

**Testimony of John Davies, Director, Division of Renewable Energy and Energy
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Before the Tennessee Valley Authority Board of Director's Public Listening Session
on Energy Efficiency and Demand Response
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Introduction

Thank you for the opportunity to highlight the various energy efficiency initiatives that are underway in Kentucky. It is my hope that these initiatives will demonstrate what is possible throughout your service area and help you to shape your energy efficiency and demand response programs. I have had the pleasure of serving in this capacity for the past seven years and have watched energy efficiency grow from “a personal virtue” to “the fifth fuel” in relatively short order. Given the advancements in technology and projected increases in energy costs, I believe that energy efficiency is a viable resource and must be part of our nation’s energy mix. We can no longer afford to apply only supply-side fixes to meet our increasing energy demands. Energy efficiency is the cheapest, cleanest, and quickest way to meet America’s growing energy demand and energy efficiency should be the resource of first choice as we manage our future energy needs.

Today, we see more energy efficiency activity in Kentucky than ever before. There is interest from all sectors, be that residential, commercial or industrial. This interest is driven by higher energy prices, concern over the environment, productivity, health, building value, O&M costs and budgets. We believe that this interest will grow, especially as energy prices continue their upward trend. Today’s interest and activity may well be just the tip of the iceberg.

Kentucky has a long history of enjoying low electricity prices driven by our abundant fossil energy resources. Our low prices have encouraged Kentuckians to use more electricity and give little regard to energy efficiency. In 2006, our electricity prices were 39 percent lower than the national average yet our electricity bills were only 6 percent

lower than the nation average. This tells us that we are energy intensive. Our electricity use per customer for the residential sector is 24 percent higher than the national average and for our industrial sector it is 427 percent higher. Overall, we are 55 percent higher in energy use per customer than the nation's average. In fact Kentucky, Tennessee, Alabama and Mississippi are all in the top ten of the most energy intensive states in the nation. This is opportunity for energy efficiency.

A recently completed study by the University of Louisville found that improved energy efficiency could meet all of the growth in Kentucky's energy demand predicted by 2017.¹ Under the moderately aggressive scenario, energy consumption in 2017 could be less than in 2008 by 30 trillion British thermal units (tBtu). The annual energy savings would represent more energy than 300,000 households use each year. Over a 10-year period, the cumulative potential from improved energy efficiency would save Kentucky 449 tBtu and \$6.8 billion. This amount of energy is equivalent to the power that three 500-megawatt power plants would generate over a 10-year period.

This finding was reinforced in the 2007 McKinsey & Company Study entitled *Wasted Energy; How the US Can Reach its Energy Productivity Potential*.² In this analysis, McKinsey stated that by capturing the potential available from existing technologies with an internal rate of return of 10 percent or more, the US has the potential to cap its energy demand, as well as its greenhouse gas emissions, at today's levels. Additionally, the analysis noted that an intensive focus on improving energy productivity would spur new markets for demand-side innovation and thus represents an important business opportunity for manufactures, utilities and other companies.

Kentucky's energy efficiency potential is large and relatively untapped. We believe that energy efficiency offers us the opportunity to help find balance between energy demand and capacity thereby helping keep Kentucky competitive in a challenging world market.

¹ "An Overview of Kentucky's Energy Consumption and Energy Efficiency Potential." Kentucky Pollution Prevention Center. University of Louisville. August 2007. <<http://www.energy.ky.gov/NR/rdonlyres/4EFF0160-29C2-49BF-9918-B1C3CCB81304/0/KYE2PotentialStudyFinalReport82207.pdf>>

Energy efficiency initiatives in Kentucky

For the sake of time, I have prepared a handout that highlights our various energy efficiency initiatives from last year. These initiatives range from working with our homebuilders, to building more energy efficient schools, to working with our regulated utilities to develop effective demand-side management programs. If there is one underlying theme to all these activities it is that we promote and develop energy efficiency opportunities through partnerships. Using partnerships, we are able to leverage resources, talent and time to achieve tangible results.

Working with our partners, we use the ENERGY STAR program as the common platform. In this way, Kentuckians learn about the benefits of superior energy efficiency from many different sources – be that electric service providers, builders, retailers, state and local governments, manufactures and others. We see great value in leveraging this national program. ENERGY STAR is well known; represents quality; and is trusted by consumers. The program enables us to find synergies and build partnerships between, what I call, non-traditional partners. Partners that only come together to promote the ENERGY STAR program and brand. In my remaining few minutes let me highlight some of our energy efficiency activities.

Kentucky became only the fourth state in the nation to be declared an ENERGY STAR partner by the U.S. Department of Energy and the U.S. Environmental Protection Agency. Program efforts have helped increase the number of ENERGY STAR certified buildings in Kentucky by 600 percent and certified homes by 71 percent since 2005. We are proud of the fact that we now have 12 ENERGY STAR labeled schools with more on the way. We find that these schools use 30 to 45 percent less energy than conventionally built schools and save \$25,000-\$50,000 per school annually. Currently, we are in discussions with the Kentucky Department of Education, Duke Energy and local architects and engineers to design and construct two net-zero energy school buildings.

² “Wasted Energy: How the U.S. can reach its energy productivity potential.” McKinsey Global Institute. July 2007. < http://www.mckinsey.com/mgi/publications/wasted_energy/index.asp>

As of last month, we have 1550 ENERGY STAR labeled homes. Cumulatively these homeowners save over \$600,000 in energy costs, annually. We anticipate this number will increase significantly, especially as our homebuilder associations in Lexington, Louisville and Northern Kentucky have recently embraced ENERGY STAR new homes program. They have found that ENERGY STAR homes sell faster even in a depressed housing market.

E.ON, our largest regulated utility, has recently filed a revised demand-side management (DSM) plan with the Kentucky Public Service Commission. This plan is more aggressive than any previous plan and increases DSM spending by nearly three fold. Included in the plan is an ENERGY STAR new home program that will incorporate home raters and homebuilders. This program came about through E.ON's DSM collaborative. We have found that a collaborative can provide an effective forum to exchange ideas and discuss issues relating to DSM initiatives. It is important that Kentucky adopted the 2006 International Energy Conservation Code for residential and commercial buildings. Even though one can say that building to code is the worst building you can legally build, it is important to have a baseline standard. Using the baseline, we can show Kentuckians why building better than code will reduce their energy use; save them money over the long run and lessen their impact on the environment.

Currently, we have 22 buildings ENERGY STAR labeled and they include schools, courthouses, office buildings, groceries, manufacturing plants and hotels. By having this diversity in building types, we are able to demonstrate to Kentucky's builders, architects, engineers and owners that ENERGY STAR is an effective protocol that produces results.

Industries in Kentucky also find value in collaborating with ENERGY STAR. Both General Electric Consumer and Industrial in Louisville and Toyota in Erlanger are national award winning ENERGY STAR Partners since 2005. The Toyota Camry manufacturing facility in Georgetown is ENERGY STAR labeled along with their North American Headquarters complex in Erlanger. I have no doubt that Toyota will bring

their enthusiasm for ENERGY STAR to their Highlander plant in Blue Springs, MS. Especially, since Toyota has designated the Highlander plant to be a model for sustainability. GE finds success with ENERGY STAR by manufacturing and selling qualified products. ENERGY STAR helps our industries lessen their impact on the environment while giving them a competitive advantage.

Last year during a special session, the Kentucky Legislature passed HB1 that provided over \$100 million in state incentives for the production of alternative transportation fuels, as well as, an incentive for manufactures to improve the energy efficiency of their operations. The legislation waives state sales tax on investments in manufacturing equipment that reduces process energy consumption by 15 percent. Just last Friday, legislation was introduced to promote the construction of homes and state-owned facilities that meet ENERGY STAR standards.

Recommendations

There are many more energy efficiency activities in Kentucky but I'll stop there. To investigate other effective programs that are being implemented across the nation I would encourage you review the American Council for an Energy-Efficient Economy report that was released last month. The report profiles 90 of America's leading energy efficiency programs.³

To conclude I would like to share three recommendations that I hope you will consider as you develop your energy efficiency and demand response policies.

First – use ENERGY STAR as your energy efficiency outreach and marketing platform. Use this well recognized and understood brand to leverage existing ENERGY STAR partners throughout your service area to have a greater impact and better results. In 2006

³ York, Dan; Kushler, Marty; and Witte, Patti. "Compendium of Champions: Chronicling Exemplary Energy Efficiency Programs from Across the U.S." American Council for an Energy-Efficient Economy. February 2008.< <http://aceee.org/pubs/u081.htm>>

alone, ENERGY STAR helped Americans save 35,000 megawatts of peak power, avoiding the need for about 70 new power plants.

Second – As you develop your energy efficiency and demand-side management programs include stakeholders using a collaborative process to help provide a perspective that can lead to higher program adoption and stronger participation by your customers.

And Last – Become involved with the residential and commercial building energy code process throughout your service area. Having established energy codes, keeping codes current and validating that codes are applied will help improve the energy efficiency of building stock in your service area. Also, I would encourage you to help train builders, architects and engineers on how to build better-than-code houses and buildings.

I thank you for the opportunity to share my thoughts and I hope that they will help you achieve, if not surpass, your goal of reducing power demand growth by 1200 megawatts.