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# The economics of Greek lignite plants: End of an era.



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## Executive summary

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For the full text of the report “The economics of Greek lignite plants: End of an era.” click [here](#).

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## Executive Summary

The double failure to sell lignite assets in Greece and the rapid deterioration of the financial status of the Public Power Corporation (PPC) has spurred the public debate around the retirement of lignite plants. Understanding the profitability of the Greek lignite industry is critical in designing the necessary measures to transform PPC into a financially healthy company, while shifting Greece's energy model towards a sustainable direction. To this end, this report has three goals:

1. To shed light into the economics of Greek lignite plants in the last 3,5 years.
2. To provide an outlook for the Greek lignite industry in the next 3,5 years.
3. Based on that, to recommend specific actions to improve the current situation.

### Key findings:

Using a simple model for the estimation of the monthly gross and net profits of each lignite unit in conjunction with publicly available data and realistic assumptions about the future values of key parameters influencing the profitability of Greek lignite plants, we find that:

1. ***During the 3,5 year period from January 2016 until June 2019, PPC has accumulated a net loss of €683 million from the operation of its lignite units.***
2. ***If the current lignite fleet remains as is, then in the next 3,5 years, the situation will deteriorate and the lignite industry will accumulate losses of the order of €1,3 billion.***
3. ***No scenario out of the 4 constructed and analyzed can lead to a net profit of the Greek lignite industry in the next 3,5 years even for carbon prices significantly lower than the analysts' predictions; even if a hedging strategy is successfully implemented.***

### Key Policy Recommendations:

1. ***The immediate retirement of the Kardias and Amyntaios plants is highly recommended*** since it will vastly improve the economics of PPC by slashing the lignite-fleet's projected net losses by over €600 Million in the next 3,5 years.
2. Provided that 3 TWh of electricity per year can be produced by other sources of energy, ***the additional retirement of the Ag. Dimitrios I-II and Megalopoli IV units is also recommended***, since it will bring down the annual net losses of Greece's lignite industry to less than €130 million, a 66% improvement compared to the scenario where no retirement takes place, and almost at the same levels of combined net losses in the previous 3,5 years.
3. Given the escalating carbon prices and the fact that Greek lignite plants have by far the highest carbon intensity in the EU, ***Greece must commit to a specific retirement schedule of all lignite units until 2030 at the latest.*** This report's recommendations

for lignite unit retirements may contribute towards identifying the units that need to retire first.

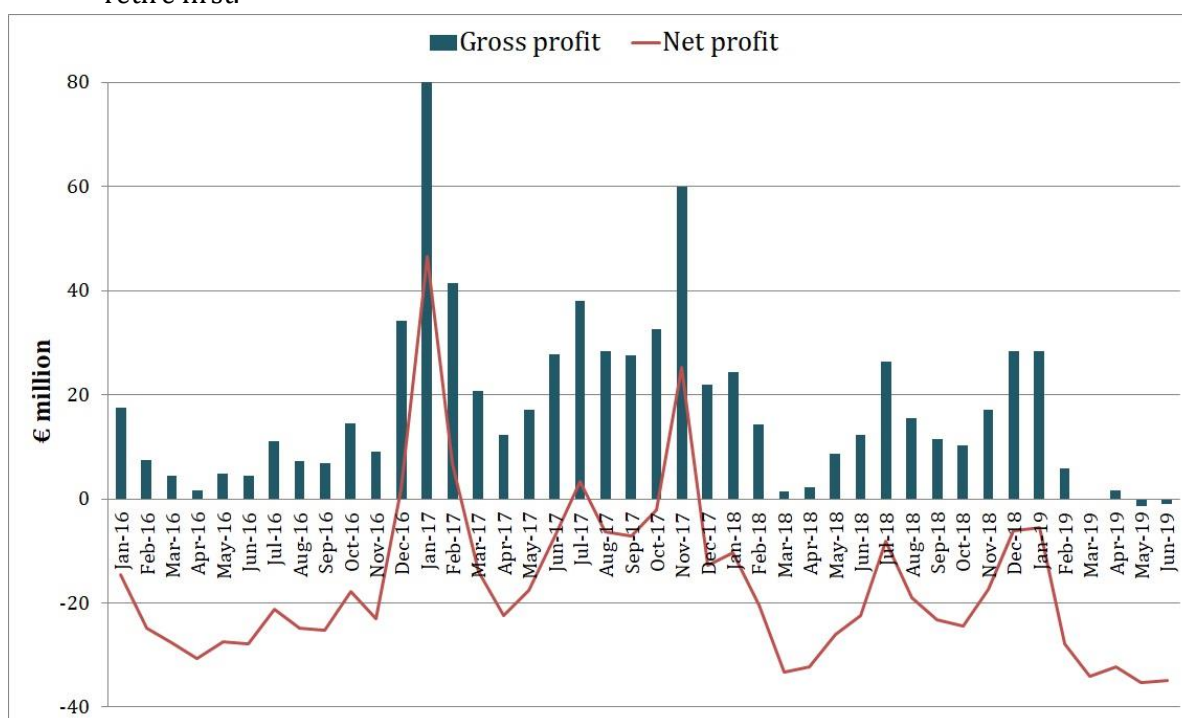


Figure A: Cumulative gross and net profits of all lignite plants for the period January 2016-June 2019

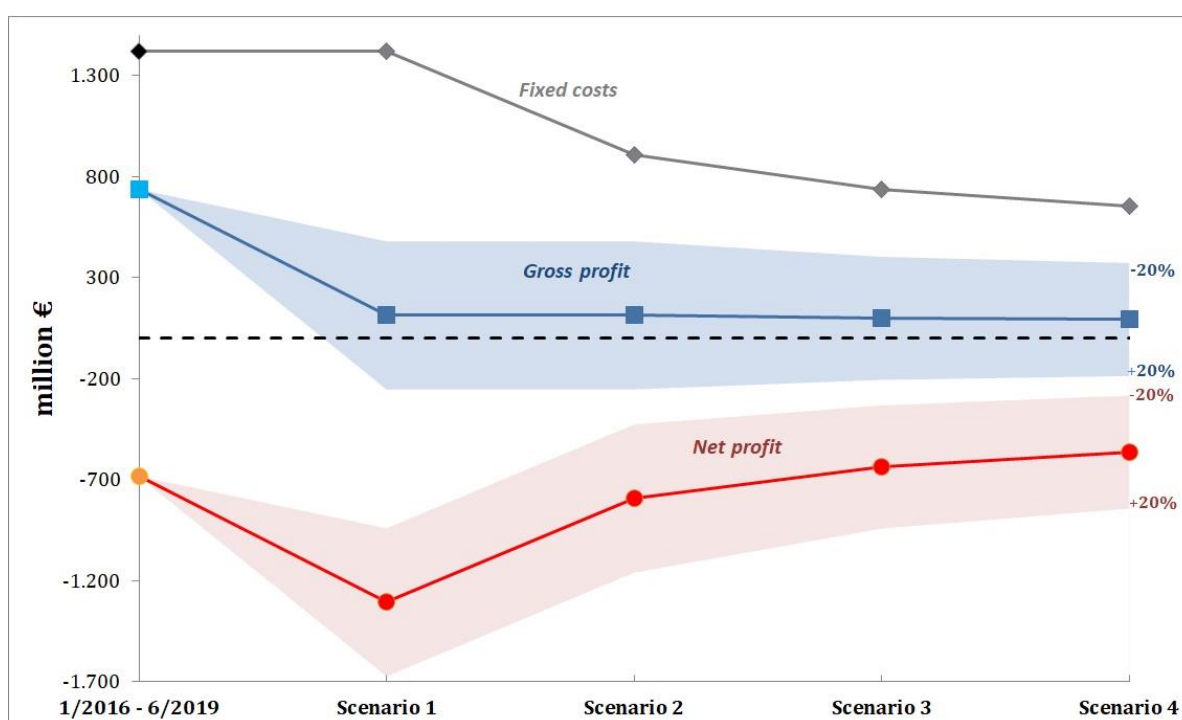


Figure B: Cumulative estimated gross profits, net profits and fixed costs for Greek lignite units for the period July 2019-December 2022 under 4 scenarios. The first data point for the gross profit, net profit and fixed costs lines shows the corresponding results for the preceding 3,5 year period (January 2016-June 2019). The shaded bands around the gross profit and net profit lines correspond to calculations with carbon prices 20% below (upper bound) and 20% above (lower bound) the nominal value.