Bosnia and Herzegovina ('BiH') is among the countries in Europe most affected by pollution from coal- fired power plants. Yet, it's one of the few were new coal-fired units are still being planned, with the potential to affect air quality and public health for decades.
This study assessed the impacts of two proposed coal power projects, in Tuzla and Banovići. The emissions from these plants, if built and operated, would impose substantial harm on public health, including a projected 30 premature deaths per year (95% confidence interval: 20 to 47), as well as 7,600 days of sick leave, 470 asthma attacks in children and 25 hospitalizations per year, and 40 children suffering from bronchitis. If the plants operate for 30 years, the projected cumulative health impact would be 960 premature deaths.
The projects have substantial transboundary impacts, as 810 premature deaths out of the 960 attributed to the plants over their operating life take place outside BiH's borders, with Serbia, Italy, Romania, Hungary and Croatia most affected.
The air quality impacts of emissions from the Tuzla 7 and Banovići coal power projects were modeled using the CALPUFF dispersion model, which uses detailed hourly data on wind and other atmospheric conditions to track the transport, chemical transformation and deposition of pollutants, and is widely used to assess the short and long range impacts of emissions from industrial point sources. The model predicts the increases in hourly, daily and annual pollutant concentrations caused by emissions from the studied source.
Emissions from the power plant contribute to ambient concentrations of PM2.5, NO2 and SO2, causing increases in the risk of both acute and chronic diseases and symptoms. The impacts extend several hundreds of kilometers from the power plants, affecting air quality particularly in Croatia, Serbia, Montenegro, Albania, Slovenia and Italy.
The effects of these increases in pollutant concentrations on public health were quantified following the recommendations of WHO for health impact assessment of air pollution in Europe. The results indicate that, if built and operated as proposed, the plants would be responsible for approximately 30 premature deaths per year, along with 470 asthma attacks in children, 13 new cases of chronic bronchitis, 25 hospital admissions and 7,600 days of sick leave from work per year.
Due to the low quality coal burned, the mercury emissions from the power plants could be very large in relation to their capacity. While no precise data was available, using UNEP default emission factors, it was estimated that mercury emissions from the plants could be 270kg/year. Of this, approximately 90kg or 1/3 is estimated to be deposited into land and freshwater ecosystems. Mercury deposition rates as low as 125mg/ha/year can lead to accumulation of unsafe levels of mercury in fish (Swain et al 1992). The plants are estimated to cause mercury deposition above 125mg/ha/yr over an area of approximately 300km2, in

the south and east of the plants, with a population of 60,000 people). Approximately 60% of the projected deposition, or 50kg per year, takes place outside BiH.
While actual mercury uptake and biomagnification depends very strongly on local chemistry, hydrology and biology, the predicted mercury deposition rates are certainly a cause for concern and need to be addressed as a part of the permitting process.
Source: sarajevotimes.com