy from the Department of Energy

EIA Releases International Energy Outlook 2017

<https://www.eia.gov/outlooks/ieo/>



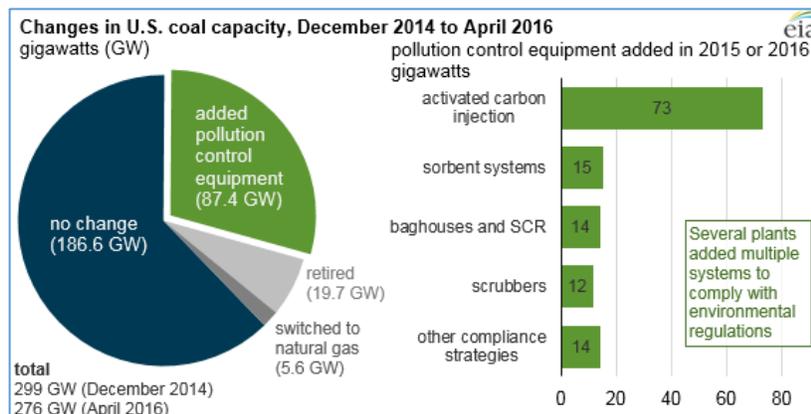
On September 14th, the U.S. Energy Information Administration (EIA) released its annual International Energy Outlook 2017. The EIA reference case notes a total world energy consumption increase from 575 quadrillion Btu's in 2015 to 735 quadrillion Btu's in 2040, an increase of 28%. Most of that growth will occur in non-OECD nations, most notably non-OECD Asia which accounts for more than half of the world's total increase in energy demand. Fossil fuels are expected to account for 77% of energy use in 2040.



Coal Plants Installed Mercury Controls to Meet Compliance Deadlines

<https://www.eia.gov/todayinenergy/detail.php?id=32952>

The Energy Information Administration recently reported that coal generators in the U.S. installed mercury control equipment using activated carbon injection systems just prior to compliance deadlines associated with EPA's Mercury and Air Toxics Standards (MATS) ruling. EIA notes that "the nature and timing of control additions indicate a strategy to maintain the availability of affected coal-fired generators by requesting extensions to compliance deadlines and investing in flexible, low-cost environmental control technology."



WHO KNEW?*

United States Energy Association

<https://www.usea.org/>



The United States Energy Association (USEA) is the U.S. Member Committee of the World Energy Council (WEC). USEA is an association of public and private energy-related organizations, corporations, and government agencies. The organization represents the broad interests of the U.S. energy sector by increasing the understanding of energy issues, both domestically and internationally.

Energy Partnerships

USEA has organized over 80 cooperative partnerships between U.S. companies and organizations and their counterparts in developing and transitional economies. These partnerships provide a vehicle to convey U.S. experiences and best business and regulatory practices to these nations. USEA's energy partnerships have been applauded as some of the most successful foreign assistance programs ever created.

Partnerships have been established between the U.S. and Latin America, Africa, Asia, the former Soviet Union, and Central & Eastern Europe. Focus areas have included petroleum exploration, production and transportation; natural gas exploration, production, and transportation; and electric power production, transmission, distribution, and utilization. Almost every aspect of organizational operations have been addressed through these partnerships.

World Energy Council

USEA is the U.S. Member Committee of the World Energy Council, the world's foremost multi-energy organization. With members representing 90+ countries and over 3,000 organizations, including most major energy consumers and producers, WEC is the preeminent forum for international discussion and dialogue on global energy affairs. USEA is responsible for coordinating U.S. participation in WEC events and activities.

Energy Events

As a part of the organization's commitment to enhancing dialogue across all sectors in the energy industry, USEA hosts several major informational events that address important issues impacting various sectors of the U.S. energy industry. These events include:

- The State of the Energy Industry Forum (January)
- The USEA Annual Meeting (April)
- The USEA/Johnson Controls Energy Efficiency Forum (June)
- The Energy Supply Forum (October)



Barry Worthington, Executive Director

Energy Briefings

Throughout the year, USEA organizes informational briefings that are designed to inform members and constituents on developments in energy technologies, policies and market trends. Briefings are usually hosted in conjunction with USEA members working across the gamut of energy sectors in the U.S. and abroad. They provide USEA members with a neutral platform from which they can discuss their work before a relevant D.C.-based audience.

***A regularly featured column on industry, university and government initiatives in support of advanced coal technology development and commercialization.**