

about what it would mean to have a Court that instead cares about hard-working Americans.

Solicitor General Kagan is nominated to fill the seat currently occupied by Justice Stevens who wrote the impassioned dissent in yesterday's *Rent-A-Center* ruling. I hope General Kagan has learned from Justice Stevens and takes his words to heart. I look forward to questioning her during these hearings. I want to make sure she understands that Supreme Court cases impact all of our lives—and that she will be the kind of Justice who believes in equal justice under the law.

Thank you, Madam President. I yield the floor.

The ACTING PRESIDENT pro tempore. The Senator from Tennessee.

Mr. ALEXANDER. Madam President, how much time do I have?

The ACTING PRESIDENT pro tempore. The Republicans have 60 minutes, and individual Senators are limited to 10 minutes.

Mr. ALEXANDER. Would the Chair please let me know when 9 minutes have expired.

The ACTING PRESIDENT pro tempore. We will.

Mr. ALEXANDER. Thank you, Madam President.

ENERGY DEBATE

Mr. ALEXANDER. Madam President, last week the *New York Times* ran a story, and I ask unanimous consent to have it printed in the *RECORD* at this time.

There being no objection, the material was ordered to be printed in the *RECORD*, as follows:

[From the *New York Times*, June 18, 2010]

NET BENEFITS OF BIOMASS POWER UNDER SCRUTINY

(By Tom Zeller, Jr.)

GREENFIELD, MA.—Matthew Wolfe, an energy developer with plans to turn tree branches and other woody debris into electric power, sees himself as a positive force in the effort to wean his state off of planet-warming fossil fuels.

"It's way better than coal," Mr. Wolfe said, "if you look at it over its life cycle."

Not everyone agrees, as evidenced by lawn signs in this northwestern Massachusetts town reading "Biomass? No Thanks."

In fact, power generated by burning wood, plants and other organic material, which makes up 50 percent of all renewable energy produced in the United States, according to federal statistics, is facing increased scrutiny and opposition.

That, critics say, is because it is not as climate-friendly as once thought, and the pollution it causes in the short run may outweigh its long-term benefits.

The opposition to biomass power threatens its viability as a renewable energy source when the country is looking to diversify its energy portfolio, urged on by President Obama in an address to the nation Tuesday. It also underscores the difficult and complex choices state and local governments face in pursuing clean-energy goals.

Biomass proponents say it is a simple and proved renewable technology based on natural cycles. They acknowledge that burning wood and other organic matter releases car-

bon dioxide into the atmosphere just as coal does, but point out that trees and plants also absorb the gas. If done carefully, and without overharvesting, they say, the damage to the climate can be offset.

But opponents say achieving that sort of balance is almost impossible, and carbon-absorbing forests will ultimately be destroyed to feed a voracious biomass industry fueled inappropriately by clean-energy subsidies. They also argue that, like any incinerating operation, biomass plants generate all sorts of other pollution, including particulate matter. State and federal regulators are now puzzling over these arguments.

Last month, in outlining its plans to regulate greenhouse gases, the Environmental Protection Agency declined to exempt emissions from "biogenic" sources like biomass power plants. That dismayed the biomass and forest products industries, which typically describe biomass as "carbon neutral."

The agency said more deliberation was needed.

Meanwhile, plans for several biomass plants around the country have been dropped because of stiff community opposition.

In March, a \$250 million biomass power project planned for Gretna, Fla., was abandoned after residents complained that it threatened air quality. Two planned plants in Indiana have faced similar grass-roots opposition.

In April, an association of family physicians in North Carolina told state regulators that biomass power plants there, like other plants and factories that pollute the air, could "increase the risk of premature death, asthma, chronic bronchitis and heart disease."

In Massachusetts, fierce opposition to a handful of projects in the western part of the state, including Mr. Wolfe's, prompted officials to order a moratorium on new permits last December, and to commission a scientific review of the environmental credentials of biomass power.

That study, released last week, concluded that, at least in Massachusetts, power plants using woody material as fuel would probably prove worse for the climate than existing coal plants over the next several decades. Plants that generate both heat and power, displacing not just coal but also oil and gas, could yield dividends faster, the report said. But in every case, the study found, much depends on what is burned, how it is burned, how forests are managed and how the industry is regulated.

Ian A. Bowles, the secretary of the Massachusetts Office of Energy and Environmental Affairs, said that biomass power and sustainable forest management were not mutually exclusive. But he also said that the logical conclusion from the study was that biomass plants that generated electricity alone probably should not be eligible for incentives for renewable energy.

"That would represent a significant change in policy," Mr. Bowles said.

The biomass industry argues that studies like the one in Massachusetts do not make a clear distinction between wood harvested specifically for energy production and the more common, and desirable, practice of burning wood and plant scraps left from agriculture and logging operations.

The Biomass Power Association, a trade group based in Maine, said in a statement last week that it was "not aware of any facilities that use whole trees for energy."

During a recent visit to an old gravel pit outside of town where he hopes to build his 47-megawatt Pioneer Renewable Energy project, Mr. Wolfe said the plant would be capable of generating heat and power, and would use only woody residues as a feedstock. "It's really frustrating," he said.

"There's a tremendous deficit of trust that is really inhibiting things."

In the United States, biomass power plants burn a variety of feedstocks, including rice hulls in Louisiana and sugar cane residues, called bagasse, in parts of Florida and Hawaii. A vast majority, though, some 90 percent, use woody residue as a feedstock, according to the Biomass Power Association. About 75 percent of biomass electricity comes from the paper and pulp companies, which collect their residues and burn them to generate power for themselves.

But more than 80 operations in 20 states are grid-connected and generate power for sale to local utilities and distribution to residential and commercial customers, a \$1 billion industry, according to the association. The increasing availability of subsidies and tax incentives has put dozens of new projects in the development pipeline.

The problem with all this biomass, critics argue, is that wood can actually churn out more greenhouse gases than coal. New trees might well cancel that out, but they do not grow overnight. That means the low-carbon attributes of biomass are often realized too slowly to be particularly useful for combating climate change.

Supporters of the technology say those limitations can be overcome with tight regulation of what materials are burned and how they are harvested. "The key question is the rate of use," said Ben Larson of the Union of Concerned Scientists, an environmental group based in Cambridge, Mass., that supports the sensible use of biomass power. "We need to consider which sources are used, and how the land is taken care of over the long haul."

But critics maintain that "sustainable" biomass power is an oxymoron, and that nowhere near enough residual material exists to feed a large-scale industry. Plant owners, they say, will inevitably be forced to seek out less beneficial fuels, including whole trees harvested from tracts of land that never would have been logged otherwise. Those trees, critics say, would do far more to absorb planet-warming gases if they were simply let alone.

"The fact is, you might get six or seven megawatts of power from residues in Massachusetts," said Chris Matera, the founder of Massachusetts Forest Watch. "They're planning on building about 200 megawatts. So it's a red herring. It's not about burning waste wood. This is about burning trees."

Whether or not that is true, biomass power is also coming under attack simply for the ordinary air pollution it produces. Web sites like No Biomass Burn, based in the Pacific Northwest, liken biomass emissions to cigarette smoke. Duff Badgley, the coordinator of the site, says a proposed plant in Mason County, Washington, would "rain toxic pollutants" on residents there. And the American Lung Association has asked Congress to exclude subsidies for biomass from any new energy bill, citing potentially "severe impacts" on health.

Nathaniel Greene, the director of renewable energy policy for the Natural Resources Defense Council, said that while such concerns were not unfounded, air pollution could be controlled. "It involves technology that we're really good at," Mr. Greene said. For opponents like Mr. Matera, the tradeoffs are not worth it.

"We've got huge problems," Mr. Matera said. "And there's no easy answer. But biomass doesn't do it. It's a false solution that has enormous impacts."

Mr. Wolfe says that is shortsighted. Wind power and solar power are not ready to scale up technologically and economically, he said, particularly in this corner of Massachusetts. Biomass, by contrast, is proven and

available, and while it is far from perfect, he argued, it can play a small part in reducing reliance on fossil fuels.

"Is it carbon-neutral? Is it low-carbon? There's some variety of opinion," Mr. Wolfe said. "But that's missing the forest for the trees. The question I ask is, What's the alternative?"

Mr. ALEXANDER. The above-referenced article is entitled "Net Benefits of Biomass Power Under Scrutiny." It is about how the people of Massachusetts are starting to debate the idea that they are accomplishing anything by displacing coal with biomass to produce clean electricity. I am talking here about producing electricity, not biofuels which we use in our cars.

Biomass is essentially burning wood and other organic products in a sort of controlled bonfire to produce electricity. The argument for biomass goes like this: Wood is natural. Trees regrow. Burn them up today and more trees will grow tomorrow. Therefore, we won't run out of resources. Moreover, trees are carbon neutral. Burning wood may release carbon dioxide, but trees reabsorb carbon so we can benefit from this natural cycle by generating electricity. Therefore, we are not making climate problems any worse with biomass.

Indeed, biomass produces about 50 percent of our Nation's renewable electricity today, according to the New York Times, and by most of the definitions of renewable electricity that we use in proposals in the Senate. But we can't rely upon biomass to replace significant amounts of the fossil-based electricity we get today from coal. Biomass electricity has its place, and can be used to burn forest and other wood waste. In Tennessee we have a lot of pine trees. They need to be removed from the forest, and this is a good way to do that and make a little electricity. However, we cannot and we should not start cutting down and burning our forests to produce electricity. The loss of forest land is still one of the major ecological catastrophes in Africa, Asia, and South America. So are we, the most advanced country in the world, going to talk about going back to burning up our forests for energy? Many environmental advocates are now arguing that biomass should not even be considered to be "renewable" or "carbon neutral" because of the fact that burning wood releases greenhouse gases. While that is true, so does the natural process of decay, but the carbon is reabsorbed by the growth of new trees. Biomass can be, and should be, an important—albeit a small part—of our electricity portfolio by using excess forest material and industrial wood waste.

Unfortunately, the New York Times piece misses out on one of the most important concerns about biomass. Just like other renewable electricity sources, it cannot be the solution for our clean energy needs because of the problem of scale. We would have to continually forest an area 1½ times the

size of the Great Smoky Mountains National Park to replace the electricity created by two standard coal plants or one standard nuclear reactor. Wood has only half the energy density of coal. That means, if nothing else, we have to do twice as much work in hauling it around. There is a utility in Georgia that is using wood to replace coal in a 100-megawatt powerplant. This utility has trucks running in there day and night hauling wood to keep the plant running, and that is only 100 megawatts—about one-tenth the size of one nuclear reactor. For the southeastern United States to meet a 12-percent renewable electricity standard, as called for in the Waxman-Markey energy climate bill, by using biomass alone, we would have to cut down more trees than the entire U.S. paper industry uses each year.

I think it is worth taking note of all this as we move toward the idea that renewable resources are the answer to our energy problems.

Tomorrow, there will be a group of my colleagues going to the White House to discuss with the President the issue of how to proceed on clean energy. My fear is that we may all be asked to put our differences aside and settle this issue by pushing through a "renewable electricity standard" that says all we have to do is choose a number—17 percent by 2020 or 25 percent by 2030—and before you know it, we will have all the energy we need from wind, the Sun, and from the Earth running our highly advanced technological country.

In fact, more than half of the States already have adopted some version of these renewable electricity standards, but they haven't accomplished much. New Jersey wants to close down a nuclear reactor and replace it with an offshore wind farm. It will have to build 50-story wind turbines along its entire 125-mile coast, and it will still need to have the nuclear plant or a natural gas plant or coal plant or some other plant to provide electricity when the wind doesn't blow, which is most of the time.

To meet its requirement of 33 percent renewable electricity by 2020, California has put up wind farms, developed its abundant geothermal resources, and siphoned methane from almost every landfill in the State, and it still only gets 12 percent of its electricity from renewables.

Last year, a Wall Street Journal article cited the California State Energy Commission's warning that the renewable requirement could begin causing reliability problems—that means that when you turn your light switch on, the light might not go on—and increase electricity rates by 2011, which is next year. California State agencies were warning that simply increasing the renewable requirement from 20 percent to 33 percent could cost \$114 billion.

Mr. President, I ask unanimous consent to have printed in the RECORD the

Wall Street Journal article from July 3, 2009.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

[From the Wall Street Journal, July 3, 2009]

STATE'S RENEWABLE-ENERGY FOCUS RISKS
POWER SHORTAGES
(By Rebecca Smith)

California officials are beginning to worry that the state's focus on transitioning to renewable-energy sources could lead to power shortages in the near term.

The state has been so keen to develop renewables that relatively few conventional power generators, such as gas-fired plants, have been built lately. That risks a possible energy shortfall in certain places if the economy rebounds any time soon.

California's utilities are barreling ahead to try to meet a state mandate to garner 33% of their power from renewable sources by 2020, and some officials are concerned the effort might push up electricity prices and crimp supplies.

The state auditor warned this week that the electricity sector poses a "high risk" to the state economy. A staff report from the state energy commission also warns that California could find itself uncomfortably tight on power by 2011 if problems continue to pile up.

Utilities complain that the ambitious renewable-energy mandates, combined with tougher environmental regulations on conventional plants, are compromising their ability to deliver adequate power. "Conflicting state policies are a problem," said Stuart Hemphill, senior vice president of procurement at Southern California Edison, a unit of Edison International of Rosemead, Calif.

The stresses being felt in California could be a harbinger of problems to come in other states. The federal Waxman-Markey climate-change bill, passed by the House of Representatives on June 26, would require states to obtain about 15% of their electricity from renewable sources by 2020. Currently, about 4% of U.S. electricity comes from renewables, excluding hydropower.

California's 33% renewable-energy target is so ambitious that it is likely to miss the goal by five years or more, energy officials now concur.

State energy agencies recently concluded it could cost \$114 billion or more to meet the 33% mandate, more than double what it might have cost to achieve an earlier 20% requirement. Consumers will bear those costs, one way or another.

Agencies also identified problems with constructing sufficient transmission capacity to move renewable-based energy to cities.

Southern California Edison, which buys more renewable electricity than any other U.S. utility, has conducted seven solicitations for renewable-energy supplies since 2002 and inked 48 renewable energy contracts. Yet it is still only halfway toward its procurement goal. In 2008, 16% of its electricity was renewable in origin, but more than 60% of that came from geothermal plants—most of them built long before the current push for green power.

At the same time, new regulations are putting existing power plants under pressure. Last week, the state Water Resources Control Board issued a proposed policy that would clamp down on power plants that use something called "once-through cooling," which sucks water out of the ocean and rivers and discharges massive amounts of warmed water, harming some aquatic life.

The policy would end the practice at 19 plants that produce as much as 15% of the

state's electricity. That has the California Energy Commission worried electricity shortages might arise if older, marginal plants are shut down before there is replacement power available.

Building conventional power units is notoriously tough in Southern California because of air-quality problems and difficulty getting air-emissions credits, which are essentially rights to spew specified amounts of pollutants.

Early this year, the local air agency, the South Coast Air Quality Management District, imposed a moratorium on issuing air credits from its "bank" that affected 10 power plants that were under development.

"It's too early to tell how the pieces will fit together, but all the agencies and utilities are talking," said Edison's Mr. Hemphill. "Something has to be worked out."

Mr. ALEXANDER. Mr. President, countries such as Denmark and Germany have done the same thing. Denmark, which is often cited for its wind power, has pushed its windmills up to 20 percent of its electrical capacity. That sounds good. Many people regard 20 percent as about the theoretical limit that wind power can supply to a total electric grid, even for a small country such as Denmark. Yet Denmark hasn't closed even one single coal plant as a result of all these new windmills. So it is still dependent on fossil fuels, and it has the most expensive electricity in Europe because of all of its renewable electricity. Meanwhile, France, which has gone to 80 percent nuclear power, has per capita carbon emissions 30 percent lower than those of Denmark, and it has so much cheap electricity that France is making \$3 billion a year exporting its electricity—mostly from nuclear power—to other countries.

So what are we getting into when we say we are going to solve our energy problems by passing a law telling ourselves we have to get 15, 17, or 20 percent of our electricity from renewable sources, very narrowly defined, by 2020?

First, it is important to point out that 80 percent of the facilities built to satisfy State renewable standards have been windmills. So a renewable electricity standard is really a national windmill policy instead of a national energy policy. Wind turbines are easy to put up, especially in remote areas. We have built 35,000 megawatts in total wind energy capacity, which represents an increase of more than 100 percent in the past 3 years. But most wind turbines only generate electricity about 33 percent of the time. That is how often the wind blows. The best wind farms—the ones on the eastern and west coast mountaintops or on the windy plains of the Dakotas—operate a little more than 40 percent of the time. That means our 35,000 megawatts in windmill capacity only generates about 10,000 megawatts at best—the equivalent of ten standard nuclear reactors.

Moreover, the wind doesn't always blow when it is needed and often blows when it is not needed. The strongest winds are at night or during the fall and spring, which are periods of low demand, while the periods with the least

wind are hot summer afternoons, when the electricity demand peaks. Wind and other renewables are not dependable in the terms that utilities need dependable electricity. The Tennessee Valley Authority, in the region where I live, says it can only count on the wind power it produces in Tennessee and even the wind power it buys from the Dakotas about 10 to 15 percent of the time when it is actually needed. That is also what has happened in Denmark. They have to give away almost half of their wind-generated electricity to Germany and Sweden at bargain prices because it comes at a time when it is not needed. The result has been that the Danes pay the highest electrical prices in Europe and still haven't achieved much reduction in carbon emissions.

Then there is the matter of subsidies. We hear a lot about oil subsidies in the Senate. I suggest that when we talk about big oil, we also talk about big wind. The U.S. taxpayers are already committed to spending \$29 billion over the next 10 years to subsidize the investors, corporations, and the banks that have financed the big wind turbines, and they only produce 1.8 percent of our electricity. If we went to 20 percent of our electricity from wind in the United States, that would be \$170 billion from American taxpayers.

Windmills are and can be said to be a big success compared to solar electricity at today's prices. California now has more solar electricity than any other State, and in March, the California Public Utilities Commission announced the opening of one of the largest photovoltaic stations in California—21 megawatts. Solar power makes more sense as a supplement to our power by offsetting some of our demand by placing solar panels on rooftops, not large-scale electricity plants. We all hope we can reduce the cost of solar power, which today costs four times as much as electricity produced from coal.

These are technologies we are counting on to solve our energy problems. I think we have to exercise some caution here. The assumption is that all we have to do is subsidize these technologies and get them up and running, and they will find their place in the market. That doesn't seem to be true. All of these technologies still have much to prove before they can shoulder a significant portion of our electricity. Biomass facilities need to be placed where they are most efficient and can be used as a supplement to low-cost reliable sources of electricity that already provide the large amounts of clean and reliable energy we need. We already have a proven technology in nuclear power that provides us with 20 percent of our electricity and 70 percent of our carbon-free electricity. We should focus on that.

As the President and our colleagues consider our clean energy future tomorrow and the things we agree on, we can agree to electrify half our cars and

trucks, and we can agree to build nuclear plants for carbon-free electricity. We can certainly agree on doubling energy research and development to bring down the cost of solar power by a factor of 4 and to create a 500-mile battery for electric cars.

But we need to remember, as we think about the next 10, 20, or 30 years, the United States is not a desert island. We use 25 percent of all the energy in the world to produce about 25 percent of all the money, which we distribute among ourselves, 5 percent of the people in the world. We ought to keep that high standard of living. We need to remember we are not a desert island. Someday, solar, wind, and the Earth may be an important supplement to our energy needs, but for today, we are not going to power the United States on electricity produced by a windmill, a controlled bonfire, and a few solar panels.

I yield the floor.

The PRESIDING OFFICER (Mr. UDALL of New Mexico). The Senator from Kansas is recognized.

Mr. BROWNBACK. Mr. President, I appreciate my colleague commenting about energy. There is a bipartisan energy bill that I hope the President discusses tomorrow. It came out of the Energy Committee on a bipartisan vote. It doesn't increase cap and trade.

I certainly agree with my colleague on nuclear power, although we have some disagreement about wind. We have some nice places in Kansas for wind energy generation. I talked with the operators of the Smoky Hills Wind Farm last week. It operates between 40 and 45 percent of the time—the highest operating unit in the world. This company is a global wind-producing company. It is a very nice operation. I am not saying you can power it all off of wind. I am a nuclear supporter myself.

I also believe we have nice places to do wind power and a nice generation capacity that is complementary to the rest of the energy grid in the United States. Kansas is the second windiest State in the country. There are many times I have been in Kansas and have wondered, who else could be windier? We have a lot of consistent wind. There are places we can produce wind power on a very advantageous basis for the rest of the country. It is my hope that we can have those on a complementary basis but that we don't do a cap-and-trade system; rather, that we go with the bipartisan bill that passed the Energy Committee.

TRIBUTE TO MANUTE BOL

Mr. BROWNBACK. Mr. President, I wish to speak about the untimely passing of a giant—a giant in the hearts of the Sudanese people but also a literal giant. At 7 foot 7 inches, Manute Bol was a hero in his native home of Sudan, not for the fact alone that he was a pro basketball player in the United States or that he killed a lion with a spear while working as a cow