Real value of the Lignite Reserve

In October 2015, €1.6 billion was agreed to 5 RWE units, 2 Vattenfall (now LEAG) units, and one MIBRAG unit, for a 4-year compensation package into a lignite reserve. As of the end of March 2019, the reserve had yet to be used.

Here is the closure schedule:

Operator	**Investment**	**MW (net)**	**Commissioned**	**Beginning of "safety readiness"**	**Final shutdown**	**CO2 intensity**[1] **(**kg CO_2/kWh)
RWE	Frimmersdorf P	284	1966	1. 10. 2017	2021	1317
RWE	Frimmersdorf Q	278	1970	1. 10. 2017	2021	1317
RWE	Niederaussem E	295	1970	1. 10. 2018	2022	1237
RWE	Niederaussem F	299	1971	1. 10. 2018	2022	1237
RWE	Neurath C	292	1973	1. 10. 2019	2023	1238
Vattenfall	Jänschwalde F	465	1989	1. 10. 2018	2022	1169
Vattenfall	Jänschwalde E	465	1987	1. 10. 2019	2023	1169
Mibrag	Buschhaus	352	1985	1. 10. 2016	2020	1036

[1] See page 160 https://www.agora-energiewende.de/fileadmin2/Projekte/2017/Deutsche_Braunkohlenwirtschaft/Agora_Die-deutsche-Braunkohlenwirtschaft_WEB.pdf

We modelled historic profits for the remaining units. **This shows a net profit of €209m - the €1.6 billion compensation was almost 8 times this figure, showing the compensation formula resulted in a windfall profit for the utilities**.

NOTE: This does not include the costs incurred by the utilities of providing a 4-year reserve.

The methodology followed that laid out in Sandbag's previous report, "*Germany's cash cows have stopped giving*".

To calculate the net "missed" lignite reserve profits, we worked our monthly profitability of old German lignite units, and then pro rata it to the monthly capacity that was closing. This assumes the generous assumption that lignite reserve units closing have a similar carbon intensity, load factor and fixed and variable costs (in actual fact, the closing lignite units would be even less profitable due to the older and less efficient design).

- To June-2019
    - We calculated monthly profitability of all the old lignite units that have not closed to June 2019. The formula is as follows:
        - Gross profit
            - Electricity revenues (Hourly generation multiplied by the hourly Germany electricity EPEX day-ahead auction price)
            - *Minus* carbon costs (EEX EUA carbon price multiplied by carbon intensity of unit from the previous report, multiplied by generation)
            - *Minus* variable costs of €6.3/MWh
        - Net profit
            - Gross profit minus annualised fixed costs of €60/KW
- After June-2019
    - We modelled regression of the monthly profitability prior to June-2019, based on a function of only power price and carbon price.
    - Because we know the future prices of power and carbon, we used these and the regression to model monthly profitability going forward.

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