

# BOB DOPPELT: Denmark proves that green power can pay

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Many people believe big cuts in climate-damaging carbon emissions can't be made without financial ruin. A recent trip to Denmark showed me otherwise. The country is filled with examples of people coming together, slashing emissions and benefiting the economy.

My first glimpse of this were the wind turbines I saw fanning out across the land as my plane descended into Copenhagen. Power-generating turbines are just about everywhere in Denmark. In fact, a huge turbine made by Vestas — the same company that is trying to set up shop in Portland — spins away at the Bella Center, where the International Scientific Congress on Climate Change that I attended was held.

It's true that Denmark is blessed with ample wind. It's also a relatively small country. But other nations with good wind have failed to do what Denmark has done. Today an estimated 20 percent of Denmark's electricity comes from wind.

Denmark has also dramatically cut energy use. At the science congress, Connie Hedegaard, Denmark's minister of climate and energy, told participants that the Danish economy grew more than 75 percent over the past decades with almost no increase in energy use, while emissions declined by nearly 14 percent.

The keys, she said, were behavioral changes in the way people use energy, greater use of existing super-efficient technologies and a carbon tax.

Although Denmark's climate plan is still a work in progress, Hedegaard summed up by stating, "We have proven in clear, cold numbers that green growth can provide businesses and jobs while also solving climate change."

A remarkable example of Hedegaard's claim is the Danish island of Samsø. About 10 years ago, the 4,000-plus people of Samsø accepted a challenge from the Danish government to become energy self-sufficient, using only renewables. They met and exceeded that goal.

Island residents used the government's challenge to reinvent themselves. Soren Hermansen, one of the leaders of the efforts, told me, "We started by analyzing every possible energy source on the island. A master plan was then produced, with a detailed budget, describing what would happen year by year.

"We then met and met" for two years with residents, Hermansen said, "We had to demonstrate to the people that the plan was economically sound. We met with bankers and helped them see that the turbines would pay for themselves. They provided the financing. We met with businesses and helped them see the advantages. We involved everybody." After the first wind turbines were constructed and proved economically viable, "the plan really took off."

Every resident on the island now uses electricity produced by wind turbines, and 75 percent of their heat is generated by solar thermal panels or combined heat and power plants powered by agricultural waste. As a result, Samsø has cut its carbon dioxide emissions by 142 percent. This odd number — a reduction of more than 100 percent — is possible because the excess kilowatts produced by Samsø's turbines are sold to the mainland.

The shift to renewables has been an economic boon to Samsø. Construction and maintenance jobs were created. Rather than private companies owning the wind turbines, cooperatives own them. Families get electricity from the turbines they own, and the co-ops generate a steady revenue stream by selling wind power to others. Most of Samsø's turbines and about 75 percent of those in Denmark are now owned by co-ops. The co-op model has spread to Germany and the Netherlands as well.

"The next project after the turbines was district heating," Hermansen told me. They developed a plan to provide heat to homes and businesses using agricultural waste straw and showed that it could be done cheaper than oil. Efficiency and conservation were key elements of the plan.

"We needed to cut heating demand to provide everyone with district heating," Hermansen said. "So, we had people go house to house assessing ways to improve efficiency. We cut heating by about 20 percent this way, and everyone saved quite a lot of money to boot."

They did the same thing with electrical use. "We showed people how to use more efficient light bulbs, buy more efficient refrigerators, and install better windows," he said.

I asked Hermansen, who now runs the Energy Academy in Samsø, for his suggestions for people in the United States who want to pursue a similar dream.

"Involve everyone," he said. "People have a desire to do something. Leaders need to see the big picture and be innovative. Make a master plan for the whole township. Show it's viable and sell it to bankers. Help everyone see the potential for their families and their businesses."

Whether your community is small or large, rural or urban, those seem like wise words for Oregonians.

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