BELCHATOW, Poland — They call it Poland’s biggest hole in the ground.

The coal mine here is more than eight-and-a-half miles long, nearly two miles wide and as deep in parts as three football fields. Enough coal comes out of it to fuel Europe’s largest coal-fired utility plant, whose chimneys loom in the distance.

“The entire world population could fit in this hole,” Tomasz Tarnowski, an administrator here, said in a bit of proud hyperbole as he led a group of reporters on a walk near a towering mound of brown coal about halfway into the mine.

Poland is Europe’s coal colossus. More than 88 percent of its electricity comes from coal. Belchatow is one of its huge sources and the largest carbon emitter in Europe. (There’s no “belch” in Belchatow — it is pronounced bel-HOT-oof.)

This month, a United Nations conference on climate change will be held in Poland, a location many environmental activists consider the least appropriate choice they could imagine. And while the European Union has mapped out ambitious clean-energy goals intended to reduce the greenhouse gases linked to global warming, Poland has been its fossil-fuels holdout.
Within the European Union, Poland has been increasingly active in trying to block more aggressive regulations to curb climate change, in contrast to Germany, for example, which has bet its energy future on clean, renewable technologies like wind and solar.

Poland has also sought to beat back proposals against hydraulic fracturing, or fracking, a means of unearthing natural gas that much of the European Union — with the notable exception of Britain — warily regards as an environmental hazard.

At home, Polish officials have shown little inclination to end their infatuation with coal, saying their country cannot afford to convert to alternative sources of energy quickly. As if to prove a point, the coal industry has scheduled its own climate summit meeting in Warsaw this month, running concurrently with the United Nations conference.

All this is happening even as Polish citizens have taken to the streets of Krakow, protesting the city’s poor air quality.

Asked for his own view on climate change, Marcin Korolec, the environmental minister, said in an interview, “I am not skeptical about climate change; I am skeptical about some European ways of how to address it.” He said that his country had made progress in reducing carbon emissions but that Europe was moving too far ahead on the issue. “This concept of leading by example is not delivering,” he said of Europe’s approach. “Leading by example, you cannot renegotiate.”
Poland’s coal strategy has implications both for the Poles and for Europe more broadly. Six of the 10 European cities with the highest concentrations of particulate matter are in Poland, including Krakow, which is ranked third overall, just behind the Bulgarian cities Pernik and Plovdiv, according to European government data. Particulate matter consists of tiny airborne droplets or gas particles that come from smokestacks and tailpipes, or from burning wood or coal for home heating, and they can lead to a variety of health problems. While large cities like Krakow and Zabrze do not have levels on a par with the extreme pollution of Beijing, their levels are well past the concentrations deemed safe by health experts.

But the center-right government, which came to power in 2007, has not changed its energy course. Prime Minister Donald Tusk said in September that coal was a basis of the Polish economy. The main opposition party, Law and Justice, is even further to the right. It is led by Jaroslaw Kaczynski, who has said that carbon dioxide has no impact on climate and that any regulations on climate are written only to force Poland to buy expensive technologies.

The left, which might be more open to environmentalist positions, has little voice in the matter, having been in disarray for several years after a series of corruption scandals.

The coal strategy has been partly influenced by Poland’s fraught relationship with Russia, which wields its oil and natural gas reserves as a political weapon. That is one reason Poland, since its break with the former Soviet bloc three decades ago, has sought greater energy independence by relying on its own coal resources.

Poland was once one of the largest exporters of coal, which has shaped its affinity for it. But at this point, its industrial economy has grown so that Poland can no longer meet its own coal needs. It is now a net importer of coal and, in an energy irony, Russia accounts for about two-thirds of those imports. Last year, Poland bought more than six million metric tons of Russian coal, according to an estimate from Euracoal, an industry trade association.

In the last few years, Poland has played a more active role in the European Union, and particularly in the European Council, which comprises national leaders and prefers rule by unanimous decisions among the 28 member states. In June 2011, Poland stood alone in opposing climate targets that were to start in 2020 and continue through 2050. A top British official called the defeat “a dark day for Europe’s leading role in tackling climate change.”

In March 2012, Poland effectively vetoed a similar long-term emissions reduction plan, exasperating European officials. “The E.U. can’t work like this,” Europe’s climate commissioner at the time, Connie Hedegaard, said. “We can’t move forward if the most reluctant one dictates the pace to the rest.” But Poland held firm.

This has left officials in other European countries, and environmentalists, flummoxed.

“The government is promoting coal and replacing old coal with new coal,” said Julia Michalak, an official at Climate Action Network Europe, an umbrella group of environmentalist organizations that is based in Brussels. “That’s the Polish strategy,” added Ms. Michalak, who is Polish. “That’s the only answer, and that’s not a long-term vision. It’s not rational.”

Polish citizens are pushing back. Last Friday in Krakow, hundreds of people turned out to protest air pollution. Krakow sits in a valley, intensifying the pollution in a city where some apartment buildings are heated by coal. The crowd marched through the city chanting, “Why do you poison us?” and, “We want air.”
Organizers of the march say the air pollution is harming the health of the local population, leading to high rates of asthma and premature deaths. City officials routinely warn parents not to let their children play outside on the days of the highest pollution.

“We understand that protest is a drastic way of showing our discontent, but for years authorities haven’t done anything to solve the problem,” said Andrzej Gula, one of the rally’s organizers and a member of the informal group Krakow’s Smog Alert, which monitors air pollution.

“We demand a total ban on heating homes with coal,” Mr. Gula said. “This is the only way of improving the air quality in our town. The problem is that the politicians are afraid of doing that, as it would harm the Polish mining industry.”

Lena Kolarska-Bobinska, a member of Poland’s governing party who serves in the European Parliament, said she wanted to diversify Poland’s energy mix but at its own pace.

“The only problem for us is to go farther and farther and quicker and quicker,” she said, “and this is what the climate policy in Brussels is.”

“What we are trying to do is to influence the speed with which the European Union is pushing,” Ms. Kolarska-Bobinska said. “It’s very easy for some countries to say we want a 30, 40, 45 percent goal of renewables. Many political groups in the Parliament are asking for that. But they have to remember how diversified the countries are in Europe. Give each country the possibility to reach this target by their own way.”

For now, the behemoths like Belchatow will continue to power Poland. Seen during the tour this week, the mine’s excavating rigs resembled giant Transformer toys, each with what looked like a Ferris wheel attached to one of its spindly arms. Instead of seats, the Ferris wheels had spiked scoopers that chomped up clumps of brown coal. The coal was then fed into 75 miles of conveyor belts that transported it to the nearby plant. Plumes of smoke twisted for miles in the sky from the plant’s 13 power units.

Those towering chimneys would be swallowed up by this hole, Mr. Tarnowski said, gesturing toward them as he stood with a group of reporters, “just like the Eiffel Tower, almost.”