

Turkey's Ill-Considered Rush to Coal Undercuts Emissions Progress

Nearly all future growth in greenhouse gases will come from the world's emerging economies, and preventing dangerous global warming depends on their reducing emissions growth. Thus it is troubling that Turkey, the world's 17th largest economy, plans to as much as quadruple coal-fired electric capacity, building as many as 80 new plants by 2030. It could become the world's third-largest operator of coal plants, after China and India.

Turkey's GHG emissions would increase 134 percent over current levels, to 1.1 billion metric tons of CO₂ equivalent annually, over two percent of estimated global emissions in 2030 if the promises at December's Paris Climate Conference are carried out. Turkey did commit at Paris to reduce GHG emissions 21 percent by 2030 from a business-as-usual scenario. But world GHG emissions would increase only 8 percent, and Turkey's would still more than double.

The Turkish government's rationale for coal is based on economics and concerns for energy independence.

To meet expected growth in electricity demand of 5–6 percent a year, power generation would have to rise 250 percent by 2030. Turkey has huge lignite deposits that could be used for new coal plants.

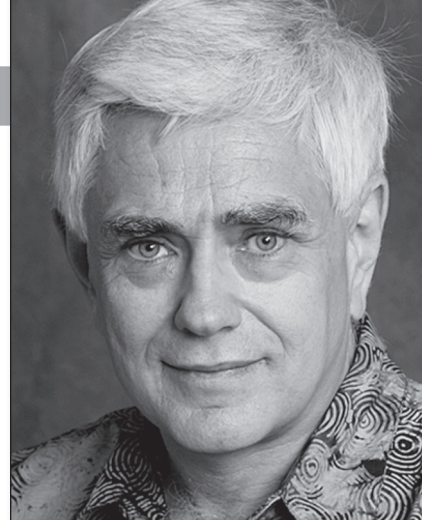
Currently 48 percent of Turkish power is fueled by natural gas, almost all of which has to be imported from Russia and Iran at a cost of around \$8 to \$10 billion a year, nearly cancelling out positive annual financial flows of foreign direct investment into Turkey of \$10.2 billion. Coal currently accounts for 29 percent of power generation, followed by hydro at 16 percent, and wind at 3 percent. To decrease dependency on Russian gas, the government plans to greatly increase coal, expand

investment in renewables, and build three hugely expensive nuclear power plants, constructed respectively by Russia, Japan and France, and China.

This dash to coal is a missed economic opportunity as well as an environmental disaster. An August International Energy Agency study estimates that solar and wind power will be less expensive than coal and natural gas by 2025; a Citigroup study concluded the same with 2030 as the threshold year. Turkey's climate is optimal for investments in solar and wind: it has a photovoltaic performance factor 50 percent higher than Germany's, and a wind power potential alone of 275 gigawatts, about four times current total installed generating capacity.

Moreover, international investors are increasingly rejecting financial support for coal. The World Bank, European Investment Bank, and European Bank for Reconstruction and Development have all revised their energy-lending policies to virtually exclude financial support for new coal power plants, and to prioritize investments in low-carbon renewable generating. Turkey borrows from all three institutions.

At the request of WWF Turkey, *Bloomberg New Energy Finance* compared the government's plans with an alternative Renewables Development Pathway for 2030. In the renewables scenario, no new coal plants beyond those already financed or under construction go online, and the resulting gap in new energy generation is met by more wind, solar, and some hydro. Wind and solar would account by 2030 for over 37 percent of installed generating capacity, and coal plants for only 12.1 percent. Total overall costs for the two scenarios would be about the same, and both reduce dependency on imported gas. But in the renewables scenario, Turkey's GHG power-related



Bruce Rich, an ELI Visiting Scholar, is an attorney and author who has served as senior counsel to major environmental organizations. E: bruce-rich@gmail.com.

emissions stabilize, rather than more than double.

There are significant long-term economic advantages in the renewables scenario, not even counting the environmental and public health costs of massive coal development. Most new coal plants would require anthracite hard coal rather than lignite, and Turkey has to import anthracite; this dependency could cost some \$4 billion annually if the new plants are built. For wind and solar, once built the fuel is free.

The *Bloomberg* analysis notes that the renewables approach "would be likely" to attract foreign investment in renewables industries, creating new employment and eventually even an export capacity. It cites a recent Turkish government policy establishing higher feed-in electric tariffs for locally manufactured renewable equipment, resulting already in German investment to make wind turbine towers and rotor blades in Turkey.

One of the most striking arguments against the proposed Turkish coal rush is a comparison with South Africa's power investment plans to 2030. Like Turkey, South Africa is a fast-growing economy, and has a climate especially favorable to solar and wind power. It has urgent challenges of poverty alleviation, and its power sector is currently addicted to domestically produced coal. But South Africa plans to reduce its power dependency on coal from 84 to 30 percent, and increase wind and solar generation to a third of total capacity. •