

CLIMATE TALKS

Denmark, a Green Energy Leader, Slows the Pace of Its Spending

By MELISSA EDDY

SONDERBORG, Denmark — Not long ago, Denmark was making headlines for harvesting so much wind power that it was leading the way in generating renewable energy, while becoming a center of innovation and growth for green and clean technology.

Then, in June, a center-left government was replaced by a right-wing, minority coalition determined to tighten spending and balance the budget in a program to grow the economy.

The budget cuts include a key fund that was used to seed green technology projects — a government subsidy that environmental advocates said had paid itself off many times over.

“This funding has proven instrumental for Danish advances in clean tech for many years, and it is incomprehensible why it is being cut now,” said Soren Houmoller, whose 1st Mile consulting company helps businesses apply for public funds in Denmark.

Mette Ahlgaard, a spokeswoman for green energy affairs for the opposition Danish Conservative People’s Party, said the timing of the cuts was disappointing.

“I believe this is a very bad signal to be sending the world, for Denmark to be taking a step backwards just before the Paris climate summit,” she said last month.

The debate going on in Denmark may serve as a cautionary tale for leaders of the 195 countries now meeting in Paris and trying to reach a global deal to rein in dangerous greenhouse gases that have been linked to climate change.

Should the negotiators be able to put aside their conflicting agendas, and sign an accord when the talks end this week, they will then face another challenge: meeting their national goals.

One lesson they may learn from Denmark is how it is possible to substantially replace fossil fuels with clean and renewable energy. But even when progress is made in reducing environmentally harmful carbon emissions, countries may have difficulty sustaining the gains because of politics, economic concerns and, in places like the United States, ideological disputes.

The new government in Denmark argues that spending on alternative energy and innovation is still high, but that the budget must be reeled in as the country faces a predicted deficit of 3.3 percent in 2015. Shortly after taking over in June, the new government was forced to cut its forecast for economic growth to 1.5 percent this year and 1.9 percent in 2016, citing a slow recovery in domestic demand.

“I think the criticism is over the top,” Lars Christian Lilleholt, Denmark’s energy minister, told the Politiken newspaper last month. He said the country still planned to invest 800 million kro-



Jens Dall Bentzen at a furnace in Sonderborg, Denmark, that is built on a design he developed with a government grant. It burns organic matter to generate heat.

ne, or \$114 million, in green energy research in the coming year.

“There is less money, but it is still a lot. And I sit in a government that must find a way for the Danish economy to make ends meet.”

But people who have relied on government funds and other incentives to help finance their energy projects said the cuts were a mistake.

One of them is Jens Dall Bentzen, who eight years ago began thinking about how to burn wood chips, grass clippings and other organic matter more efficiently to generate heat. He had an inkling he could contribute to Denmark’s efforts to wean off fossil fuels by 2050, but he worried about quitting his job as a researcher to pursue his idea.

With the help of a grant of 2.5 million Danish kroner, or \$448,000, he developed a prototype of the “no-emissions” furnace he had imagined. He started his own company, Dall Energy, and was able to sell the furnace to Wärtsilä, a manufacturer in New Ipswich, N.H. Since then, he has built two other furnaces for Danish municipalities, and attracted interest from elsewhere in Europe and the United States.

He said the grant from the Energy Technology Development

and Demonstration Program made it possible.

“I found it more tempting to leave my job and start a company,” he said in an interview inside the heating plant in this Danish coastal town, where his furnace was turning the damp chill into cozy warmth. “I started realizing it could be achievable.”

Denmark, a country of 5.6 million people, was able to generate 40 percent of its energy from wind turbines last year. Germany, by comparison, generates less than 30 percent of its energy from renewable sources, primarily wind and sun.

The new governing party, Venstre, or Liberal, reached an agreement on its 2016 financial plan last month. The budget cut spending for research into green energy sources to 127 million kroner, or \$18 million, from 385 million kroner, or \$55 million.

The cuts are troubling to Soren Hermansen, who runs a renewable project, the Energy Academy, on Samsø, an island off the eastern coast of Denmark’s main peninsula. Delegations from Maine to China have visited to observe its success at energy independence through a combination of wind, solar and geothermal production.

Around 20 percent of its annual budget of about \$100,000 comes from the government. Mr. Hermansen said that with the cuts, he would have to reduce his small staff and shelve a biofuel project to convert methane waste from local farms to liquid natural gas to power the ferry to the island.

“This is hurting everybody,” Mr. Hermansen said. “How can you take that away?”

The fund that helped Mr. Dall Bentzen develop his biomass furnace will be among the most deeply cut. Over the past eight years, the fund has paid out about three billion kroner, said Aisel Laurids Beck, a special adviser to the fund. Starting next year, it will be cut to about 40 percent of its 2015 budget.

Unlike conventional furnaces that burn only one organic fuel, usually dried wood chips or straw, Mr. Dall Bentzen’s system can use a variety of materials. It converts them to gas, which is then burned. That results in dust emissions that are 95 percent lower than those produced by conventional biomass burners, and significantly lower carbon and nitrogen oxide emissions.

“We want to provide heat as cheaply as possible, and if we can use garden and other waste as

fuel, that will bring down the prices for us, for our customers,” said Erik Wolff, who runs Sonderborg District Heating, which bought the furnace from Mr. Dall Bentzen’s company with similar government support.

This year, the Energy Technology Development and Demonstration Program, which was started in 2007, distributed 380 million kroner, or \$54 million, to some 88 solar, wind and geothermal energy projects, as well as to systems to better integrate and use them.

In the best scenario under the new budget, the government next year will provide support for one in every eight project applicants, instead of the current rate of one in every four.

Besides setting a poor example for the climate summit meeting, critics said, the cuts are ill-timed. With the green technology sector taking off, and many people looking to Denmark for examples of successes, jobs and new businesses may be in jeopardy, critics said.

Projects seeded by the fund have had a success rate of 84 percent, a quarter of which led to exports. Overall exports of green and clean technology grew 15.4 percent last year to 45.6 billion

kroner, or \$6.2 billion, according to the country’s energy ministry.

“The government is saying that we have always been one step ahead in the green technology, so we have room to maneuver,” Ms. Ahlgaard said. “But being one step ahead is what gives us very jobs in this area. It is very important that we keep them.”

Mr. Wolff said the furnace his company bought from Mr. Dall Bentzen was more expensive than conventional models and had not yet been tried on a large scale. But the grant he received made it possible for him to take the risk associated with investing in a new technology.

“When we bought the plant, we knew we would not have any guarantees that we would not hit the bull’s eye every time with every decision we make,” Mr. Wolff said.

The cuts will not hurt Mr. Dall Bentzen. With his invention now patented and his company profitable, he no longer relies on the government fund.

“We are beyond the research stage now; our projects are funded by the clients,” he said. “But those who come after me, they may not have the same chance.”

Global Fossil Fuel Subsidies Dwarf Funding Commitment to Climate Change

By JOHN SCHWARTZ

As representatives of nearly 200 countries gathered in Paris to discuss ways of reducing emissions from fossil fuels, many pointed to what they consider a simple and obvious way to change behavior: Stop widespread subsidies that encourage the use of fossil fuels.

Industrialized nations agreed to start phasing the subsidies out after an agreement at the Group of 20 summit meeting of the world’s largest economies in 2009, and some progress has been made. The International Energy Agency said its \$490 billion estimate for worldwide fossil fuel subsidies in 2014 would have been \$610 billion if not for changes since that agreement.

But calls for greater cuts continue. The energy agency issued a statement last month identifying the elimination of subsidies as one of the most effective strategies for reducing greenhouse gas emissions. The subsidies are “public enemy No. 1 in terms of sustainable development,” said Faith Birrell, executive director of the agency.

On Monday, the first day of the climate conference, representatives of 45 governments, hundreds of businesses and organizations issued a call for countries to take aggressive action to phase out fossil fuel subsidies. Christiana Figueres, executive secretary of the United Nations Framework Convention on Climate Change, said, “The huge sums involved globally could be better spent on schools, health care, renewable energies and building resilient societies.”

In their simplest form, fossil fuel subsidies amount to government spending to keep the price of fuel low for citizens. They are why gasoline in Venezuela costs about 2 cents per gallon. The International Energy Agency estimates that global subsidies total

about \$490 billion a year. Those direct subsidies are found chiefly in the developing world and in oil-producing nations.

Industrialized countries like the United States are less likely to reduce the cost of fuel at the pump with government money, but experts who track subsidies say that America, too, finds ways to support fossil fuel use through tax breaks and in backing for exploration and production. The Organization for Economic Cooperation and Development has counted 800 ways that rich industrial nations use taxpayer money to support fossil fuel producers.

A new report from Oil Change International, an energy research and advocacy group, estimates that aid to the coal, oil and natural gas industries came to \$452 billion last year. The group said the situation amounted to governments “allowing fossil fuel producers to undermine national climate commitments, while paying them for the privilege.”

“We have to stop using government funds to support the industry that is causing the problem,” said Stephen Kretzmann, executive director and founder of Oil Change International. “That would seem to be the low-hanging fruit of solving climate change: When you’re in a hole, stop digging. And yet we really haven’t made much progress.”

The International Monetary Fund has come up with a much higher estimate for the global total of fossil fuel subsidies — \$5.3 trillion, which includes the costs of the effects of energy use on people’s health, the environment and climate change. That figure constitutes 6.9 percent of the global gross domestic product.

Whatever the estimates, they stand in sharp contrast to the money being spent on reducing the effects of climate change. Even the lowest subsidy estimates far exceed the pledge by

advanced industrialized nations to spend \$100 billion a year by 2020 to fight climate change.

A recent report from the Climate Policy Initiative, a nonprofit research and policy organization funded by the financier George Soros, suggested that to keep the global temperature from rising more than two degrees Celsius would require about \$1 trillion per year.

Bill Hare, chief executive of the nonprofit research and policy group Climate Analytics, said taking action on direct subsidies could have a profound effect. “Emissions could be reduced by up to 20 percent from what would otherwise occur if you removed fossil fuel subsidies,” he added.

Critics of subsidies say their greatest benefits go to the middle class and the rich, who can better afford cars.

By keeping conventional fuels at low prices, subsidies also make

alternative energy sources less affordable in comparison. The International Energy Agency’s 2014 World Energy Outlook report warned, “Fossil fuel subsidies rig the game against renewables and act as a drag on the transition to a more sustainable energy system.”

That report noted that some countries spent a greater share of their gross domestic product on fossil fuel subsidies than on health or education.

Going into the Paris climate talks, China, Ethiopia, India, Mexico, Morocco, Singapore and Vietnam had committed to addressing subsidies, Mr. Kretzmann said. “Governments have a lot of incentive and opportunity to eliminate those now, with oil prices so low,” he added.

And as prices have dropped, subsidies have been reduced in many countries, including India, Indonesia, Mexico and the United

Arab Emirates, said Dr. Hare of Climate Analytics.

While attempts to cut subsidies have led to social unrest, more recent efforts, including a gradual phaseout to soften the blow, have enjoyed quiet success.

But previous efforts have often been abandoned when global fuel prices rise and consumers are pinched. “If you look at the history of fuel subsidy reform, it doesn’t always stick,” said Michael L. Ross, a professor of political science at the University of California, Los Angeles, who studies energy subsidies.

A study from the Carbon Tracker Initiative, the Institute for Energy Economics and Financial Analysis and other groups suggested that eliminating production subsidies for the Powder River Basin coal region in Wyoming and Montana alone would raise the price of that coal enough to reduce demand for it

by 30 percent in the long term, which the study estimates would equal the emissions from as many as 32 coal-burning plants.

Michael A. Levi, an energy expert with the Council on Foreign Relations, said that fuel subsidies were an inefficient way to help the poor, anyway. However, he noted that better ways were not necessarily available. Giving money directly to the poor to make up for the lost fuel savings would require a banking and credit infrastructure that often cannot be found in the developing world.

“You shouldn’t want to solve these countries’ fiscal problems on the backs of their weakest citizens,” Mr. Levi said.

In the United States, a long-standing coalition of environmentalists and libertarians has sought to eliminate tax breaks and policies that support the fossil fuel industry. Eli Lehrer, the co-founder of the R Street Institute, a free-market think tank in Washington, said the oil industry did not need many of the tax breaks it received.

“I doubt that eliminating the intangible drilling cost write-off would reduce oil production at all,” he said.

Carlton Carroll, a spokesman for the American Petroleum Institute, said the tax breaks for his industry “are similar to other manufacturing sectors.” He added, “As an industry, we pay higher taxes than any other.”

Such arguments do not convince Mr. Lehrer, whose group is part of the Green Scissors coalition that includes environmentalists by conscious budget cutters across the political spectrum. “These subsidies on fossil fuels are a very good transfer of wealth issue,” he said. “To the left, it’s a terrible act of environmental destruction. To the right, it’s crony capitalism. And both sides are true.”



A mural depicting the state petroleum company in Venezuela, where gas is 2 cents a gallon.