

# SMART GRID DEPLOYMENT PLANS FOR FLORIDA'S UTILITIES

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*To save money, create jobs, improve performance, and reduce pollution from Florida's energy systems, legislators should require Florida's utilities to develop smart grid deployment plans.*

People throughout the U.S. can use smart grids to cut their energy consumption by 15 percent using digital technologies, but such investments would be particularly useful in Florida.<sup>12</sup> Floridians could use them to save \$6 billion per year by 2020 and enjoy 16,000 new jobs.<sup>3,4</sup> Power outages cost Florida an estimated 5 to 8 billion dollars per year in lost productivity, but smart grids can help recoup these costs through integrated sensors, software, and computer networks that increase reliability.<sup>5,6</sup>

## KEY FACTS

- Smart grids could save Florida \$6 billion per year by 2020.<sup>14</sup>
- Smart grids could cut Florida's energy use by 15 percent and pollution by 12 percent.<sup>15, 16</sup>

Smart grids bridge energy supply and demand through information technologies. They cut pollution by 12 percent through decreased energy production.<sup>7</sup> Utility companies need them to integrate random and decentralized clean energy sources. In fact, according to *The Economist*, smart systems “may well be humankind's best hope for dealing with... global warming.”<sup>8</sup> Seven utility companies in Florida committed \$449 million to smart grid deployment in 2009, earning \$262 million in federal grants.<sup>9</sup> Meanwhile, California enacted a law requiring all major utility companies to develop smart grid deployment plans.<sup>10</sup> Millions of Floridians would benefit from a similar law.

## ANALYSIS

Florida has especially serious energy problems; its per capita residential electricity demand is among the highest in the country, due in part to high air-conditioning use during the hot summer months and the widespread use of electricity for home heating during the winter months.<sup>11</sup> Florida also has a particularly ugly history of hurricanes and severe storms that cause extremely expensive power outages during the fall months.

The state's energy needs have not gone unnoticed, and Florida is “one of the most aggressive smart grid states in the nation” because of federal and private investments.<sup>12</sup> But because some of Florida's private utility companies are able to profit from the state's relatively high level of energy use, they may never deploy a smart grid system that would reduce consumer revenues. Given these circumstances, a light regulatory push is required.

## NEXT STEPS

To seize the opportunities outlined above, the Florida legislature should require utility regulators and every major utility company to develop a smart grid deployment plan over a two-year timeline. This is a nonpartisan plan, but there will be significant political obstacles to passing it. First, many utility company shareholders are now opposed to

smart grid deployment because it demands large capital investments that don't translate into high marginal returns in the short term. Second, many Florida regulators will be hesitant to embrace this plan because they are keenly aware of poorly managed smart grid projects around the nation. Third, polls show that over one in five Americans do not currently want smart grids.<sup>15</sup> Opponents will mostly claim that the costs of smart grids are not worth the prospective benefits, but they are incorrect. Legislators will find support from the clear majority of voters, as well as influential constituencies like nonprofit organizations, policy and economic research institutions, and forward-looking industry leaders.

### TALKING POINTS

- Smart grids would save Floridians money and decrease power outages.<sup>17</sup>
- Smart grids will give new insights and controls through digital technologies.<sup>18</sup>
- Smart grids increase utility operational efficiency, reduce outages from hurricanes, and create new markets with improved energy services.<sup>19</sup>

Mechanically, the law would require smart grid deployment plans to improve the overall efficiency, reliability, and cost-effectiveness of electrical system operations, planning, and maintenance. Annual reports on the progress of deployment efforts would be made public, including detailed cost-benefit analyses. To move forward, interested legislators should seek professional consultation on how best to optimize this policy for Florida's existing regulatory and political structure.

### ENDNOTES

1. IBM. IBM and Consort Help North Carolinians Reduce Energy Consumption With Smart Grid Technology. 2009. (<http://bit.ly/ibm-smart-grid>).
2. CNT Energy. Illinois Households Save on Electricity Bills with Power Smart Pricing. 2011. (<http://bit.ly/ameren-smart-grid>).
3. McKinsey & Company. McKinsey on Smart Grid. 2010. (<http://bit.ly/mckinsey-on-smart-grid>).
4. KEMA. The US Smart Grid Revolution: KEMA's Perspectives for Job Creation. 2008. (<http://bit.ly/kema-smart-grid-jobs>).
5. CEIDS. The Cost of Power Disturbances to Industrial & Digital Economy Companies. 2001. (<http://bit.ly/cost-of-power-disturbances>).
6. US Department of Energy. The Smart Grid: An Introduction. 2008. (<http://1.usa.gov/doe-smart-grid-introduction>).
7. Pacific Northwest National Laboratory. The Smart Grid: An Estimation of the Energy and CO2 Benefits. 2010. (<http://bit.ly/smart-grid-co2s>).
8. *The Economist*. It's a Smart World: Special Report on Smart Systems. 2010. (<http://econ.st/smart-systems-report>).
9. US Department of Energy. Recovery Act Selections for Smart Grid Investment Grant Awards. 2009. (<http://1.usa.gov/recovery-act-smart-grid>).
10. CA Public Utilities Code, Chapter 4, Section 8360-8369. (<http://bit.ly/ca-smart-grid-law>).
11. Galvin Electricity Initiative. Smart Grid Issues in State Law and Regulation. 2010. (<http://bit.ly/smart-grid-laws-regulations>).
12. US Energy Information Administration. State/Territory Energy Profiles. 2010. (<http://bit.ly/eia-florida-energy-profile>).
13. Harris Interactive. Consumers Have Little Awareness of Smart Grid and Smart Meters. 2010. (<http://bit.ly/consumer-awareness-smart-grid>).
14. McKinsey & Company. McKinsey on Smart Grid.
15. IBM. IBM and Consort Help North Carolinians Reduce Energy Consumption With Smart Grid Technology.
16. Pacific Northwest National Laboratory. The Smart Grid: An Estimation of the Energy and CO2 Benefits.
17. US Department of Energy. The Smart Grid: An Introduction. 2008.
18. *Ibid.*
19. *Ibid.*