Open Forum 3
Web Site Transcript
Chapter 1

A = Reporter
B = Dr. Franklin

A: Good evening, and thanks for tuning in. This is News 12 at 6. I'm Christine Bagley. Our top story tonight takes us to a small island off the coast of Denmark. A team of scientists and researchers from the University of Virginia in Charlottesville has been visiting the island of Samsø. Samsø has become famous as the most environmentally-friendly place in the world…

B: I'm standing here on the beautiful island of Samsø, about 12 miles from the Danish mainland in the North Sea. I'm surrounded by wind turbines and some very excited scientists. This is simply amazing! We don't have any alternative power project on this scale in the United States. This place is years ahead of us.

A: That's Dr. Albert Franklin of the University of Virginia. He's here along with a group of researchers from the university to learn from Samsø's success in becoming the "greenest place on earth." These wind turbines harness the immense power of the weather in this windy, remote island. The wind turns these huge windmills behind me, and the motion generates electricity. In fact, the turbines create so much electricity that they supply not only the 4,200 residents of Samsø, but the mainland of Denmark, too. By selling electricity to Denmark's power grid, the islanders claim to be carbon negative. Here's Dr. Franklin again.

B: Carbon dioxide, or CO_2, is a natural gas. However, human activity is releasing more and more CO_2 into the environment than ever before. Too much CO_2 is bad because it's a greenhouse gas. That means carbon dioxide is responsible for global warming. CO_2 is emitted from power stations that burn coal and oil to make electricity, cars, planes, fertilizers, and even some types of food production. It is possible to reduce the amount of CO_2 you put into the atmosphere—by planting trees, or using renewable energy, for example. These are called offsets. If a country makes more CO_2 than it offsets, it's called carbon positive. If it offsets more than it produces, it's called carbon negative.

A: And Samsø is the most carbon negative area of its size anywhere on the planet. Here are some numbers. Each American is responsible for about 20 tons of carbon dioxide every year. That's the highest figure of any nation. Each Dane produces about 13 tons. Samsø is 140 percent carbon-negative, which means that each resident actually takes out carbon from the atmosphere. They calculate this by adding up all the green energy they produce and subtracting the few carbon costs they have from cars and other forms of transportation.

B: Look at this system here. This is the way humans can live in harmony with nature.

A: Dr. Franklin has brought me to the central furnace. That's basically a very large oven which burns straw to heat the homes of Samsø.

B: Straw is just dried plants, and those plants take CO_2 out of the atmosphere. So, straw is carbon-neutral. Now, if you burn straw at a very high temperature, it pollutes very little, and it can heat the houses. But it gets better. After the straw is burned, you are left with a gray dust called ash. This ash is a great fertilizer, so farmers spread it on their fields. That way, they don't need to buy fertilizer—the process of making fertilizer from oil releases CO_2, of course. The ash fertilizer helps the plants grow, and the plants make straw and we're back to the furnace. A fully renewable, carbon-neutral cycle of energy production!

A: It's cold and windy—it's always windy here, it seems—but everyone's excited about carbon on this island. Samsø made this remarkable change to renewable energy as a result of a competition. In 1997, the Danish government held a competition to find an island with the best plan to become carbon neutral by 2008. Samsø won the competition, and the rest is history (with a little financial help from the government and the European Union, of course). But environmentalism has also been good business. The Danish government buys Samsø's wind-generated electricity at such a good price that the farmers who swapped crops for turbines are already making a profit. And that's not counting the money the islanders save from not buying gasoline, which is 2 to 3 times more expensive than in the U.S. Did we mention biodiesel?

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B: Biodiesel! Here's another case where one environmentally-friendly idea creates a whole chain of green consequences. Take canola, for example. That's a plant that grows easily here, and also in the U.S. If you press the canola seeds, you get canola oil, which you can use as biodiesel—so, no gasoline-based diesel. But after you press the canola seeds, you have a green mash. You can then give this to your cows, which means you don't have to buy feed—feed is imported, which means transportation carbon costs. Your cows produce organic milk and cheese, so you can live off the land.

A: This is what environmentalists call self-sufficiency: Samsø can survive by producing its own energy and food. It doesn't need a lot of imports, and fewer imports mean less transportation which damages the environment by producing carbon dioxide. This all helps Samsø's carbon budget, which makes Dr. Franklin and the other Americans here very jealous. On the island on Samsø, Denmark, I'm Christine Bagley for News 12.