



From the Manager... Climate Change Part 4

This article is the last in a four part series concerning climate change. Last month, we looked at the two most abundant fuels for the generation of electricity, coal and natural gas. I shared with you that if we are to significantly reduce the amount of carbon dioxide (CO₂) emitted into the atmosphere, we must find some way to remove CO₂ from coal and natural gas, we must burn significantly less of it or we need to find a way to capture the gas and not allow it to enter the atmosphere.

The call for a reduction in CO₂ has placed renewable electricity sources, namely wind, solar, biomass and geothermal at the top of the global energy agenda. These fuel sources have received a lot of attention recently and there are a number of commercial projects that are either under construction or in the advanced planning phase. How effective can these sources be at replacing coal and natural gas?

A comprehensive analysis must include technology. Removing the CO₂ will take time and be very costly and the technology to capture CO₂ has yet to be perfected. Utility leaders must assess the best technology investments from

performance and commercialization perspectives.

Renewable alternatives have some common advantages. Most have fuel sources that are either free or a by-product of another process. We don't have to mine or drill for wind and sunlight. So once the project is built, there is little or no cost to power it and very little cost to maintain it. But the principle advantage, as far as climate change is concerned, is that they can generate clean electricity.

That's the good news. But there are some disadvantages also when it comes to generating large amounts of electricity. Wind and solar require large tracts of land. A 64-megawatt (MW) solar plant in Nevada takes up 300 acres of land. In contrast, a 500 MW coal or natural gas plant will take between 100 to 200 acres. Wind farms can be extremely large. One 735 MW farm in west Texas is spread over nearly 47,000 acres.

Another big disadvantage is that while sunlight and wind are free, they are not evenly distributed. There are limited areas of the country where these projects make sense. Even though the fuel is free, the price of the electric-

ity from these sources is currently high.

The biggest problem, however, with wind and solar is that they are not depend-

able. The sun does not always shine and the wind does not always blow. To understand why this is important to electric utilities, I need to explain something.

Current technology does not allow us to store large amounts of electricity. It must be produced at the instant that it is needed. And the amount of electricity that is needed can change dramatically based upon the time of day, the day of the week or the season of the year. So the amount that is produced must exactly match the amount that is needed. To do this, we divide our electrical generation into three categories: baseload, intermediate, or peaking.

Baseload generation is designed to meet the minimum electricity requirements. No matter what time or day or season, there will be a certain amount of electricity being used. Baseload generating plants are designed to



Scott Whittington

From the Manager... Continued

run all day, every day. The fuel that best fits this need is coal.

Intermediate generation is used to “follow the load”. This generating unit must be able to rapidly increase or decrease the amount of power produced in order to provide that exact match that we need. These units will run most of the time. Natural gas plants are best at this.

Peaking generation is used only when needed to meet the peak demands. This could be on the hottest days of the summer or the coldest days of the winter. They may only run a few days a year. Again natural gas fits here.

So where would wind and solar fit in? If we want them to replace coal, can they? No. Wind and solar would fit in as an intermediate source of power replacing natural gas.

So where does that leave us? If the technology does not presently exist to remove CO₂ from coal and alternative energy sources cannot take the place of coal, then we have a problem. Remember that about half of the electricity generated in this country is from coal, which has been one of our cheaper fuels. Any

Lyon-Coffey Welcomes Ken Caudell to Our Staff

Ken Caudell was hired as Information-Technology Coordinator for Lyon-Coffey Electric April 1.

As technology has advanced, the need for an in-house employee became more and more critical. Finding the right person can be very difficult for small businesses such as Lyon-Coffey because we need someone who has the ex-



Ken Caudell

change that we make toward less CO₂ is going to be expensive. We are between the proverbial rock and hard place.

Lyon-Coffey wants to be a good steward of our environment. We feel a responsibility to do that. But we also have a responsibility to provide you with power that you can afford. Understand that we will be working in Topeka and in Washington to be sure that those who make our laws understand the realities of our business.

I wish that I could wrap up this series with a nice ribbon and tell you that everything is going to be all right. It appears though, that unless there is a big shift in Washington, and an even bigger shift in the Governor’s mansion in Topeka, there will be some major changes in the next few years. I don’t know exactly what those changes might be but I feel certain that they will be expensive. I would encourage you to learn as much as you can about this topic and to be active in voicing your opinion to those who make laws that will impact your cooperative.

Thank you for taking the time to read this series on climate change.

pertise to work with everything from phone systems to multiple types of computer systems and software.

Ken has that expertise and is also a real “people person”. He has proved invaluable to us already and has fit in so well that

it is almost like he’s been here for years. We are delighted to welcome him to the co-op family!

WildBlue BBQ Contest

July 18-19, 2008

Kelly Park, Burlington



Barbeque Contest

Friday Night & Saturday
Registration Deadline – July 11

Golf Tournament

Saturday 8:30 a.m. -12:30 p.m.
\$40 per person @ Burlington Country Club

Kids Sanctioned Pedal Power Tractor Pull

Registration 10 a.m., Begins 11 a.m.

Horse Shoe Contest

Saturday Morning
Kelley Park-Horse Shoe Pits

Community Barbecue

Saturday 11 a.m – 1 p.m.
Barbeque cooked by contestants,
served by BHS SADD
\$5 – Adult and \$3 – Children

Great Music

Recycling of Cell Phones & Electronic Equipment

**For more information
call Lyon-Coffey**

**Electric at
(620) 364-5121**

**Or visit the website at
www.wildbluebbq.org**