

SUPPORTING THE NEXT GENERATION OF COAL-FUELED POWER PLANTS

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Almost 40 percent of the nation's coal fleet has retired or announced plans to retire. Unless some of these retiring coal plants are replaced with new coal plants, the nation will have lost an important fuel-secure electricity source that makes the electricity grid more reliable and resilient.

Recently, Senator Todd Young (R-Indiana) introduced the "Reinvigorating American Energy Infrastructure Act" (S. 3653). The bill would amend the Energy Policy Act of 2005 (EPAAct) to provide loan guarantees to encourage the demonstration of the next generation of coal-fueled power plants. EPAAct created a loan guarantee program to encourage the demonstration of advanced energy technologies, including advanced fossil energy technologies. Currently, the Department of Energy (DOE) has \$8.5 billion available for such loan guarantees.

Two types of advanced coal-fueled generating units would be eligible for loan guarantees under Senator Young's bill. Both are high efficiency, low emissions (HELE) units. One type is larger-scale units that exceed 300 megawatts (MW); the other is modular units that are smaller than 300 MW. Loan guarantees for modular units would complement efforts by DOE to encourage the development of modular designs that increase power plant efficiency, lower CO₂ emissions, minimize construction costs, and shorten project development time.

To be eligible, both types of HELE units must be designed to achieve an overall efficiency of at least 40%. The efficiency of the coal fleet today averages about 32%. This means that larger advanced units could lower CO₂ emissions by as much as 25% compared to the existing coal fleet. The development of small modular units could lead to CO₂ reductions of as much as 35% to 40% compared to the existing fleet. If the existing fleet was replaced with more advanced coal plants, CO₂ emissions would be reduced by as much as 600 million tons. This would be equivalent to scrapping about half the nation's fleet of passenger vehicles. In addition, both types of advanced coal units must be capable of accommodating future carbon capture technologies to qualify for loan guarantees.

Coal is expected to remain an important source of electricity. EIA projects that coal will provide at least one-fourth of the nation's electricity during the next three decades. Since the U.S will continue to rely on coal for a long time, it just makes sense to invest in newer and more efficient coal-fueled power plants.