

# HOW ENERGY EFFICIENCY CAN TURN 1300 POWER PLANTS INTO 170

**Bill Prindle**

**Director, Buildings and Utilities Programs  
The Alliance to Save Energy**

The Bush administration's energy plan makes a strong argument for investment in new energy supply infrastructure. The most commonly-used factoid in this argument in the Department of Energy's projected need for 1300 new power plants by the year 2020 (at an average size of 300 Megawatts). Vice President Cheney has repeated this number to the point that it begins to sound like a regulatory requirement rather than a forecast from a computer model.

Let's examine the facts behind the 1300-power-plant argument. DOE's forecast is based on the Energy Information Administration's Annual Energy Outlook, which uses a macroeconomic model called the National Energy Modeling System. But NEMS, like all models, can miss the mark. For example, in 1999 NEMS predicted no increases in natural gas prices. The 1300-power plant forecast would drop dramatically if it used these inputs:

- 230 of the 1300 power plants are for replacing current units. So the net new demand for power is actually **1070** plants. [\(1\)](#)
- 300 power plants' worth of capacity, already in the pipeline, will come on line by the end of 2002. That leaves the need at **770**. [\(2\)](#)
- Appliance efficiency standards for clothes washers, water heaters, and air conditioners, passed by the Clinton administration in January, and agreed to by the Bush administration, will reduce demand by 127 power plants in 2020. That cuts the need to **643**. [\(3\)](#)
- If the Bush administration supported the air conditioner standard at the SEER 13 level approved by Clinton, instead of the reduced SEER 12 level they announced in April, another 43 plants would be saved, reducing the need to **600**. [\(4\)](#)
- Pursuing strong standards for commercial air conditioning would save another 50 plants, cutting the need to **550**. [\(5\)](#)

- Programs to reduce energy use in new buildings, such as building energy codes, tax credits, and public benefit programs, would avoid 170 power plants. That means reducing new homes' demand by one 1 kW per home, and new commercial building demand by 1 watt per square foot. Modern building codes alone can easily achieve those kinds of savings; doing so takes the need down to **380** power plants. [\(6, 7\)](#)
- Programs to improve existing buildings, by targeting residential air conditioners, commercial lighting, and commercial cooling, can trim demand projections by another 210 power plants. That leaves the tally at **170**. [\(8\)](#)

Since our electricity industry is producing 300 plants over the next two years, it is reasonable to assume that another 170 can be brought on line over the following eighteen. Many of those could be renewable-energy plants, producing little or no pollution.

Realizing the energy efficiency gains, especially the 380 power plants from new and existing buildings, will take a concerted effort, involving increased R&D funding, aggressive support for building codes, new federal tax credits, and public benefits funding from electricity sales to support state-based efficiency programs.

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Foot notes:

1. U.S. Department of Energy. Energy Information Administration. [Report#:DOE/EIA-0383\(2001\)](#). December 22, 2000. [Back to List](#)
2. Standard & Poor's. "[Other States Not Likely To Repeat California Power Drama](#)." January 2001. [Back to List](#)
3. Appliance Standards Awareness Project. "[Overall Savings from Federal Appliance and Equipment Efficiency Standards](#)." .pdf document. [Back to List](#)
4. Appliance Standards Awareness Project. "[The Cost of Rolling Back the AC Standard](#)." [Back to List](#)
5. Appliance Standards Awareness Project. [Opportunity Knocks](#). March 2000. [Back to List](#)

**6.** Alliance to Save Energy staff analysis based on: Arasteh, Dariush, and Prindle, William. Energy Savings and Pollution Prevention Benefits of Solar Heat Gain Standards in the International Energy Conservation Code. Alliance to Save Energy, 2001. [Back to List](#)

**7.** Alliance to Save Energy staff analysis based on: Interlaboratory Working Group. 2000. Scenarios for a Clean Energy Future (Oak Ridge, TN; Oak Ridge National Laboratory and Berkeley, CA; Lawrence Berkeley National Laboratory), ORNL/CON-476 and LBNL-44029, November. [Back to List](#)

**8.** Steven Nadel, Fred Gordon, and Chris Neme. Using Targeted Energy Efficiency Programs To Reduce Peak Electrical Demand And Address Electric System Reliability Problems. American Council for an Energy-Efficiency Economy, November 2000. [Back to List](#)