

Hidden Costs of Energy

Price is not the only cost of America's energy use

In Wasco County and across the nation, businesses and individuals need energy that is available when and where it is needed, is affordable at stable prices and can be depended upon for years to come.

As a public utility, these are the same tenants that NWCPUD has stood by throughout its history.

While it is easy to see the cost of energy on an electric bill or at the gas pump, there are also costs of energy that are not so obvious.

Security

Much of the nation's critical energy supply is outside of its control. The U.S. depends upon other countries for many of its energy resources including two thirds of its petroleum supply.

As economic and political changes take place around the globe, there is increased risk that energy prices will rise or that access to foreign energy supplies may become unavailable all together.

Worldwide consumption of energy is expected to grow 50 percent by 2030 in large part due to the economic growth in China and India.

As competition for conventional resources increases worldwide, many energy planners are pushing for a national energy policy that includes reassessment of U.S. oil consumption and maximizing the development and use of domestic resources.

Domestic sources of energy in the future may include biofuels, liquid transportation fuels from coal and natural gas, advanced nuclear power, wind power and solar, all-electric and plug-in hybrid electric vehicles.

There are several public and private organizations that support energy research and development in the U.S.

The transportation industry is receiving much attention as it relies heavily on the use of oil.

Nearly all of the consumer goods in the nation are delivered by truck—from the food we eat to the clothes we wear and the packages we send.

Improvements in vehicle efficiency and the use of biofuels and electricity to power trucks and cars can help reduce demand for oil.

Domestic development will not only strengthen the nation's security it will result in an increased number of jobs for the nation's workers.

Sustainability

The nation's and the world's appetite for energy continues to grow at a pace that exceeds the amount of fossil fuels available. No single source can provide all of those needs.

Yet even as consumption increases and stores decrease, fossil fuels will remain a part of the nation's energy portfolio for decades to come. The country needs to rely on the conventional resources of oil and natural gas as it increases energy efficiency and new sources and technologies play a larger part in the future of energy.

In the future, an increased portion of the U.S. energy portfolio will be met by technologies currently in the research stage. Which components will eventually become dependable still remains to be seen.

One option for power is advanced nuclear fusion. Prior to the nuclear crisis in Japan, a February 2011 study found 71 percent of Americans favored the use of nuclear power and 84 percent believed that it would have an important role in the nation's energy future.

No new reactors have come on line

What Will It Take? Powering America's Future

"Hidden Costs of Power" is the third in a series of articles from Northern Wasco County PUD about the current state of the energy industry in America and what is needed to move the nation forward to a powerful future.

Part 4 of the series continues next month with a look at how government regulations have impacted the energy sector and what will be needed to create a national energy policy to fuel America's future.



Even as new technologies are developed and fossil fuel stores diminish, petroleum products such as gasoline will remain a large part of the U.S. energy portfolio for decades to come.

since 1996, yet with increased support for low-carbon energy production, there has been renewed interest in nuclear power.

All electric vehicles and plug-in hybrid vehicles are also reducing petroleum dependence. The all-electric 2011 Nissan Leaf has already sold out for the entire first year of production.

The hydrogen fuel cell is another power resource currently under development for use in cars and trucks. The technology produces electricity through the chemical reaction of hydrogen and oxygen to turn an electric motor and power the vehicle.

Fuel-cell vehicles do not produce carbon dioxide or other harmful emissions. Automakers such as Honda have had a limited number of the vehicles for sale for nearly a decade.

Research and development continues in an effort to bring down the cost of hydrogen fuel cell vehicles and to create a widespread fueling station system for the vehicles.

Environmental Impact

The combustion of fossil fuel and other industrial processes create carbon dioxide which can harm the environment. According to the Environmental Protection Agency, fossil fuel combustion accounted for 94.6 percent of CO₂ emissions in the U.S. in 2009.

That same year, the U.S. emissions accounted for 18 percent of the total CO₂ added to the atmosphere worldwide.

While coal is the least expensive of all

fossil fuels for its energy content, mining of coal changes the landscape and can impact water quality of nearby streams and rivers.

Coal-fired power plants are a source of carbon dioxide and other emissions that impact the environment and human health. Research and development of clean coal technologies is underway to reduce emission and improve efficiency at the plants.

Unconventional sources of energy such as oil and natural gas shales could further decrease the need to import these resources, although estimates vary as to how much. The environmental impacts of this new technology including the significant disturbance of land, extensive use of water and potential pollution of air and groundwater must also be examined.

More research and development is needed to create cost-effective, low-carbon energy sources. Once those resources are developed, the new technologies need to be brought to market in convenient and affordable forms.

With so many businesses and citizens affected by the cost and supply of oil, natural gas and electricity, the U.S. needs a national energy policy that encourages dependable, adequate supplies of power at stable, affordable prices.

Next month in Part 4 of this series, we will look at the impact of federal and state regulations on the energy sector and the components of a cohesive and affordable national energy policy that would fuel the U.S. economy while protecting its environment. n

NORTHERN WASCO COUNTY PUD

COMMUNITY CALENDAR

December 2,3

Festival of Trees.

Annual fundraiser for the Mid-Columbia Health Foundation.

Friday: Live and silent auction, 6 p.m. at The Dalles Civic Auditorium, 323 E. 4th St. Tickets \$10.00.

Saturday: Free tour of the trees is open to the public, 9 a.m. to noon. Pictures with Santa and pancake breakfast. Classic holiday cartoons from 10 to 11:30 a.m.

For details, call Mid-Columbia Health Foundation at 541-296-7275.

December 10-11

Cascade Singers' Christmas concerts.

Annual holiday concerts feature "Carols and Lullabies: Christmas in the Southwest" by Conrad Susa and a selection from "Missa Criolla" and other Spanish and Latin American music. Selections will be accompanied by harp, guitar, and marimba. Concerts begin Saturday at 7:30 p.m. and Sunday at 3 p.m. at Zion Lutheran Church, 10th and Union Streets.

Tickets available at the door, \$10 for adults, \$5 for students/seniors. Children 12 and under, free.

December 10

Holiday Open House at the Discovery Center and Museum.

Free museum admission, live music, cookies and hot cider, from 10 a.m. to 3 p.m.

Visit Santa (12 p.m. -2 p.m.) and enjoy the birds-of-prey programs (11 a.m. & 2 p.m.) Feast on the prime-rib lunch at the Basalt Rock Cafe from 11:00 a.m. to 2:00 p.m. Adults \$14.95, kids \$7.95, children 5 and under, free.

Enter the raffle to win a holiday gift basket worth more than \$600.00.

For details, call the Discovery Center and Museum at 541-296-2941.

December 20

Northern Wasco County PUD Board Meeting.

6 p.m., 2345 River Rd.,

The Dalles. n