

# THE SMART GRID

## CAN INCREASE THE U.S. GRID'S EFFICIENCY BY 9%.

### SO WHAT DOES THAT AMOUNT TO?

The **SMART GRID** is the evolution of our current electrical grid, using new technology to optimize the conservation and delivery of power. All told, the smart grid promises to **increase the efficiency of today's system by around 9%<sup>1</sup> by 2030**, saving more than 400 billion kilowatt-hours<sup>2</sup> each year. **That's huge.**

**7.6 million**  
round-trip flights



The \$42 billion in annual smart grid energy savings could buy you several lifetimes' worth of air travel from JFK airport to Charles de Gaulle airport in Paris. Those aren't economy-class seats, either.<sup>8</sup>

**70 million**  
roadtrips around the world

With the smart grid's yearly energy savings, you could drive an electric car 1.7 trillion miles, which would take you around the world several million times and would likely void the warranty.<sup>4</sup>

**423 billion**  
kilowatt-hours per year

The energy saved by the smart grid is enough to power Las Vegas. 207 times over.<sup>3</sup>



**\$585**  
per household

A recent study estimated that modernizing today's grid could mean nearly \$600 in direct bill savings for the average household each year.<sup>9</sup>

**199 million**  
years of refrigerator use

The total energy saved by the smart grid in just 12 months could run your fridge through several Ice Ages.<sup>5</sup>

**378 million**  
cool, comfy homes

The yearly energy the smart grid saves could air-condition 378,000,000 homes. Or about 2 million of those 102,000-square-foot neighborhood superstores.<sup>7</sup>

**\$42 billion**  
in year 1

The energy saved by the smart grid is worth a lot. And as we keep saving energy, its value each year only increases.<sup>6</sup>

**\$48 billion**

IN YEAR 5

**\$65 billion**

IN YEAR 15

**\$102 billion**

IN YEAR 30

## SMART GRID

WHERE POWER IS GOING.

Brought to you by the Smart Grid Consumer Collaborative. Learn more about the smart grid's savings, reliability and emissions reduction: [SmartGridCC.org](http://SmartGridCC.org)

1. "The Smart Grid: An Estimation of the Energy and CO<sub>2</sub> Benefits"—Pacific Northwest National Laboratory, January 2010 [http://energyenvironment.pnl.gov/news/pdf/PNNL-19112\\_Revision\\_1\\_Final.pdf](http://energyenvironment.pnl.gov/news/pdf/PNNL-19112_Revision_1_Final.pdf). Assumes 100% penetration of smart grid technologies. Estimates based on annual electricity supplied to U.S. grid and associated CO<sub>2</sub> emissions in 2030. Forecasted by the U.S. EIA.  
2. Based on 4,705 billion kWh projection of total electricity consumption in 2030. <http://www.eia.gov/oiaf/archive/ae008/electricity.html>

3. Based on peak demand of 5,600 megawatts per day. <http://www.forbes.com/forbes/2007/0312/092.html>  
4. Based on 100-mile estimated range of Nissan Leaf with 24 kWh lithium ion battery, nissanusa.com  
5. <http://energy.gov/energysaver/articles/estimating-appliance-and-home-electronic-energy-use>  
6. Based on \$41,877,000,000 net present value of 423B kWh at 9.9¢ per kWh and 3% annual inflation [http://www.eia.gov/energyexplained/index.cfm?page=electricity\\_home#tab2](http://www.eia.gov/energyexplained/index.cfm?page=electricity_home#tab2)

7. [http://www.energystar.gov/1a/business/bulk\\_purchasing/bpsavings\\_calc/Calc\\_CAC.xls](http://www.energystar.gov/1a/business/bulk_purchasing/bpsavings_calc/Calc_CAC.xls). Assumes 1,119kwh/year average usage for U.S. homes.  
8. Based on \$5,468 round-trip flight, including taxes and fees—Expedia.com, 08.28.12.  
9. Perfect Power Institute (2012) "Investing in Grid Modernization" page 24 <http://www.perfectpowerinstitute.org/sites/default/files/Investing%20in%20Grid%20Modernization.pdf>