

# PIF, Aramco, and the Amazon

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**Recent M&A activity suggests that the Saudi sovereign wealth fund, Public Investment Fund (PIF, corporate ticker PIFKSA), should logically become the world's pre-eminent protector of forests in general, and the Amazon in particular. This is because the economic valuation of the fund's crown jewel, Saudi Aramco, is correlated to the planet's ability to sequester carbon. Preserving forests enhances this capacity, making environmental protection core to the fund's economic interests. Such a move would also send an important signal to investors in the recent PIF EUR dual-tranche green bond as well.**

PIF has, as AFII discussed in 'Marfrig-BRF merger and PIF green bond deforestation engagement opportunity', gradually built a stake in a number of deforestation-exposed companies, and gained associated power to drive a substantive re/deforestation policy in their supply chains. PIF also has a 16% stake in Saudi Aramco (ticker ARAMCO), worth approximately 30% of the fund's total AUM. Aramco is the world's lowest marginal cost producer of oil and gas among the majors and is generally acknowledged to be the 'last man standing' in terms of hydrocarbon production.

PIF's stake in Aramco, valued at around USD 300-400bn, is bigger than the market cap of many of the other oil super majors, and its exposure to the global carbon budget — as well as its responsibility for climate change mitigation — may be bigger than any other single fund entity in the world.

For PIF, the most meaningful environmental impact it could have would be to leverage its role as a significant owner of Saudi Aramco to halt production of hydrocarbons.

Based on current statements, this appears unlikely. However, one path to a less greenhouse-gas intensive hydrocarbon business model would be to focus on deforestation. A major oil producer like Aramco — and by extension PIF — would also be one of the biggest economic beneficiaries of carbon sinks. Indeed, the bigger the carbon sinks, the longer the harm from anthropogenic climate change could be held back. This would in turn allow the final hydrocarbon producer to be in business longer than would otherwise be possible (ceteris paribus). **Therefore, we argue that creating and retaining carbon sinks such as tropical rainforests is firmly in the economic interest of PIF.**

The Marfrig-BRF merger prompted reflections at AFII on what a collapse of the Amazon and its carbon sequestration capabilities would have on Aramco, and subsequently PIF. One potential consequence is that intensifying climate change is likely to drive a more rapid switch away from fossil fuels than otherwise would be the case. On the flipside, retaining, and even increasing, the Amazon's carbon sequestration capacity could increase the value of the PIF total portfolio versus a collapse scenario.

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We provide some estimated numbers for PIF's exposure, both in terms of liabilities (expected emissions from Aramco) and 'assets' (potential $CO_2$ mitigation through a re/deforestation policy focused on Brazil) with the headline numbers/orders of magnitudes in the following bullets.[1]

- PIF's carbon liability due to Aramco stake: 8.6 GT $CO_2$e (share of equity)
  – 46.6 GT $CO_2$e (share of 'free float')
- Potential Brazil forest policy impact 1.625 GT $CO_2$e
- Forest policy share of carbon liability 18.9% (share of equity)
  – 3.5% (share of 'free float')

The wide range in the liability estimate reflects differing interpretations of PIF's ownership of Aramco's emissions. If PIF is seen as owning 16% of the company directly, its associated emissions are significantly lower than if it is viewed as controlling 87% of Aramco's non-government-held shares. The calculation decision clearly has a major impact on how significant a Brazil forest policy would appear as a mitigation asset.

The numbers only reflect exposures to Brazilian Amazon deforestation. An active PIF re/deforestation policy is likely to have global repercussions, and affect global deforestation numbers, which could provide a six-fold multiplier. Notably, **the absolute number of 1.625GT of** $CO_2$e is something that is hard to find anywhere in terms of carbon emission reduction on one balance sheet. For example, Aramco is looking to sequester 11mn tonnes of $CO_2$ per annum through CCUS (carbon capture, utilisation, and storage) in 2035, which we estimate would aggregate to around 0.28GT of $CO_2$e over 2025-2050.

**What about the cost of delivering a re/deforestation policy?** Few universal asset owners have the power that PIF does to work across an entire sector and prevent a race to the bottom, where competition to become the lowest-cost producer drives further deforestation. If such a race is avoided, costs for re/deforestation policies can be lodged with end-consumers and would only marginally impact PIF's bottom line, while mitigating the potential negative economic effects for local stakeholders.

**Thus, assuming a re/deforestation strategy would be low cost for PIF relative to the potential beneficial impact on its stake in Aramco, it should be in the fund's economic self-interest to actively help protect the Amazon and other important global forest carbon sinks**. Arguably, the fund has the economic power already, since it is a key shareholder and financier in many of the food production companies with deforestation exposure. PIF's financiers, in turn — especially its green bond investors — should be natural partners in this.

[1] Full details on these calculations can be found in the Appendix of this document.

# Appendix – Carbon Calculation Details

Our calculations for the estimated emissions of both deforestation and reforestation, as well as oil consumption are below. The calculations include both external sources and AFII assumptions, which are all clearly labelled, and are designed to provide an illustration to support the conceptual discussion above.

## Carbon value of forests

We separately estimate the carbon impact of deforestation, contrubted both by the incineration impact of its destruction and the loss on ongoing sequestration, alongside the carbon impact of reforestation, where annual sequestration may be higher driven by fast initial growth.

### Deforestation

**Values are for a hectare of forest, and cumulative impact is considered over 25 years*

| | |
|---|---|
| Instantaneous impact of incineration | 679 tonnes $CO_2$ [2] |
| Annual lost sequestration impact | 2 tonnes $CO_2$ [3] |
| Cumulative sequestration for 25 years | 50 tonnes $CO_2$ |
| **Total impact of deforestation** | **729 tonnes $CO_2$** |

### Reforestation

| | |
|---|---|
| Total sequestration from new forest growth (1-15 years) | 300 tonnes $CO_2$ [4] |
| Total sequestration during later growth (16-25 years) | 20 tonnes $CO_2$ [5] |
| **Total impact of reforestation** | **320 tonnes $CO_2$** |

### Combination

We assume these two strategies are executed at a 50:50 ratio.

**This gives an estimated average carbon asset per hectare of 524.5 tonnes $CO_2$.**

## PIF's Aramco carbon liability

The calculations for PIF's carbon liability are based on its stake in Saudi Aramco and potential Scope 3 emissions from consumption of Aramco hydrocarbon assets.

### Carbon value of hydrocarbon assets

| | |
|---|---|
| Aramco reported remaining production | 250 bn barrels [6] |

[2] This is calculated using 185 tonnes carbon stored in a hectare of forest biomass, and the conversion factor of 3.67x as it mixed with oxygem to make $CO_2$ from "Measuring Carbon Emissions from Tropical Deforestation: An Overview", Environmental Defense Fund, accessed 08 Oct 2025.
[3] "Indigenous Forests Are Some of the Amazon's Last Carbon Sinks", World Resources Institute, 6 Jan 2023.
[4] Estimated by AFII within the range of 4.5-40.7 given in "Global carbon dioxide removal rates from forest landscape restoration activities", Carbon Balance and Management, 20 Nov 2018.
[5] "Indigenous Forests Are Some of the Amazon's Last Carbon Sinks", World Resources Institute, 6 Jan 2023.
[6] "Investors", Aramco, accessed 08 Oct 2025.

| | |
|---|---|
| Usable production (AFII estimation) | 50% [7] |
| Emissions conversion factor | 0.43 tonnes $CO_2$ per barrel [8] |
| **Total carbon liability** | **54 gigatonnes $CO_2$** |

### PIF's ownership

| | |
|---|---|
| PIF ownership of Aramco | 16% [9] |
| Aramco residual free-float | 2.44% [10] |
| PIF ownership of free-float | 86.77% |
| **PIF's attributed carbon liability (share of equity)** | **8.6 gigatonnes $CO_2$** |
| **PIF's attributed carbon liability (share of free-float)** | **46.6 gigatonnes $CO_2$** |

## PIF's carbon assets in the Amazon

Now we must consider how much influence PIF may be able to exert on the forest cover in the Amazon, and so what size the resultant carbon asset could be.

### PIF's influence on the Amazon

In terms of direct influence, while PIF's ownership of exposed companies is meaningful (c11% of MBRF and 30% of Minerva), it also represents minority holdings at a select few of the key players. However, an active minority owner with a clear strategy (analogous to an 'activist' fund) can have a much bigger impact that its percentage ownership should dictate.

There are secondary routes of impact through financing other parts of the capital structure of exposed entities, such as private loans.

There are also tertiary affects through leadership effects on government and financial institutions.

It is also worth noting that PIF has assets in other regions, for example Olam which has been potentially linked to deforestation in Indonesia and Gabon,[11] so the figure of influence in the Amazon can be considered a proxy for its influence in all regions mapped onto this biome.

**PIF's influence on Amazon forest cover (AFII estimation) 20%**

### Carbon impact of PIF's potential engagement on deforestation

| | |
|---|---|
| 2022 deforestation in Brazil | 1.03 mn hectares [12] |

[7] This estimation comes from a judgement-based assessment that some oil will be converted into petrochemicals, some will not be extracted, and some will not be extracted in our 25 year time horizon.
[8] "Greenhouse Gas Equivalencies Calculator - Calculations and References", United States Environmental Protection Agency, accessed 08 Oct 2025.
[9] "HRH Crown Prince Announces Completion of the Transfer of 8% of Saudi Aramco's shares to PIF's Fully Owned Companies", PIF, 7 Mar 2024.
[10] "Aramco pops after $11bn sale makes internationals 30% of freefloat", GlobalCapital, 10 Jun 2024.
[11] We note a deal has been agreed for SALIC to double its stake in Olam, which is pending regulatory approval as detailed in "SALIC Signs an Agreement to Increase Stake in Olam Agri Holding to 80.01% - Salic", SALIC, 13 Feb 2025.
[12] "Amazon rainforest: Deforestation rate halved in 2023", BBC News, 12 Jan 2024.

| | |
|---|---|
| 2023 deforestation in Brazil | 0.52 mn hectares [12] |
| Average annual deforestation in Brazil (AFII estimate) | 0.77 mn hectares |
| PIF's annual potential to avoid deforestation in Brazil | 0.15 mn hectares |
| PIF's total impact over 25 years of policy | 3.75 mn hectares |
| Deforestation/Reforestation split | 50:50 |
| **Incineration emissions avoided** | **1.275 gigatonnes $CO_2$ [13]** |
| Average length of sequestration benefit | 12.5 years [14] |
| **Sequestration benefit** | **0.05 gigatonnes $CO_2$ [15]** |
| **Reforestation benefit** | **0.3 gigatonnes $CO_2$ [16]** |

Summary

| | |
|---|---|
| **Total PIF carbon asset from deforestation influence** | **1.625 gigatonnes $CO_2$** |

[13] = 679 tonnes * 3.75 mn hectares *50%

[14] We are considering the 25 years savings, but the hectares saved in the final year of the influence will only benefit from the first year of carbon savings.

[15] = 2 tonnes *12.5 years * 3.75 mn hectares *50%

[16] = 3.75 mn hectares * 320 tonnes / 25 years * 12.5 years * 50%. Note, this is a conservative calculation, as more of the reforestation will be in the higher growth new forest period of development.

# Version Log

| Date | Comment |
|---|---|
| 8 Oct 2025 | Document published |
| 15 Oct 2025 | Link added with details of SALIC's increased investment in Olam, which is pending regulatory approval. |
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