

# The U.S. Faces Serious Risks of Brownouts or Blackouts in 2009, Study Warns

*Denver, CO (Oct. 2, 2008)* A new study released this week highlights what experts have been saying for years: the U.S. faces significant risk of power brownouts and blackouts as early as next summer that may cost tens of billions of dollars and threaten lives. The study, "Lights Out In 2009?" warns that the U.S. "faces potentially crippling electricity brownouts and blackouts beginning in the summer of 2009, which may cost tens of billions of dollars and threaten lives."

"If particularly vulnerable regions, like the Western U.S., experience unusually hot temperatures for prolonged periods of time in 2009, the potential for local brownouts or blackouts is high, with significant risk that local disruptions could cascade into regional outages that could cost the economy tens of billions of dollars," the report warned.

U.S. baseload generation capacity reserve margins "have declined precipitously to 17 percent in 2007, from 30-40 percent in the early 1990s," according to the study. A 12-15 percent capacity reserve margin is the minimum required to ensure reliability and stability of the nation's electricity system. Compounding this capacity deficiency, the projected U.S. demand in the next ten years is forecast to grow by 18 percent, far exceeding the projected eight percent growth in baseload generation capacity between now and 2016.

The study, which can be downloaded here:

<http://portal.nextgenenergy.org/> estimated that the U.S. will require about 120 gigawatts (GW) of new generation just to maintain a 15

percent reserve margin. That will require at least \$300 billion in generation and transmission facility investments by 2016.

"The facts presented in this study should stimulate a call for action by policymakers everywhere. Our nation's electricity system is clearly in trouble and we need to take rapid steps as soon as possible to remedy the situation," said Bob Hanfling, Chairman of the non-profit NextGen Energy Council, which conducted the study. "This isn't the first study to come to these conclusions, and it won't be the last. We hope it illuminates current policy debates, from those on climate change to resource development to infrastructure build-out to national security. We also hope it will sound the alarm for every elected official, policymaker, business leader and citizen concerned about the future prosperity and security of our nation."

The study also identified the primary barriers to getting new power plants and transmission lines built. Chief among these is the "opposition of well-funded environmental groups that oppose and file lawsuits against virtually every new infrastructure project proposed."

Other obstacles include opposition to natural gas production, which is needed to fuel the growing reliance on natural-gas fired power plants; challenges associated with putting more intermittent renewable power sources on the grid; regulatory uncertainty associated with climate change policy development; reluctance by state regulators to approve rate increases related to the imposition of new environmental or climate-related regulation; and the relatively shorter-term approach to resource planning and acquisition that industry has been forced to adopt because of all of the above factors.

Among its other findings were these:

The U.S. will require more than 14,500 miles of new electricity transmission lines by 2016. Regions represented by the Florida Reliability Coordination Council (FRCC) and the Northeast Power Coordinating Council (NPCC) may require less than 400 miles of new transmission lines, while the Southeast Reliability Council

(SERC) may require nearly 2,300 miles. Western Electricity Coordinating Council (WECC) may require nearly 7,000 miles. Substantial increases in wind turbine orders, and new wind capacity, has been slowed by a worldwide turbine shortage and local opposition to wind projects. Since wind generation is expected to grow substantially throughout the U.S., the integration of intermittent resources into the bulk power system is becoming increasingly complex and difficult.

While renewable energy proponents, and some elected officials, are saying that the U.S. needs to only add renewable power facilities such as wind farms, the annual capacity factor of wind generators is typically about 25 - 35 percent. However, the probability that wind generators are available at their rated value during annual peak periods is only between 5 - 20 percent and varies greatly from year to year and region to region. Wind cannot be considered a reliable baseload capacity resource.

Rapidly increasing demand for steel and copper has caused spot scarcity of the resources required to manufacture key electrical components, and this commodity demand has increased the theft of critical system components. Manufacturers have attempted to eliminate excess inventories and capacity to increase productivity of their assets, but they are reluctant to add more capacity until they can be certain about future industry investments.

The study also presented a survey of political developments and trends that amount to "structural political barriers being erected to system reliability." It pointed to the fact that "environmental activist groups" are now:

Suing to block the construction of virtually every single baseload coal-fired power plant, in spite of advanced environmental technologies these plants would deploy.

Gearing up to block construction of any baseload nuclear power plants across the West. Suing or protesting virtually every proposed lease on public lands in the Rocky Mountains for natural gas drilling.

Working to slow or stop the completion of the two main multi-

year, stakeholder-based transmission corridor processes that both Democrats and Republicans in Congress approved as part of the Energy Policy Act of 2005.

Pushing for additional endangered species designations, which will make siting and construction of both power plants and transmission lines difficult.

Pressuring government leaders to limit access by larger, baseload technologies to the region's high-voltage transmission grid and, instead proposing to artificially favor non-baseload, intermittent power facilities that will (at some point) further stress the reliability of the entire Western grid.

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The NextGen Energy Council is a non-profit, 501(c)(3) organization comprised of a wide variety of energy and technology leaders and companies that work collaboratively with Governors, federal and state officials, academic institutions and others to promote the rapid development and commercialization of cutting-edge energy technologies.