

PPC: Coal decommissioning success impacts SLBs

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PPC, the largest electricity supplier in Greece, operates several coal power plants. Despite ambitious plans to replace this generation with renewables, its strategy has been challenged by energy security concerns in Europe.

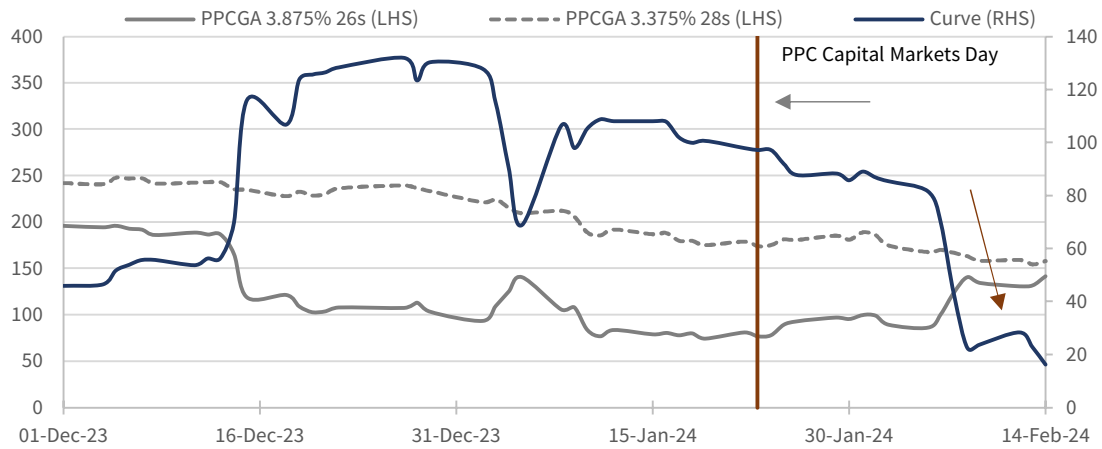
PPC is also an issuer of Sustainability-Linked Bonds (SLBs), with both of its outstanding bonds using this structure. Embedding sustainability targets into bonds supports disclosure and accountability, and in PPC's case, it appears that this has created a strong incentive to deliver on its targets. Monitoring performance versus targets is essential for SLB investors.

On 24 Jan 2024 at PPC's Capital Markets Day,[1] new guidance was given on its recent coal decommissioning successes, revealing that 0.5GW was closed in 2023. Its 2022 SLB target was missed, resulting in the 2026 bond paying a 50bp step-up. This new reporting suggests it may be back on track to meet its 2023 target.

In this note, we review the reporting and consider how it may impact pricing for PPC's bonds.

- The coal decommissioning trajectory is projected to complete one year after the original target. **The reporting on emissions is insufficient to be completely confident the 2023 target will be achieved, but it does seem more likely.**
- A higher probability of achieving the target translates into a lower probability of receiving the step-up coupon. **We would expect this to widen the bond spread or steepen the bond curve compared to the SLB, which has received a step-up coupon.**
- Since this announcement, the PPC bond curve has flattened from around 80bp to 20bp, alongside some market weakness. **The full implication for SLB pricing of this announcement may not yet have been digested.**

Figure 1. Historic PPC bond spreads and curve. Source: Bloomberg, accessed 15 Feb 2024.



[1] "PPC Capital Markets Day", PPC, 23 Jan 2024.

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Coal decommissioning journey

As early as 2019, PPC had publicly committed to decommissioning all its existing coal power generation, and associated mines, by 2023 (see Table 1).[2] A new unit, Ptolemaida 5, was still in construction and came online in 2022. In April 2021 PPC committed to convert this away from coal by 2025,[3] alongside reports in mid-July that it was on track with its phase-out plans.[4]

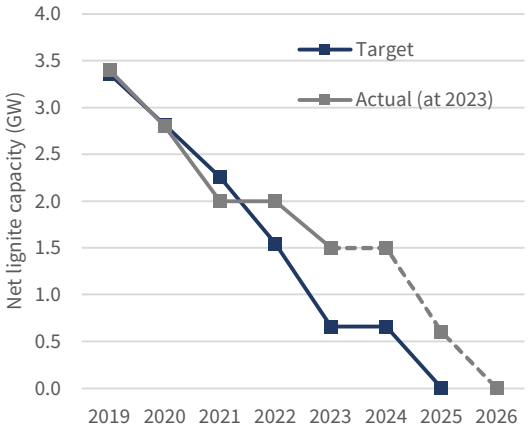
Confirmation of individual unit closure is lagged, but PPC reporting in 2022 confirmed Kardia 1-4 and Amyntaio 1-2 had been decommissioned,[5] and H1 2023 reporting confirmed that Megalopolis 3 was no longer operating.[6] It is therefore likely that all seven of these units were decommissioned within 2021, to achieve the reported capacity.

The Ukraine conflict put energy security back at the forefront of energy policy, and PPC's remaining lignite plants were extended until 2025.[7]

Table 1. PPC lignite phase-out plan, and estimated performance. Source: PPC, AFII.

Lignite-fired power unit	Target decommissioning year	Estimated actual decommissioning year	Nominal capacity (MW)
Kardia 1	2019	2019	275
Kardia 2	2019	2019	275
Kardia 3	2021	2021	280
Kardia 4	2021	2021	280
Agios Dimitrios 1	2022	2022	274
Agios Dimitrios 2	2022	2022	274
Agios Dimitrios 3	2022	2023	283
Agios Dimitrios 4	2022	2023	283
Agios Dimitrios 5	2023	2025	342
Amyntaio 1	2020	2020	273
Amyntaio 2	2020	2020	273
Florina/Meliti	2023	2025	289
Megalopolis 3	2022	2021	255
Megalopolis 4	2023	2025	256
Ptolemaida 5 (online from 2022)	2025	2026	660

Figure 2. PPC net lignite capacity, targets and reported to 2023. Source: PPC.



At PPC's 2024 Investor Day,[8] decommissioning was reported to be back on-track, with total net 1.9GW phased out since 2019. This was reitered as a *"strategic decision to exit lignite, despite any temporary delay"*, with total exit planned by 2026. Despite flat net capacity in 2022 (when Ptolemaida 5 came online), PPC announced a decommissioning of 0.5GW over 2023. Figure 2 shows how the recent reporting compares with the original targets and Table 1 also shows an estimated delivered decommissioning plan (estimated using Figure 2), showing that some plants are 1-2 years behind schedule.

[2] "PPC Lignite Phase Out", PPC, accessed 13 Feb 2024.
[3] "Coal to Renewables (Greece)", Climate Action Network Europe, accessed 13 Feb 2024.
[4] "Greece's Public Power on track to phase out 40% of targeted coal capacity by year-end", Reuters, 24 Jun 2021.
[5] "Public Power Corporation S.A. Financial Report 2022", PPC, p49.
[6] "Public Power Corporation S.A. Financial Report for the six-month period ended Jun 30th 2023", PPC, p50.
[7] "Greece delays closure of three coal plant units to 2025", Balkan Green Energy News, 16 Dec 2022.
[8] "PPC Capital Markets Day", PPC, 23 Jan 2024, p23.

Impact on emissions

Coal generation is the biggest driver of PPC's Scope 1 emissions. Table 2 shows a split of generation and emissions for 2021, showing that coal was just over 20% of generation, but over 50% of emissions.

Successful decommissioning of lignite units is the driver of emissions reductions for PPC.[9]

Table 2. PPC generation and emissions split by fuel type for 2021. Source: PCC.

2021	Generation percentage	Scope 1 emissions percentage
Lignite	20.8%	52.8%
Oil	15.6%	19.4%
Natural Gas	43.0%	27.8%
Hydroelectric	20.6%	0.0%

PPC SLBs

PPC (ticker PPCGA) is rated BB- by Fitch and S&P. It has two bonds outstanding, both SLBs, linked to the same KPI, absolute Scope 1 emissions, but with different targets and observation dates. Full details are in Table 3.

The use of an absolute emissions KPI is strong, and the targets are described as being very ambitious compared to the Greek Government National Energy and Climate Plan (NECP).[10]

Table 3. PPC outstanding bonds. Source: Bloomberg, accessed 14 Feb 2024.

Description	ISIN	Issue Date	Maturity	KPI observation date	SPT (Scope 1 emissions m tons)	Currency	Amount Outstanding
PPCGA €3.875 26s	XS2314265237	18-Mar-21	30-Mar-26	31-Dec-22	13.9	EUR	775,000,000
PPCGA €3.375 28s	XS2359929812	21-Jul-21	31-Jul-28	31-Dec-23	10.0	EUR	500,000,000

Dec 2022, missed SPT

PPC's Sustainability Performance Target (SPT) was to reduce Scope 1 emissions by 40% from a 2019 baseline by 31 Dec 2022. The reported figure was a 36% reduction.[11]

As reported at the time, there appeared to be limited impact for PPC for failing to meet this target,[12] and limited impact for bondholders.[13]

The bond coupon has stepped up from 3.875% to 4.375% as of 30 Mar 2023, and it will remain so for the final three years of the bond. At this point, the value of the option would have been 1.44% upfront or 50bp running, as it was certain to receive the step-up coupon.

[9] We note that PPC has recently been charged by EU antitrust regulators for selling thermal-generated electricity below cost between 2013 and 2019, which may have deterred investment by independent power producers into environmentally friendly energy sources, as reported in "PPC hit with EU antitrust charges of selling below-cost electricity", Reuters, 7 Feb 2024.
[10] "PPC Sustainability-Linked Bond Framework", PPC, Jun 2021.
[11] "PPC S.A. Sustainability-Linked Bond Performance Report", PPC, 15 Mar 2023.
[12] "Impact of PPC's failure to meet Sustainability-Linked Bond Targets Limited", Fitch Ratings, 16 Mar 2023.
[13] "Limited fallout forecast for bondholders as first index-eligible SLB misses target", Responsible Investor, 22 Mar 2023.

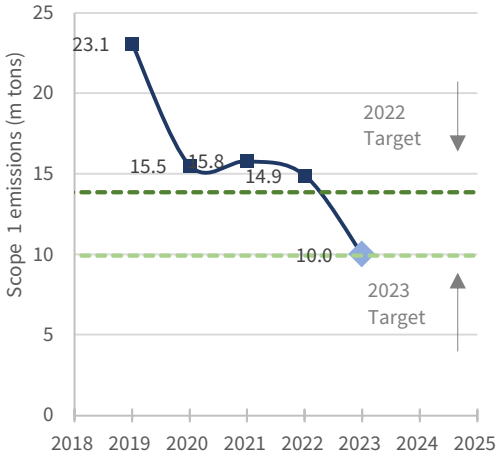
Dec 2023 SPT

PPC's next SPT was to reduce Scope 1 emissions by 57% from a 2019 baseline by 31 Dec 2023. On the back of the missed target at the end of 2022, it looked unlikely that PPC would be able to achieve its 2023 target on the basis of its recent trend.[14]

At its Jan 2024 capital markets day, when PPC announced its 2023 coal decommissioning, it also announced some details with regards to its emissions reductions.

On its 'at a glance' summary page it reports: *"~10 Mton CO_2 and (~30)% reduction in CO_2 emissions intensity since 2020"*[15]

Figure 3. PPC Scope 1 emissions. Source: PPC.



It separately states: *"Scope 1 CO_2 emissions for 2023 expected to be in line with target set in SLB due in 2028."*[16]

2023 emissions of 10 Mton would achieve the target. According to our calculations, this is equivalent to a 34.3% reduction in emissions intensity since 2020,[17] which is a little higher than the reported ~30%.

The information seems insufficient to be completely confident of the target being met. However, on the basis of this reporting, we now consider the target as 50:50. From a model point of view, adjusting the probability of achieving the target from 10% (likely miss) to 50% (50:50), is worth 20bp.[18]

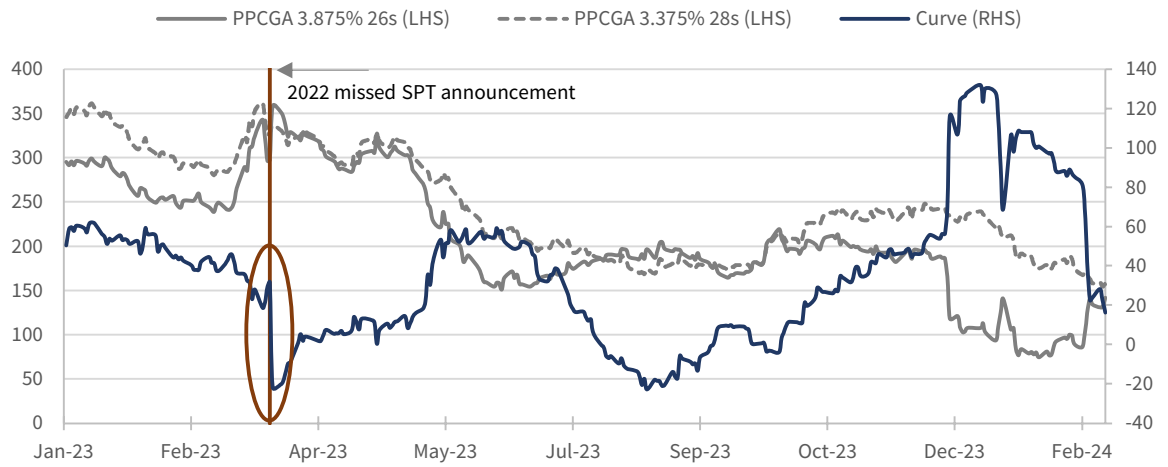
Market pricing

Figure 4 shows PPC bond spreads since the start of 2023. On the announcement of the target miss, it was confirmed that the 26s would receive a step-up coupon and the 26s widened 50bp, flattening the curve. We believe this represented the new coupon being put into the structure as this did not correspond with an underperformance of the cash price.

Since that point we saw the spread curve steepen from -20bp to over 120bp, before flattening again to 20bp. Since the start of the year, against a backdrop of market strength, we have seen slight bull flattening, but not as significant a move as has been observed in PPC bonds.

[14] We classified the bond as a likely miss in our earlier analysis in "SLBs: a summary of 2023 targets", AFII, 15 Nov 2023.
[15] "PPC Capital Markets Day", PPC, 23 Jan 2024, p7.
[16] "PPC Capital Markets Day", PPC, 23 Jan 2024, p23.
[17] "PPC Sustainability Report 2020", PPC, accessed 15 Feb 2024.
[18] For full details of the AFII option pricing framework please see "An option pricing approach for Sustainability-Linked Bonds", AFII, 8 Nov 2022.

Figure 4. Historic PPC bond spreads. Source: Bloomberg, accessed 15 Feb 2024.

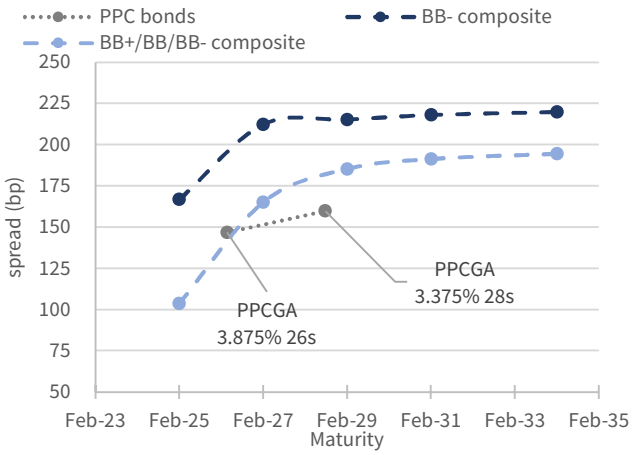


Potential market reaction on emissions announcement

If the 28s were now less likely to pay a step-up, we would expect its option price to reduce, and therefore the bond to widen, and the curve to steepen. Figure 4 shows that no material steepening has occurred since the announcement.

Figure 5 shows a spot analysis of the PPC (rated BB-) bond spreads, compared to implied spreads for Bloomberg composite curves.[19] The PPC curve appears significantly flatter than these comparables.

Figure 5. PPC bond spreads compared to implied Bloomberg composite spreads. Source: Bloomberg, accessed 15 Feb 2024.



Conclusions

PPC was an early issuer of SLBs, calibrated against an ambitious plan to decommission its coal generation. Its 2026 bond was also one of the earliest to miss a target and pay a step-up coupon, after energy security concerns impacted its ability to follow its planned strategy.

At its Jan 2024 capital markets day, it was reported that 0.5GW of coal capacity had been decommissioned, suggesting it may be back on-track to achieve the second target for its 2028 SLB. This shows a positive commitment to emissions reduction, towards which the existence of an SLB may have provided incentives.

If the longer-dated bond is now less likely to receive a step-up, we would expect to see the bond curve steepening. This new information seems yet to be digested by the market.

[19] Implied by removing the risk-free rate.

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