

The future of Colombian coal exports

- International steam coal markets in the era of climate policies

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Overview

The sustainable development goals (SDG) adopted at the United Nations Sustainable Development Summit in September 2015 include tackling climate change as one of its key targets (UN, 2015a). International climate policy has succeeded in achieving global consensus on the urgent need to combat anthropogenic climate change at the Conference of the Parties (COP)21 in Paris (UN, 2015b). Consequently, pressure on coal as the most emission intensive fossil fuel has increased. Estimates of fossil fuels that have to remain in the ground to achieve the 2°C target and to prevent irreversible atmospheric changes see the heaviest burden on coal (Meinshausen et al., 2009). 82% to 88% of current coal reserves are considered “unburnable”, compared to 33%-35% of oil and 49%-52% of gas reserves (McGlade, Ekins, 2015).

It is not only scientists (e.g., Johnson et al., 2015) and NGOs (e.g., Jones, Gutmann, 2015) that deduct the need to phase-out coal if climate change mitigation is taken seriously, but also by policy makers, and actions are taken world-wide: The Obama Administration enacted the Clean Power Plan (though it is being by the current US administration), China has introduced a moratorium on new coal power plants and mines. Seven smaller countries in the EU are already coal-free. Portugal is planning to phase-out in 2020, followed by Finland in the 2020s. The UK has announced to phase-out coal until 2025, the same is true for Denmark and Austria.

In this spirit, we assess the imminent question of how coal exporting countries will be affected by the decline of the coal industry, and more specifically whether they will be hit by the downturn alike or if there will be winners and losers.

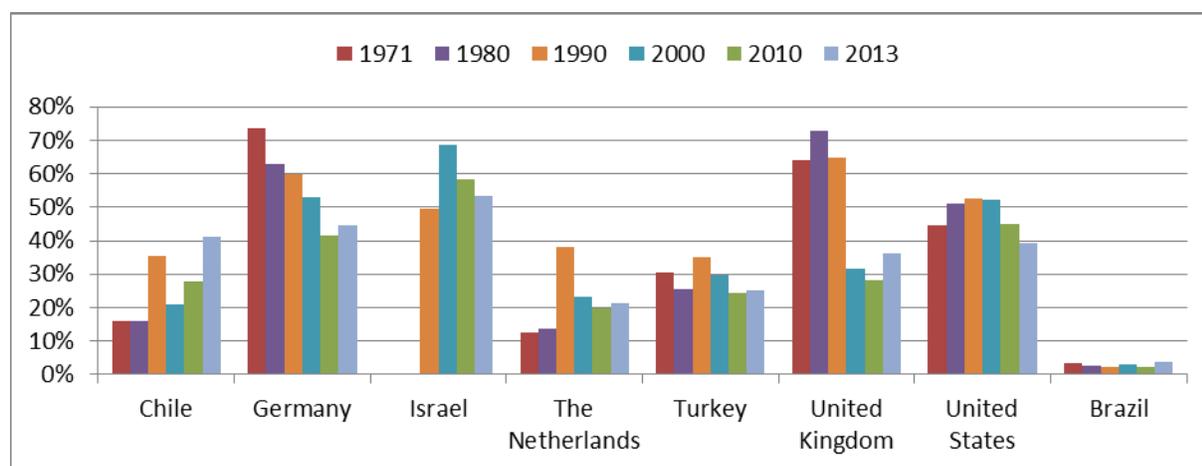


Figure 1: Share of coal-fired generation in the electricity mix of selected Colombian coal trade partners from 1970 to 2013. Source: IEA (2015).

Methods

Our paper takes the perspective of Colombia, the 4th largest exporter of steam coal and assess its prospects for future exports. Traditional importers of Colombian steam coal are located in Europe, USA and to a smaller extent in Latin America. European countries, however, vary in their energy mixes as well as their national energy policy which gives different emphasis on matters of climate policy or other aspects such as energy security. Figure 1 shows the share coal-fired generation in the electricity mix of the examined countries from 1970 to 2013 (IEA, 2015). We summarize the current policies and market development in the most important coal producing and consuming countries. Building on that, we provide a qualitative assessment of potential winners and losers and critically examines future prospects for Colombian coal exports in particular. The paper focuses on business and economic considerations and aspects of climate policy, leaving other environmental and social issues of (a continuation of) coal extraction in Colombia aside.

Results

Continued global action for combatting climate change is having major consequences for fossil fuel producing countries and especially with respect to coal as most carbon-intensive fuel. The carbon capture, transport, and storage (CCTS) technology will not be an option to prolong the usage of coal power plants. Sticking to decarbonization targets therefore implies a phase-out of all coal power plants in the next decades. This is going to affect Colombia which currently exports coal mainly to Europe, the USA as well as to Brazil and Chile. Future coal demand in most European countries and in the USA, however, is shrinking and will most likely continue doing so in the next decades. Reasons for this are increasing shares of renewable energy sources, stricter national environmental standards as well as for the case of the USA alternative cheap gas supply. Various countries have already phased-out coal power plants or are currently discussing phase-out corridors for the next decades. The consequence for Colombia is higher competition from competitors in an environment of low prices. Those markets that are still likely to grow, namely Turkey and the MENA region will be canvassed by the USA and South Africa, shrinking potential profits. Other consuming countries, such as Poland or Czech Republic, are likely to use subsidies and measures of renationalization to protect domestic companies from foreign imports.

An outlook on the North American coal sector leaves no space for future coal exports from Colombia to the USA. There is high pressure on the domestic production sector and prices have fallen by up to 50% from 2010 to 2015. On the contrary, the USA might become a competitor on the Pacific market if the current administration realizes its plans to revitalize the US coal industry and opposition of the U.S. West Coast states against constructing coal export terminals for Powder River coal from Wyoming brakes down. In Latin America Brazil and Chile remain coal importers, but Colombia might observe increasing competition especially from the USA.

Conclusions

One opportunity for Colombia therefore lies in shifting their interest to the Pacific coal market. This strategy is supported by the recent widening of the Panama Canal and the realization of plans regarding an expansion of the harbor “Puerto Buenaventura” on the Colombian Pacific coast. Currently, the Pacific market is dominated by Indonesia and – to a smaller extent – Australia. Demand for imported coal in China, however, is likely to decrease due to ease in inland coal transport and a forecasted decline in coal demand. Power plants in India and South-East Asia are currently mostly designed for low quality coal from Indonesia which can deliver coal at low cost due to short distances and easy maritime access. This makes it very difficult for Colombian coal to enter these markets. More likely recipients are newly constructed power plants in Japan or South Korea which are otherwise supplied by coal from Australia. An increased competition will hereby, however, go along with a reduction of coal prices also on the Pacific coal market.

Increased competition and reduced prices are also mirrored in the increasing number of filed bankruptcies and lay-offs, including three out of the top four US coal mining companies in 2015. These might just be the beginning of a carbon bubble devaluating stranded carbon investments. An increasing number of pension and insurance funds consequently started to divest their portfolios into more sustainable sectors. Continuing or even increasing mining volumes in coal exporting countries like Colombia should therefore be evaluated more closely from an economic perspective. Ignoring the described risks could lead to additional stranded investments in mining facilities, being another example for how the resource curse can slow down the economic growth of regions.

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