

# Transforming Energy & Environment



## TRANSFORMING ENERGY AND THE ENVIRONMENT



High-speed connectivity, or broadband, has the potential to transform energy and the environment, including:

- enabling technologies and services like telemedicine, visual business communication programs and e-commerce that have allowed us to turn things that typically required travel into activities that are virtually carbon neutral;
- use of smart meters, smart buildings, smart grids which provide greater control over our use of energy in our homes and businesses;
- allowing energy savings to spread to every home through two-way communication including “smart appliances” that are only in use when they are needed.

## FEDERAL COMMUNICATIONS COMMISSION (FCC) NATIONAL BROADBAND PLAN

The FCC’s National Broadband Plan includes goals for energy and the environment. These goals serve as a starting point for regional discussions about the best way to deliver and use broadband technology to transform energy and the environment across Missouri. The Plan’s recommendations include:

*“AMERICA’S ENERGY DEMANDS CONTINUE TO GROW WHILE PRESSURE TO FOCUS ON*

*PRESERVING OUR ENVIRONMENT AND MOVE TO A “GREEN ECONOMY” ARE ALSO INCREASING. BROADBAND OFFERS THE OPPORTUNITY TO REDUCE OUR COUNTRY’S CARBON FOOTPRINT AND OUR DEPENDENCE ON FOREIGN OIL, WHILE SPURRING ECONOMIC GROWTH THROUGH NEW ENVIRONMENTAL JOBS.”*

### ***Unleash energy innovation in homes by making energy data readily accessible to consumers***

Often, when citizens get informational feedback on their energy usage, they make adjustments that cut back their energy use. Access to real-time information through broadband can also allow control of automated thermostats and appliances; automatically saving residents money through smart energy consumption. To unleash innovation in smart homes and buildings, every Missouri resident should be able to manage their real-time energy consumption using broadband technology.

### ***Modernize the electric grid with broadband, making it more reliable and efficient***

Modernization of the power grid is key to solidifying American energy independence and efficiency. Paired with high-tech tools, like dynamic management software and remote

### **MOBROADBANDNOW INITIATIVE**

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sensors, broadband will be crucial to advancing innovations in renewable power, grid storage, and vehicle electrification.

There are more than 3,000 electric utilities across the United States -- each with their own topographies, environments, and regulatory administrations. This means that a modern "Smart Grid" will not use just one type of communications network - making the flexibility and scope of broadband a perfect fit for the challenge.

***Improve the energy efficiency and environmental impact of the information and communication technology (ICT) sector***

The electricity used by data storage centers alone is expected to double from 2006 to 2011. Government should work with industry to examine how to accurately measure the energy and environmental impact of data

centers and to develop solutions to make them more efficient. In addition, the FCC will work with the industry to understand how the ICT sector can improve its energy efficiency and environmental impact.

***Transition to a safer, cleaner, and more efficient transportation sector***

The transportation industry is the second largest consumer of energy and the second highest emitter of greenhouse gases. Digital developments - like real-time traffic information systems and navigation tools - can enable more efficient route-planning and driving for commuters and commercial transit operators. A more connected transportation sector can also promote safety, ease navigation, and enable tools to reduce distracted driving. Access to broadband can also incentivize mass transit by giving riders a more productive, connectivity-rich commute.

***How can Broadband Transform Energy and the Environment in my area?***

Several other factors need to be considered along with implementing broadband technology. Are the right tools in place for energy providers and consumers to leverage broadband? Do current processes and procedures allow enough room for use of broadband? Is everyone properly trained to use the technology effectively?

*MoBroadbandNow*, a five-year initiative launched by Gov. Nixon in 2009, coordinates efforts to obtain funding from the U.S. Department of Agriculture and the U.S. Department of Commerce specifically set aside for broadband expansion. *MoBroadbandNow* seeks to expand broadband accessibility to 95 percent of the total population, a significant increase from the current projected accessibility of 79.7 percent.

*MoBroadbandNow* can provide education, awareness, and facilitate communication of funding opportunities for the energy and environmental sectors.

But, we also need to more fully understand how energy and environmental companies would like to use broadband, and what are the barriers and challenges they face to integration?

Please share your stories with us at: <http://transform.mo.gov/broadband/>

Follow us on Twitter -- @MoBroadbandNow -- to stay up to speed on broadband news, program activities and funding opportunities.

**QUESTIONS TO CONSIDER ABOUT ENERGY, ENVIRONMENTAL ISSUES AND BROADBAND**

1. Are the right tools in place for our energy and environmental goals to leverage broadband? If yes, what tools are in place? If not, what hardware, software and other equipment do you need? Can you provide examples of how it would improve today's energy and environmental sectors?
2. Do current processes and procedures encourage the use of broadband? What could you do differently with broadband that would promote its use in the energy and environmental sectors?
3. Is everyone properly trained to use broadband technology effectively? How can we better prepare the workforce to utilize broadband to its maximum benefit?
4. Does broadband access and availability meet minimum standards to facilitate effective energy and environment-related applications? If yes, how? If not, what are the locations that need broadband enhancements and the challenges in getting it there?
5. Is broadband technology cost prohibitive? If so, what are some cost-saving measures that could be implemented to increase use?