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Sovereign Wealth Architecture for a Pre-Revenue Petroleum State

São Tomé and Príncipe's Design Window

São Tomé and Príncipe has one of the developing world's most sophisticated petroleum revenue frameworks. It has been operationally dormant for twenty-two years. That dormancy is ending — and the design window to operationalise it sits between now and first production.

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EXECUTIVE SUMMARY

São Tomé and Príncipe, the Lusophone island state on the Gulf of Guinea, enacted in December 2004 a framework law on petroleum revenues that the IMF and the World Bank have cited as a reference for developing-country sovereign wealth design. Twenty-two years on, the law has never managed a barrel of oil. The Permanent Fund holds no petroleum balance. The eleven-member oversight commission has produced no annual report. The investment policy required under Article 13 has never been published.

That dormancy might soon be ending. Petrobras has acquired interests in five of nineteen offshore exploration blocks since 2024. The Shell-operated Falcão-1 well, drilled in October 2025, found no commercial hydrocarbons but confirmed an active petroleum system. The Joint Development Authority with Nigeria reactivated bilateral exploration in April 2026, and a new licensing round opened in May 2026. It is increasingly likely that within the coming years we witness a first commercial discovery, giving the State a window to operationalise the 2004 architecture before commercial revenue raises the political stakes.

Timor-Leste's closely similar 2005 framework has been progressively eroded by successive governments exceeding the Estimated Sustainable Income rule in nearly every year since 2008, with the fund potentially exhausted by 2038 on World Bank projections. Architectural quality alone proved insufficient to enforce discipline once revenue began to flow. São Tomé and Príncipe is the case to come, with twenty-two years of additional implementation drift accumulated before the discipline test arrives.

The paper's central analytical contribution is that Article 13's offshore-only investment requirement is a constitutional sterilisation mechanism. Petroleum revenues reach the domestic money supply only at the controlled pace of Annual Funding Amount transfers, mitigating Dutch disease automatically. Preserving Article 13 is a first-order objective; the reform agenda completes the macro-fiscal apparatus the 2004 statute does not contain.

The paper proposes five reforms: macro-fiscal rules complementing the existing cap on fund withdrawals; a two-tier withdrawal rule allowing front-loading of public investment in early production years; a procedural anchor on the minimum discount rate; capacity-building partnerships for the investment-management expertise the law requires; and a euro-aligned currency framework with a pre-approved contingency protocol for the Portuguese convertibility line backing the dobra peg.

Lei n.º 8/2004 is best-in-class on the integrity and transparency dimensions of 2004 best practice and silent on the macro-fiscal dimensions the post-2010 IFI literature has identified as binding. The work that remains is operational completion, macro-fiscal embedding, and constitutional protection. The window is open now; it will close progressively as commercial revenue becomes more proximate.

RECOMMENDATIONS

First, add macro-fiscal rules alongside the existing cap on fund withdrawals. Article 8 of the 2004 law caps how much can be transferred from the Permanent Fund into the State Budget each year, but says nothing about how much the State Budget can borrow on top. A government respecting the withdrawal cap can still run an unsustainable deficit by borrowing against non-petroleum assets. The IMF has held since 2012 that these are different categories of rule, and both are needed.[39,40] The paper proposes a ceiling on the State Budget's deficit excluding petroleum revenue, and a public-debt ceiling calibrated to the IMF-World Bank debt-sustainability framework for low-income countries.[43]

Second, allow front-loading of public investment during the early production years, conditional on capacity. The 2004 law treats the fund as a single-purpose vehicle: invest petroleum revenue offshore and live off the expected real return forever. But in a country with São Tomé and Príncipe's infrastructure gap, investing some of that revenue in domestic public capital can yield social returns far above what offshore bonds can earn. The paper proposes a two-tier withdrawal rule: a higher rate during the first decade or so of production, falling to a lower steady-state rate thereafter, with a mathematical safeguard ensuring total lifetime spending matches a constant prudent path.

Third, anchor the minimum discount rate in the withdrawal formula to external benchmarks. The annual withdrawal cap depends on an estimate of the present value of future petroleum revenue, which depends on the discount rate the law specifies. The 2004 law sets a minimum of 7%, unchanged in 22 years and tied to no external reference. A government wanting to spend more has a direct incentive to lower it, since a lower rate raises the estimated present value and therefore the cap. The paper proposes tying the floor to IMF and World Bank long-term real-rate assumptions,[43,55] plus a country-risk premium of at least 500 basis points and an oil-price-volatility premium of at least 300 basis points. The 7% figure stays as an absolute backstop. Methodology changes require written justification, oversight review, parliamentary approval, and a judicial challenge that automatically pauses the change.

Fourth, build the investment-management expertise the 2004 law requires but cannot itself create. Article 12 requires that the committee managing the fund includes members with proven international portfolio-management experience, which São Tomé and Príncipe, with no domestic capital market and a thin professional bench, cannot supply by hiring alone. The paper proposes three coordinated measures: knowledge-transfer partnerships with established sovereign wealth funds (Norway's NBIM, Botswana's Pula Fund, Timor-Leste's Petroleum Fund secretariat),[13,21,49,56] engagement with the World Bank Treasury programme that has built capacity at nearly 100 similar institutions since 2001,[54] and an interim arrangement under which professional external managers run the offshore portfolio while the Santomean committee builds resident expertise in policy and oversight.

Fifth, protect and complete Article 13's monetary architecture. Article 13's offshore-only investment requirement is the paper's central analytical finding: under the dobra-euro peg in force since 2010,[51] it functions as an automatic sterilisation mechanism that controls the pace of real exchange rate appreciation during a production cycle. Preserving the instrument list is therefore a first-order objective. The Investment Policy required under Article 13 should additionally specify two structural protections currently missing: a currency-allocation framework aligned to the euro reference (so the offshore portfolio's currency composition matches the dobra-denominated payouts it will eventually fund), and a contingency protocol approved by the National Assembly in advance for any disruption to the Portuguese convertibility-line credit facility that operationally backs the peg.

SECTION 1: THREE DEVELOPMENTS, ONE DESIGN WINDOW

The 2004 architecture has been operationally dormant for twenty-two years. The obvious objection to a 2026 reform paper is that the political class which failed to operationalise the framework in any of those years is unlikely to do so now. The objection has force and the paper does not dismiss it. What makes the current window different from the previous ones is not a change in political will but a change in incentive structure. The prospect of commercial petroleum revenue creates concentrated rents to fight over, which activates both pro-reform and anti-reform coalitions: those that want institutional protections embedded before revenue lands, and those that want capture-friendly architecture embedded before revenue lands. The window is open *because* the politics has not yet shifted from constitutional design to revenue allocation. Once commercial revenue arrives, that shift completes and the reform agenda becomes materially harder. This is the design-window thesis and it is the paper's central political-economy premise.

The empirical constraint that runs through the rest of the analysis is the February 2026 Constitutional Court crisis, treated formally at section 7.4. On 2 February 2026, an extraordinary plenary of 29 deputies, convened outside the National Assembly building under presidential-guard protection, purported to dismiss the five judges of the Constitutional Court; the Court's declaration of unconstitutionality on the same day was not respected; the Court's premises were closed by security forces; the dismissal law was promulgated in defiance of an abstract preventive-review request filed by one-fifth of MPs. These events demonstrated that the executive can override constitutional mechanisms when politically inconvenient, on a timescale shorter than any judicial remedy. The prescription set in this paper is calibrated to that empirical reality: the reforms most heavily weighted are those that operate through external anchors (IMF Article IV, LIC-DSF, EITI) which are insulated from the domestic constitutional system, rather than those that rely on constitutional protection alone.

Three developments since early 2024 have reset the relevant time horizon for São Tomé and Príncipe's petroleum revenue architecture.

In February 2024, Petrobras acquired from Shell 45 per cent of Block 10, 45 per cent of Block 13, and 25 per cent of Block 11.[2] In September 2025, it added 27.5 per cent of Block 4 alongside Shell, Galp, and ANP-STP.[3] On 17 April 2026, Petrobras signed an agreement to acquire 75 per cent and operatorship of Block 3 from Oranto Petroleum, subject to regulatory approval.[4] Subject to closing, Petrobras holds interests in five of the country's nineteen EEZ blocks, becoming the largest single equity participant across the EEZ and the operator of Block 3. Operatorship of Blocks 4, 10, 11, and 13 remains with Shell.

On 11 October 2025, the Stena DrillMAX drillship spudded the Shell-operated Falcão-1 exploration well, approximately 45 kilometres north of São Tomé Island. On 21 January 2026, Shell announced that the well, drilled to approximately 3,000 metres, had not encountered commercially viable hydrocarbons. The well nonetheless confirmed an active petroleum system in the basin and produced the first detailed subsurface data set for the next phase of frontier exploration.[38]

On 21 April 2026, the Joint Development Authority, which administers the Joint Development Zone under the Treaty of 21 February 2001 with revenue allocated 60/40 to Nigeria and São Tomé and Príncipe, called for new investors with the explicit offer of "better fiscal incentives including lower signature bonuses and less regulatory demands."[6] This follows a decade of stalled JDZ activity, with ExxonMobil, Chevron, Sinopec, and Total each having exited without a commercial discovery.[8,31] Article 29 of Lei n.° 8/2004 applies the framework law's protections to Santomean revenues from the Zone at the point of receipt, so the *revenue-side* recommendations of this paper apply without requiring renegotiation of the 2001 Treaty.

The April 2026 JDA announcement nonetheless raises a *contracting-side* gap that Article 29 does not close. The framework law's contract transparency and integrity provisions (Articles 20-22) operate at the point of contract execution. JDZ contracts are executed by the JDA, not by ANP-STP. The phrase "less regulatory demands" is on its face a statement that JDZ contracts may be issued on terms inconsistent with the EEZ-side standards. The architectural implication is that the bilateral arrangements under the 2001 Treaty should be reviewed for compatibility with the 2004 statute's contracting standards, with a Santomean unilateral declaration available as a fallback that JDZ contracts inconsistent with Article 21 will not be recognised for national petroleum revenue accounting.

On 8 May 2026, the National Petroleum Agency opened bidding for a new licensing round covering Blocks 7, 8, and 9, with submissions due 30 June 2026 and an equity participation offer of up to 85 per cent to incoming operators.[7]

Each development on its own is conditional. Together they shift the relevant horizon from twenty years to the interval between first commercial discovery and field development plan submission. On industry-standard estimates, first commercial discovery lies between approximately 2029 and 2032 and first production between approximately 2032 and 2037.

Lei n.° 8/2004, the Framework Law on Petroleum Revenues, was approved by the National Assembly on 26 November 2004 and promulgated by President Fradique de Menezes on 29 December 2004.[1] Drafted with technical assistance from the Columbia University Earth Institute under Jeffrey Sachs, it was praised at the time as among the most sophisticated petroleum fiscal frameworks in the developing world,[10] and remains best-in-class on the integrity and transparency dimensions of 2004 best practice. It is silent on the macro-fiscal dimensions the post-2010 IFI literature has since identified as the binding constraint on resource-revenue management, a doctrinal gap addressed at section 4 below. The 2004 text established a National Oil Account, a Permanent Fund for Future Generations, a Petroleum Oversight Commission with broad civil society representation, two layers of annual audit, statutory contract transparency exceeding the EITI minimum, and a withdrawal rule anchored in the permanent income hypothesis. In the twenty-two years since, the country has been delisted from the EITI once (April 2010), readmitted

(October 2012), suspended again (October 2022), and its suspension extended (April 2024).[9] The Petroleum Oversight Commission has produced no publicly identifiable annual report, and no organic statute regulating its operational functioning has been located.

The architecture exists; the institutions it depends on remain to be operationalised. The withdrawal-rule assumptions also predate two decades of relevant international experience, including the post-2010 IMF Fiscal Affairs Department doctrinal shift on resource-revenue fiscal frameworks.[39,40]

The remainder of the paper proceeds as follows. Section 2 sets out what Lei n.º 8/2004 actually says. Section 3 triangulates the comparator cases. Section 4 develops the macro-fiscal frame the 2004 statute does not provide. Section 5 addresses Dutch disease, the dobra-euro peg, the currency-basis risk inside the offshore portfolio, and the precautionary contingency planning appropriate to the Portuguese convertibility line backing the peg. Section 6 sets out the phased sequencing roadmap, including the investment-management capacity-building agenda and the procedural anchor for the Article 7(1)(c) discount rate. Section 7 addresses the constitutional dimension and the February 2026 Constitutional Court crisis. Annex A drafts specific amendments to Lei n.º 8/2004 (A.1 through A.6, plus A.9 and A.10) and complementary ordinary statutes (A.7, A.8, and A.11). Annex B presents the worked Permanent Income, Estimated Sustainable Income, and modified-PIH mathematics with a sensitivity band. Annex C summarises the roadmap in a one-page table.

SECTION 2: WHAT LEI N.º 8/2004 ACTUALLY SAYS

The Framework Law on Petroleum Revenues[1] runs to thirty-three articles across six chapters. It establishes financial, oversight, transparency, and integrity architecture as four parallel pillars, each with implementing detail set out in primary text rather than deferred to subordinate regulation. It cross-references the Treaty with Nigeria and applies its provisions to JDZ revenues within the limits of bilateral commitments. Most provisions encountered in international best-practice templates for petroleum-rich developing states are present in the 2004 text. The provisions that matter most for the period 2026 through first production are the financial architecture in Chapter II, the oversight architecture in Chapter V, and Articles 7 and 8 governing revenue forecasting and the withdrawal rule. The latter is operationally consequential to a degree the secondary literature[10,11] has tended to understate.

2.1 The financial architecture

Article 3 requires the Central Bank, acting in the name of the State, to maintain Petroleum Accounts with a Custody Bank selected by the Government. The Custody Bank's qualifying criteria are set out in the Article 1(h) definition: an international custodian top-rated by two internationally recognised risk-analysis agencies. Article 5 requires that all transfers be electronic and that debits require four signatures: the President of the Republic, the Prime Minister, the Director of the Treasury and Patrimony, and the Director of International Transactions of the Central Bank.[10] The four-signature rule is unusual in comparative petroleum fund design and makes unauthorised withdrawal procedurally difficult rather than merely illegal.

Article 6 requires that all petroleum revenues, defined comprehensively at Article 1(ii), be deposited directly into the National Oil Account by the persons making the payment. Critically, under the article, amounts due to the State are considered paid only when effectively and integrally received in the National Oil Account. This provision closes a payment-diversion vector that has been exploited in other resource-rich states: companies cannot satisfy their obligations by paying into intermediate accounts. The State has not been paid until the funds reach the dedicated custodian account.

Article 4 prohibits any pledge, encumbrance, or security interest on the Petroleum Accounts or on petroleum revenues, actual or future. Acts in violation are null. The only permitted exceptions are management and account-maintenance fees not exceeding one year. The article forecloses sovereign borrowing collateralised against future petroleum production, the mechanism through which several West and Central African states encumbered future revenue streams before production began.

Article 10 establishes the Permanent Fund as a subaccount of the National Oil Account. Until first production, the Governor of the Central Bank holds the subaccount unfunded. Beginning the second year after first production, the balance of the National Oil Account at 30 June of the prior year is transferred to the Permanent Fund each 31 January, after deduction of the Annual Funding Amount and service fees. Any extraordinary petroleum revenue received post-production must be transferred to the Permanent Fund within thirty days. Withdrawals from the Permanent Fund to finance the Annual Funding Amount are bounded by Article 8 and require investment authorisation under the Management and Investment Policy.

2.2 The withdrawal rule

Article 8 sets the Annual Funding Amount across three regimes corresponding to phases of petroleum sector development. From 2005 through the first year of production, the Amount may not exceed the greater of three calculations: twenty per cent of the National Oil Account balance at 31 December 2005, twenty per cent of the estimated balance at end of the prior year, or, once commercial discovery has been announced and production guaranteed, the prior-year balance divided by the number of years remaining until first production. This pre-production cap permits modest budget support during exploration without pre-emptively depleting a fund whose future inflows have not yet materialised.

From the second year after first production onward, the Annual Funding Amount may not exceed the *lesser* of two calculations. The first is the Long-Term Real Rate of Return multiplied by the sum of the Permanent Fund balance and the Expected Present Value of Future Petroleum Revenues, both measured at 30 June of the prior year. The second is the Long-Term Real Rate of Return multiplied by the Permanent Fund balance plus the unrestricted portion of the National Oil Account balance. Article 8(4) caps the Long-Term Real Rate of Return at five per cent.

The lesser-of-two construction is the central conservatism marker. The first calculation is the textbook permanent income formula. The second substitutes the realised unrestricted balance for the discounted present value of future flows, so when future revenue projections are revised downward or production is delayed, the second binds, and the rule self-tightens during downside scenarios without legislative intervention.

Article 7 requires the National Petroleum Agency to publish three calculations by 30 June each year: the expected future barrel price, expected future hydrocarbon sales, and the Expected Present Value of Future Petroleum Revenues. The barrel price is the ten-year reference average for publicly quoted Brent FOB Sullom Voe, adjusted for the quality differential applicable to São Tomé and Príncipe crude. The expected sales projection is constrained to blocks in production or in commercial development, with operator-provided production estimates. The Expected Present Value is calculated using a discount rate of not less than seven per cent. The Petroleum Oversight Commission must verify, within thirty days, that the calculations conform to the law.

The seven per cent floor on the discount rate was unusually conservative for a petroleum fund design at the time of drafting in 2004. Higher discount rates compress the present value of future flows, reducing the wealth base against which the Long-Term Real Rate of Return is applied and therefore reducing the permissible Annual Funding Amount. The provision reflects the drafters' considered choice to bias the rule toward saving in the early production years rather than front-loading expenditure. The seven per cent figure has not been revisited in the intervening twenty-two years, however, and the question of whether it remains adequate against contemporary frontier-state political risk premia is the subject of Annex B.5 and the Phase 3 methodological note at section 6.3.

2.3 The oversight architecture

Article 12 establishes the Management and Investment Committee with five members: the Minister of Planning and Finance as Chair, the Governor of the Central Bank as Vice-Chair, one member designated by the President of the Republic, and two members designated by the National Assembly, one of whom must be designated by opposition parties. The non-ministerial members must have proven experience in international investment portfolio management. Mandates are two years, renewable once. Decisions require the affirmative vote of at least three members.

A structural asymmetry between the Management and Investment Committee (Article 12) and the Petroleum Oversight Commission (Article 23, discussed below) is worth flagging early. The Committee, which *makes operational decisions* on fund management, is three-to-two executive-aligned: the Minister of Planning and Finance, the Central Bank Governor, and the Presidential appointee form a working majority against the two Assembly designees (one of whom must be opposition). The Commission, which *supervises* those decisions, is ten-to-one in favour of non-executive representation. The drafters' choice in 2004 was to concentrate decisional authority in an executive-led body while concentrating supervisory authority in a broader civil-society body. The choice is defensible, investment management requires technical competence and timely decision-making, while supervision benefits from broad constituency, but it does mean that the Committee's decisions are the more vulnerable to executive capture and that the Commission's supervisory role is the more consequential. The implementation recommendations at section 6.1 focus disproportionately on the Commission for this reason.

Article 23 establishes the Petroleum Oversight Commission with eleven members: one designated by the President of the Republic, three by the National Assembly (one mandatorily from opposition), one judge counsellor with at least five years of career experience designated by the Superior Judicial Council, one representative of the Autonomous Region of Príncipe, two representatives of local governments, one representative of business associations, one representative of trade unions, and one representative of non-governmental organisations. Decisions require the affirmative vote of at least six members. The composition is heavily weighted toward non-executive representation: of eleven seats, only one is a direct executive appointment, with the remaining ten distributed across the legislature, judiciary, subnational government, and organised civil society.

Article 24 vests the Commission with broad supervisory and investigatory powers, including the authority to request information from any person, conduct inquiries and inspections, seize documents, certify the date of first production, adjudicate administrative offences, and act as a party in judicial proceedings concerning matters within its supervisory remit. The Commission also audits the work of the external audit firm. The architecture is operationally similar to Ghana's Public Interest and Accountability Committee established under the Petroleum Revenue Management Act 2011,[27] though the STP design predates the Ghanaian one by seven years.

Article 14 requires two annual audits: one by the Tribunal de Contas and one by an independent international audit firm selected by the Petroleum Oversight Commission through public tender (Article 14(1)). Audits must be concluded within six months of year-end (Article 14(1)) and, under Article 14(3), delivered simultaneously to the President, National Assembly, Government, Petroleum Oversight Commission, Attorney-General, and Public Registration and Information Office within thirty days of completion.

Article 16 requires that the National Assembly hold separate plenary debates each legislative session on general hydrocarbons policy and on the audit reports of the Petroleum Accounts. The audit-report debates require the participation, with right to speak, of finance and hydrocarbons ministers, all members of the Management and Investment Committee, the Governor of the Central Bank, the President of the Tribunal de Contas, the President and members of the Petroleum Oversight Commission, an administrator of the external audit firm, and the Executive Director of the National Petroleum Agency. These plenary debates must be preceded by public sessions with civil society organised by the Petroleum Oversight Commission.

2.4 The transparency architecture

Article 17 enumerates a comprehensive list of acts subject to the transparency principle, covering all payments, account movements and balances, the custody contract, JDZ revenue distribution, ANP-STP revenue forecasts, encumbrances, audit reports, the Investment Policy, the Petroleum Oversight Commission's annual report, budgets benefiting from Annual Funding Amount transfers, contracts involving State participation in petroleum activity, and incompatibility proceedings. Article 17(3) requires publication on a dedicated Internet page. Article 18 establishes the Public Registration and Information Office under the tutelage of the National Assembly as central repository; Article 19 requires that information be presented in Portuguese, complete and current, and accessible universally and free of charge.

Article 20 voids confidentiality clauses in petroleum contracts that conflict with the transparency principle, with a narrow exception for industrial property rights and an absolute bar on withholding financial information. Article 21 deems four clauses to be implicit in all petroleum contracts whether or not expressly drafted: a no-bribery clause, a compliance-with-administrative-law clause, a Portugueselanguage prevalence clause, and a clause requiring public disclosure within ten days of signing. Article 22 requires public tender for all petroleum contracts and disclosure not less than ten days before signature. Contracts violating these provisions are null.

The provisions as drafted are among the strongest contract-transparency provisions in any developing-country petroleum statute. The implementation gap is, by the same token, among the more consequential of the implementation gaps. The fiscal terms of the petroleum production-sharing contracts entered into by ANP-STP and its predecessor authority during the dormant period, including the Petrobras-related contracts at Blocks 4, 10, 11, and 13, the Block 3 contract being assigned from Oranto, the Shell-operated Block 10 contract under which Falcão-1 was drilled, and the JDZ-side contracts where Santomean disclosure obligations attach, are not, as of May 2026, in the public domain in a form that satisfies the Article 17(3) Internet-publication requirement, the Article 18 Public Registration and Information Office repository requirement, or the Article 22 ten-day pre-signature disclosure requirement. The EITI Validation that the country has been suspended from since October 2022, extended in April 2024, would, if successfully completed, have produced disclosure under EITI Standard 2023 Requirement 2.4 (contract disclosure) and Requirement 4 (revenue collection).[9,26,46] The EITI suspension is therefore not an isolated reputational matter; it is a direct consequence and continuing indicator of the failure of the Article 17-22 transparency pillar to operate.

2.5 The integrity architecture

Article 30 prohibits the nomination or continued service of persons with direct or indirect economic, financial, or participation interests in petroleum revenue activities, or in entities holding investments of Petroleum Account funds. Persons in incompatible situations must decline nomination or seek dismissal. Penalties include fines equal to triple the remuneration received during the period of incompatibility, fines equal to triple the value of any improper economic benefit received, and full disgorgement of accumulated civil fruits. Attempt is punishable at half the consummated penalty.

Article 31 aggravates by one-third the minimum sentences applicable under general law for offences against the provisions of the Framework Law where petroleum resources or revenues are the object. Each day-fine is set at three minimum national wages at the time of the act or omission. Acts violating mandatory provisions of the law are null and produce no effect against the State.

2.6 What the law does not say

The law does not specify the organic statute of the Petroleum Oversight Commission, which is referenced at Article 23(4) and deferred to a separate enactment. As of May 2026, no organic statute regulating the Commission's operational functioning has been located in public records. The Commission consequently lacks the implementing detail (appointment procedures, remuneration structures, secretariat organisation, sanction process rules) that would render Articles 23 and 24 operationally complete.

The law does not specify the asset allocation parameters of the Investment Policy. Article 13 establishes investment classes and convertibility constraints, but the operational asset allocation (equities versus fixed income, geographic distribution, currency exposure, ESG screens) is delegated to the Management and Investment Policy approved by the Management and Investment Committee and submitted to the National Assembly under Article 13(1). No such Policy has been located in public records.

The law does not specify the relationship between the Permanent Fund's permitted instruments under Article 13(3) and the rate of return assumptions underlying Article 8(4). The Article 13(3) instrument list (demand deposits, top-rated sovereign obligations, short-dated government securities, top-rated bank acceptances, and matching investment funds) is materially more conservative than that of any large peer fund and cannot, on prevailing real yields, support a sustained five per cent real return on the offshore portfolio alone. On indicative 2026 market conditions, the implied real yields are approximately: demand deposits, negative-to-zero; top-rated short-dated sovereigns, 0.5 to 1.5 per cent; top-rated bank acceptances, 1.0 to 2.0 per cent; matching investment funds, 1.5 to 2.5 per cent. A liquidity-weighted blended portfolio over the permitted instruments yields no more than 2 per cent real at the optimistic end, against an Article 8(4) ceiling 3 to 4 percentage points above. The Norwegian 2017 reduction from 4 to 3 per cent was motivated by an analogous concern over moderating prospective real returns on a broader and more diversified portfolio.[14]

Whether this gap implies principal depletion depends on which welfare benchmark applies. Under a pure permanent income reading, where the appropriate withdrawal rate is the offshore real return, the gap is a calibration error: transfers in excess of yields will deplete principal over the long run, and the corrective is to reduce the ceiling. Under the modified-PIH frame elaborated at section 4.4 and Annex B.3, where the welfare-relevant benchmark for a capital-scarce LIC is the social return on domestic public investment rather than the offshore real return, the gap is the intended consequence of front-loading expenditure during a defined production-stage window in which domestic returns to public capital exceed offshore returns; the corrective is not a uniformly lower ceiling but a two-tier rule with an upper-bound rate during front-loading and a steady-state rate thereafter, subject to a present-value-equality constraint that prevents principal depletion. The two readings yield different recommended responses, and which response is appropriate for São Tomé and Príncipe is an empirical question about the quality of public investment management, which the Public Investment Management Assessment recommended at sections 4.4 and 6.1 is designed to resolve.

The law does not specify a constitutional anchor. Lei n.° 8/2004 is an ordinary statute, amendable by simple majority of the National Assembly. The Permanent Fund's continued existence, the withdrawal cap, the Petroleum Oversight Commission, and the transparency provisions are all reversible by a future ordinary law.

The law does not specify the procedure applicable when the executive proposes to exceed the Annual Funding Amount calculated under Article 8. The Article sets the ceilings, but neither the form of executive justification required, nor the parliamentary procedure for considering excess-withdrawal proposals, nor the standing for parliamentary minority or civil society challenge, nor the suspensive effect of such challenge, is specified. The Timor-Leste experience documents the failure mode in which the executive proposes excess withdrawal with insufficient justification, the legislature appropriates the excess, and the constitutional remedy is too slow to constrain the practice.

The law does not specify a fiscal anchor against which the Annual Funding Amount transfers operate. Article 8 caps the transfer from the Permanent Fund to the State Budget but is silent on the non-oil primary balance against which underlying fiscal policy is to be conducted. This is a doctrinal gap rather than an oversight: the comparative-law consensus on petroleum fund design in 2004 treated the withdrawal rule as the fiscal rule, a position the IMF Fiscal Affairs Department has expressly revised since 2012. The point is addressed at section 4 below.

The law does not specify a debt anchor. Article 4 bars encumbrance of petroleum revenues, but leaves open the workaround in which the executive expands non-petroleum-collateralised borrowing while complying with Article 8's transfer cap. The IMF-World Bank Low-Income Country Debt Sustainability Framework, to which São Tomé and Príncipe is subject under its current Extended Credit Facility arrangement, provides the natural complement; the integration of an LIC-DSF debt anchor into the petroleum revenue architecture is also addressed at section 4 below.

These seven gaps (the missing organic statute, the missing Investment Policy, the internal inconsistency between Articles 13 and 8, the absence of constitutional protection, the absence of a procedural rule for excess withdrawal, the absence of a fiscal anchor, and the absence of a debt anchor), together with the operational calibration required to render existing provisions production-ready, are the substantive content of the design window question.

SECTION 3: THREE CORNERS, DESIGN, DISCIPLINE, IMPLEMENTATION

The international experience of sovereign petroleum funds since 2004 separates into three failure modes. Each is instructive for São Tomé and Príncipe in a different way. The relevant question is not which comparator the country should aspire to imitate. It is which failure mode the country is closest to, and what the architecture must contain to foreclose that mode before drilling results land.

3.1 Norway: design and discipline

The Government Pension Fund Global was established by the Storting in 1990 and renamed in 2006. At end-2025 it held 21,268 billion kroner (approximately USD 2.0 trillion), making it the world's largest sovereign wealth fund. Its 2025 return was 15.1 per cent.[13] The relevant lesson for São Tomé and Príncipe is not the scale or the mechanics but the fiscal rule.

In 2001, during the first Stoltenberg cabinet, the Storting adopted the handlingsregelen, which provided that transfers from the Fund to the central government budget should over time follow the expected real return on the Fund, then estimated at four per cent. In 2014, a government-appointed expert commission chaired by Professor Øystein Thøgersen of the Norwegian School of Economics concluded that prospective real returns had moderated and the spending path needed to be tightened. On 31 March 2017, the Solberg government formally presented to the Storting a revised real-return estimate of three per cent, in the Long-Term Perspectives Report (Perspektivmeldingen 2017).[14] The IMF, in its 2018 Article IV consultation, described the change as "very favorable: it stabilizes the fiscal path considerably over the next two decades."[15]

The Norwegian case is not a story about getting the fiscal rule right at the outset. It is a story about a political system willing to tighten the rule when the underlying assumptions no longer held. Design quality has been demonstrated repeatedly elsewhere; the discipline to make a rule more conservative as the wealth base ages and yield expectations decline is rarer, and is the operative reason the fund has accumulated rather than depleted.

A second Norwegian feature worth noting is the institutional separation between the asset owner (the Ministry of Finance), the operational manager (Norges Bank Investment Management), and the ethical screen (the Council on Ethics). The three bodies are not in conflict because their mandates do not overlap. The Storting must assent before significant changes to investment strategy. As of end-2024, 105 companies were excluded by the Council on Ethics on conduct- or product-based criteria, with a further eight companies placed under formal observation.[16] The Storting exceeded the fiscal rule twice in two decades, both during the COVID-19 pandemic in 2020 and 2021 (structural non-oil deficit of 3.9 per cent and 3.7 per cent of GPFG respectively).[15] These are the discipline signals that distinguish Norway from peer petroleum economies.

São Tomé and Príncipe's existing architecture is not structurally distant from Norway's. The Management and Investment Committee is positioned analogously to the Ministry of Finance, the Central Bank performs the custodian function analogously to Norges Bank, and the Petroleum Oversight Commission, as designed, sits in a position roughly analogous to the Council on Ethics combined with the Storting's oversight function. The gap is not design. The gap is the operational practice that, in Norway, fills the space between the institutions.

3.2 Timor-Leste: design without sustained discipline

The Petroleum Fund of Timor-Leste was established in 2005 under Petroleum Fund Law No. 9/2005,[17] fulfilling the constitutional requirement at Section 139(2) of the 2002 Constitution that conditions for the exploitation of natural resources "should lend themselves to the establishment of mandatory financial reserves, in accordance with the law."[18] Transfers to the State Budget are governed by an Estimated Sustainable Income rule set at three per cent of total Petroleum Wealth, where Petroleum Wealth comprises the Fund balance plus the net present value of expected future petroleum revenue. The fund is held at the Central Bank of Timor-Leste, assets are invested only in international financial markets, and audits are public. The design was, and remains, internationally regarded as a model. The fund balance as of June 2025 was approximately USD 18.74 billion, roughly ten times non-petroleum GDP.[21] The number understates the trajectory.

Since 2008-2009, the Government of Timor-Leste has exceeded the Estimated Sustainable Income in almost every year. In 2008, one-fifth of Parliament filed under Section 150(e) of the Constitution requesting constitutional review of the State Budget on the grounds that the Government's excess withdrawal failed to include a sufficient explanation of why it served the long-term interests of Timor-Leste. On 18 November 2008, three judges of the Court of Appeal sitting as the Supreme Court ruled in favour of the petitioners, finding that the excess withdrawal violated Section 145(2) of the Constitution (which requires that the State Budget provide, based on efficiency and effectiveness, a breakdown of State revenues and expenditures).[19] The Government has nonetheless continued to exceed the ESI in subsequent years. Withdrawals from the Petroleum Fund equalled approximately 88 per cent of GDP in the rectification 2023 budget, with the Fund financing roughly 74 per cent of that budget; public spending across the 2014-2024 period averaged approximately 85 per cent of GDP, with fiscal deficits averaging 39.6 per cent of GDP financed largely through Fund withdrawals.[20] The Bayu-Undan field, which supplied the vast majority of historical deposits, ceased commercial production on 4 June 2025 (LNG exports to Darwin had ended in November 2023; domestic gas supply to PWC Darwin continued until June 2025).[22] The Greater Sunrise field, which Woodside Energy and Timor GAP estimate to hold approximately 5.1 trillion cubic feet of dry gas and 226 million barrels of condensate (with project-level valuations in the published literature running to between approximately USD 50 billion and USD 75 billion depending on development concept), and in which Timor-Leste holds a 56.56 per cent stake through Timor GAP, has been stalled for over a decade pending unresolved disputes over onshore versus Australian processing.[23]

The World Bank, citing official projections, indicates that on current spending trajectories the Fund could be depleted by 2038; the IMF's 2025 Article IV places full depletion by the end of the 2030s.[20]

The Timor-Leste case demonstrates that constitutional anchoring, sophisticated formula design, and public audits are jointly insufficient to enforce withdrawal discipline. What was missing was a binding procedure for the case in which the executive proposes to exceed the rule and the legislature is disposed to authorise it. The Court ruled in 2008 that the practice was unconstitutional. The practice continued. The operative implementation mechanism (parliamentary appropriation in excess of ESI with executive justification) was insufficiently demanding, and the constitutional mandate at Section 139 proved weaker in practice than its drafters intended.

São Tomé and Príncipe and Timor-Leste are small Lusophone island states with narrow non-petroleum economies, limited institutional capacity, and high public-sector employment ratios. Both adopted petroleum frameworks before commercial revenue had materialised. Timor-Leste's revenue arrived, and the rule was exceeded year after year because no procedural constraint forced a credible justification. That is the case to anticipate.

3.3 Equatorial Guinea: neither design nor discipline

The Fund for Future Generations of Equatorial Guinea was established in 2002. The deposit rule was set at 0.5 per cent of annual oil revenue.[24] The fund is held by the Bank of Central African States. Between 2000 and 2013, Equatorial Guinea received approximately USD 45 billion in oil revenues.[53] The Fund's accumulated assets are approximately USD 165 million,[24] representing less than 0.4 per cent of cumulative revenue.

The Carnegie Endowment for International Peace, in its 2024 study of corruption and governance risks in sovereign wealth funds, found that the Fund "has no public disclosure of its objectives or mandate, no website, no publicly disclosed governance and institutional framework, no published annual reports, no publicly available information on its board of directors and management, and no publicly disclosed information on asset allocation, investment policy, or fiscal withdrawal rules."[24] A 2004 US Senate Permanent Subcommittee on Investigations report on Riggs Bank documented that the country's oil revenue account at Riggs was controlled by three persons: the President, his son the minister of mines, and his nephew the secretary of state for treasury and budget. Two signatures were required to remove funds. Between 2000 and 2003, more than USD 35 million was transferred from that account into foreign bank accounts held by shell corporations.[25]

São Tomé and Príncipe and Equatorial Guinea are the two African states identified by Human Rights Watch as having been effectively expelled from the EITI; São Tomé and Príncipe was subsequently readmitted in October 2012, leaving Equatorial Guinea as the African state currently delisted from the initiative. São Tomé and Príncipe was suspended again in October 2022, with the suspension extended in April 2024.[11,26]

The Equatorial Guinea case shows why the Lei n.º 8/2004 design provisions discussed at section 2.1 (one hundred per cent deposit, direct deposit with payment deemed unmade until receipt, four-signature debits, two parallel annual audits, voiding of confidentiality clauses, encumbrance bar) were drafted as they were. Their absence in peer regimes by 2004 was well documented. Lei n.º 8/2004 forecloses the Equatorial Guinea outcome at the level of statute. The remaining question is whether the statute will be implemented.

3.4 Chile and the segregated-funds alternative

Chile separates stabilisation and intergenerational savings into distinct funds with distinct mandates: the Pension Reserve Fund and the Economic and Social Stabilization Fund, both established under the 2006 Fiscal Responsibility Law and managed operationally by the Central Bank.[47] The IMF Fiscal Affairs Department opposes this segregation on the grounds that the stabilisation–savings problem is fundamentally a fiscal balance problem and that separating funds creates accounting visibility at the cost of fiscal substance.[39,40] For São Tomé and Príncipe, the relevant question is not whether to retrofit a Chilean two-fund structure onto the 2004 architecture but whether to make the implicit stabilisation and savings functions of the single Permanent Fund more transparent through the Article 13 Investment Policy. The two-fund route is not pursued in this paper.

3.5 Azerbaijan: extra-budgetary fund without a fiscal-rule anchor

The State Oil Fund of the Republic of Azerbaijan (SOFAZ) was established by Presidential Decree No. 240 of 29 December 1999 as an extra-budgetary fund.[48] SOFAZ is a legal entity separate from the government and from the Central Bank of Azerbaijan. The Executive Director is appointed and dismissed by the President of Azerbaijan, with a Supervisory Board comprising executive and legislative representatives. Annual audits are conducted by international audit firms and published. SOFAZ assets were USD 60.03 billion at end-2024 (a year-on-year increase of approximately 7.1 per cent), rising to roughly USD 70 billion by September 2025 on the official figures.[48] The fund operates an ESG framework with an annually-approved Investment Policy under Presidential decree.

The relevant comparator point is that SOFAZ has not, since inception, operated a Norwegian-style real-return rule on transfers. Azerbaijan introduced in 2018 a fiscal expenditure-cap rule tied to SOFAZ medium-term forecasts, but the rule operates on consolidated budget expenditure rather than directly constraining transfers to the expected real return on the fund's assets. In years of high oil prices, large transfers to the state budget have fuelled public investment programmes; in years of moderating prices, the transfer share has expanded as a proportion of budget revenue, eroding the fund's accumulation trajectory. The structural divergence from Norway is therefore not in custody arrangements, transparency, or institutional separation, but in the absence of a real-return-anchored constraint on the withdrawal side.

The Azerbaijani case is the inverse of the Santomean case as currently constructed. SOFAZ has accumulation and transparency without a fiscal rule on the withdrawal side; Lei n.º 8/2004 has a fiscal-rule formulation on the withdrawal side (Article 8) without operational accumulation or transparency. The two failure modes are different, but they share a common analytical lesson: design provisions cannot substitute for operational implementation in either direction. The point that should concern Santomean policymakers is not that SOFAZ is a model to copy or to avoid, but that an extra-budgetary fund with a sound formal architecture and a strong custody arrangement can nonetheless function as a discretionary spending vehicle if the macro-fiscal frame does not constrain transfers.

3.6 Botswana: mineral revenue as productive-capital conversion

The Pula Fund was established in 1994 by the Bank of Botswana to preserve part of diamond export revenue for future generations.[49] Fund assets peaked at approximately USD 7 billion in the mid-2010s and stood at approximately USD 3.5 billion at end-2024, a drawdown discussed at section 1.[28]

Botswana operated alongside the Pula Fund a Sustainable Budget Index linking recurrent government expenditure to non-mineral revenue, with mineral revenue allocated to capital expenditure and saving. Over 1994-2024, mineral revenues were progressively converted into infrastructure and human capital. The Pula Fund's drawdown is therefore the financial-account reflection of a longer-run conversion of natural capital into productive capital, against declining diamond rents.

Botswana is not a failure case in the sense Timor-Leste or Equatorial Guinea is. It is a case in which discipline operates through expenditure composition rules linked to revenue origin rather than through withdrawal-cap enforcement. It is the strongest empirical reference for the sustainable-investment frame (Berg–Portillo–Yang–Zanna) against the pure permanent-income frame (Friedman–Segura) for a small resource-dependent state.[41] The recommendations at sections 4.5 and 6.2 below address this trade-off explicitly.

3.7 The three-dimensional matrix, revisited

The international experience separates the question of petroleum fund effectiveness into three independent dimensions. The first is design: whether the statutory architecture contains the provisions necessary to make accumulation possible, principal preservation enforceable, and political capture difficult. The second is discipline: whether the executive and legislature, in the years when revenue materialises, observe the constraints the statute imposes, including in periods when departure from the rule appears politically attractive. The third is implementation: whether the institutions the statute creates (oversight commissions, audit bodies, registration offices, multi-stakeholder groups) function in practice, with staff, budget, and public reporting.

The three dimensions are independent. Norway is strong on all three. Timor-Leste is strong on design, weak on sustained discipline, and adequate on implementation. Equatorial Guinea is weak on all three. Ghana, examined at section 3.8 below, is adequate on design and implementation but its 2025 amendments illustrate how discipline can erode under fiscal pressure even where statutory architecture and oversight bodies are functional. Chile combines a separated-function design with strong discipline on the stabilisation function, providing the cleanest example of the segregation alternative. Azerbaijan has design and implementation but lacks a fiscal-rule constraint on transfers, illustrating that a sound extra-budgetary architecture is not equivalent to fiscal discipline. Botswana is the case where discipline is exercised through expenditure composition rather than withdrawal capping, demonstrating that the design-discipline-implementation matrix is not exhaustive of the relevant variation.

São Tomé and Príncipe is strong on design *on the comparative-law dimensions*. The 2004 statute contains the substantive provisions necessary to foreclose the Equatorial Guinea outcome and the structural provisions necessary to enable the Norwegian outcome. On the post-2010 macro-fiscal dimension introduced at section 4 below, however, the country is weak by construction: Lei n.º 8/2004 contains a withdrawal rule but no non-oil primary balance anchor, no debt anchor, and no PIMA-equivalent assessment of public investment management quality. The 2004 design was the state of the art in 2004; the post-2010 IFI literature has revised the relevant standards substantially. On discipline, the country has not been tested: commercial revenue has not arrived. On implementation, the country has a documented record of weakness. The Petroleum Oversight Commission has not produced an identifiable annual report. No organic statute regulating its operational functioning has been located. The EITI multi-stakeholder group failed to submit Validation documentation in 2022.[35] The Tribunal de Contas reported in its 2024 activity review that forty-five of sixty Santomean public institutions failed to submit accounts for the 2023 fiscal year.[29,30] The Investment Policy required under Article 13 of Lei n.º 8/2004 is not in the public domain.

The country's risk vector is the Timor-Leste vector at the post-discovery stage, compounded by twenty-two years of accumulated implementation weakness. The design window is the opportunity to install the procedural constraints Timor-Leste did not install in 2005, and to operationalise the institutions Lei n.º 8/2004 created in 2004, before the implementation question becomes a discipline question.

3.8 Ghana: discipline erosion in a mature framework

Ghana's Petroleum Revenue Management Act 2011 was for over a decade among the most-studied developing-country petroleum frameworks. The Public Interest and Accountability Committee established under Section 51 of the Act published twenty-seven statutory reports between 2011 and 2024 (thirteen annual and fourteen semi-annual) and developed an authoritative body of work on petroleum revenue allocation. On 2 April 2025, the President signed the Petroleum Revenue Management (Amendment) Act 2025: the entire Annual Budget Funding Amount was channelled to infrastructure under the executive's USD 10 billion "Big Push" agenda, the Committee's guaranteed funding from the ABFA was eliminated, and its 2025 budget was approved at approximately twenty-one per cent of its requested allocation.[37] The amendment was advanced under fiscal pressure occasioned by declining crude production since 2019 and the debt distress that followed the 2022 sovereign default. Where the statutory rule is amendable by simple legislative majority, design quality and functional oversight are not sufficient to preserve the rule against fiscal duress. The case strengthens, rather than weakens, the argument for the constitutional anchor discussed in section 7.

SECTION 4: THE MACRO-FISCAL FRAME THE 2004 STATUTE DOES NOT PROVIDE

The 2004 statute is, in IFI-doctrinal terms, a *withdrawal* rule rather than a *fiscal* rule. Article 8 caps the transfer from the Permanent Fund to the State Budget. It says nothing about the non-oil primary balance against which the rest of the budget is to be conducted. This was state-of-the-art design in 2004, when the comparative-law literature on petroleum funds was still distilling lessons from the Norwegian, Kuwaiti, and Chilean experiences. It has been overtaken since 2010 by an IMF Fiscal Affairs Department position that treats resource fund inflow-outflow rules and fiscal rules as analytically distinct, with the latter doing the work the former has been incorrectly assumed to do.

4.1 Inflow-outflow rules are not fiscal rules

The 2012 IMF Staff Discussion Note states the position directly:[39] "Resource funds should not be confused with the fiscal policy, or the funds' inflow-outflow rules with fiscal rules ... the empirical evidence (both case-studies and econometric) finds no significant differences in the stance of fiscal policy of countries with funds with rigid inflow-outflow rules ... relative to others." The 2012 IMF Board paper names São Tomé and Príncipe directly at paragraph 61, in its discussion of *withdrawal brakes*: "São Tomé and Príncipe, for example, limits withdrawals from the fund in any single year to a maximum of 20 percent of the accumulated assets."[40] The categorisation is doctrinally significant. The IMF treats Article 8 as a withdrawal-brake provision, not as a fiscal anchor. The conventional reading of Article 8 in the comparative literature, which presents it as the country's principal fiscal rule, is at variance with the IMF's own categorisation.

The operational consequence is direct. A government that complies with Article 8's withdrawal cap may nonetheless run an expansionary non-oil primary deficit financed through borrowing collateralised against non-petroleum assets, since Article 4's encumbrance bar applies only to petroleum revenues. The Timor-Leste experience documents this pattern at scale: public spending across 2014-2024 averaged approximately 85 per cent of GDP, with fiscal deficits averaging 39.6 per cent of GDP, financed predominantly through Petroleum Fund withdrawals but supplemented by external borrowing.[20] The withdrawal-cap was repeatedly exceeded, but the non-oil deficit pattern would have been problematic even if it had been observed.

4.2 The non-oil primary balance as the central indicator

The IMF Fiscal Affairs Department position since 2012 is that the appropriate operating indicator for a resource-dependent country with a short reserve horizon is the non-resource (or non-oil) primary balance, scaled to non-resource GDP. Box 2 of the 2012 Staff Discussion Note formulates the indicator: "The non-resource primary balance (the primary balance minus (net) resource revenue, preferably scaled to non-resource GDP) is the key fiscal indicator in resource-dependent countries. It measures the underlying fiscal policy stance and government domestic demand and can be compared against a benchmark for long-term fiscal sustainability."[39] The 2012 Board paper amplifies at paragraph 32: "Countries with relatively short reserve horizons should rely on the NRPB as a fiscal anchor ... countries that smooth the overall balance rather than the NRPB would need to adjust spending abruptly when resource revenues are exhausted, which would have disruptive effects on economic activity and the provision of public services."[40]

The doctrinal reasoning generalises straightforwardly to São Tomé and Príncipe. The country's prospective reserve horizon, on the illustrative scenario at Annex B, is approximately fifteen years from first production. The country is the textbook case of the short-horizon producer for whom the NRPB anchor is the IFI-recommended frame. The Annual Funding Amount under Article 8 is the *transfer mechanism* that operationalises the NRPB anchor. It is not the anchor itself.

4.3 The recommended frame: complementary NRPB anchor

The recommendation that follows is structural. The Article 8 withdrawal cap should be retained as currently constituted, subject to the calibration amendments proposed at Annex A. A complementary non-oil primary balance anchor should be enacted, calibrated to the sustainable transfer level implied by the lesser-of-two calculation under Article 8(3)(b). The anchor should be expressed as a ceiling on the non-oil primary deficit, scaled to non-oil GDP, with explicit revision clauses (every four to five years) consistent with the IMF FAD recommendation that resource-revenue fiscal rules should use "procedural rules rather than ... fixed numerical targets" and incorporate "explicit revision clauses (e.g., targets to be reassessed every four years)" to accommodate revisions to the underlying real-return and reserve assumptions.[39]

The anchor should be debt-anchored. São Tomé and Príncipe reached the HIPC completion point in March 2007, with USD 327 million in debt relief delivered jointly through HIPC and the Multilateral Debt Relief Initiative. The country is currently under a 40-month Extended Credit Facility arrangement with the IMF, approved by the Executive Board on 19 December 2024 in the amount of SDR 18.5 million, with the first review and 2025 Article IV consultation completed at end-July 2025 (IMF Country Report 25/228), the second-review staff-level agreement reached on 4 November 2025, and the second review (with extension and augmentation of the arrangement) completed by the Executive Board on 19 December 2025.[32] Under the IMF-World Bank Low-Income Country Debt Sustainability Framework, São Tomé and Príncipe is classified by its current debt-carrying capacity, with the present-value-of-debt and debt-service indicators projected against the corresponding indicative thresholds and stress scenarios.[43] The NRPB anchor should be calibrated to keep the present value of public and publicly-guaranteed debt to non-oil GDP below the LIC-DSF threshold for the country's debt-carrying-capacity classification, throughout both the pre-revenue and post-revenue periods.

Three calibration windows are operationally distinguishable, with the actual ceiling at each phase set through the ordinary budget process against the live IMF Article IV baseline and LIC-DSF classification.

Pre-revenue (Phase 1, 2026 through commercial discovery). The Phase 1 ceiling should formalise the upper bound of the current ECF-projected fiscal consolidation path:[32] as an indicative range, 4 to 5 per cent of non-oil GDP at adoption, declining at roughly half a percentage point per annum toward 2 per cent by 2028. The Minister of Planning and Finance certifies annual compliance, with the IMF Article IV consultation as the external reference benchmark.

Post-discovery, pre-production (Phase 2). The Phase 2 ceiling should be re-calibrated against the AFA-implied sustainable level under realised reserves estimates and the operative Article 8(4) calibration. On the Annex B Mid scenario, under the modified-PIH primary recommendation with indicative $r_h \approx 5$ per cent during the front-loading horizon and $r_s \approx 3$ per cent at steady state, the front-loading-period AFA is in the order of 7 to 10 per cent of projected 2035 non-oil GDP and the steady-state AFA is in the 5 to 7 per cent range. The Phase 2 NRPB ceiling can therefore *expand* during the front-loading horizon, subject to the PIMA findings and the LIC-DSF debt threshold, to accommodate the productive scaling-up of public investment financed by the prospective AFA stream, to a level not exceeding 10 per cent of non-oil GDP during front-loading and falling toward 5 per cent at steady state. Under the conservative single-rate fallback at Annex A.1 (3 per cent across the production lifetime), the ceiling tracks the lower steady-state AFA throughout, with a Phase 2 peak not exceeding 7 per cent of non-oil GDP.

Post-production (Phase 3 and steady state). The Phase 3 ceiling tracks the actual AFA flow under Article 8(3)(b), adjusted downward by approximately one percentage point of non-oil GDP to maintain a precautionary primary surplus. In low-revenue years, when the Article 8(3)(b)(II) ESI variant binds, the ceiling tightens automatically. The Phase 3 NRPB ceiling is therefore endogenous to realised petroleum revenue rather than fixed.

4.4 The modified-PIH frame as the primary recommendation

The 2012 IMF FAD framework does not leave the choice between pure PIH and modified-PIH open as a matter of methodological preference. For capital-scarce, short-lasting resource countries, the São Tomé and Príncipe profile, Table 2 of the 2012 Staff Discussion Note explicitly recommends a "modified PIH-based framework (non-resource primary balance)" rather than the pure permanent income rule.[39] The IMF Board paper at paragraph 34 amplifies that "the PIH approach is excessively restrictive for RRDCs and alternative frameworks for calibrating the path of NRPBs are needed."[40] The Berg, Portillo, Yang and Zanna (2013) DSGE model formalises the welfare case: where domestic returns to public capital exceed the offshore real return, capital-scarce LICs realise welfare gains from front-loading expenditure during initial production years, provided public investment inefficiency is moderate, absorptive capacity is not severely constrained, and the resulting public capital is durable.[41]

This paper accordingly takes the modified-PIH frame as the primary recommendation for São Tomé and Príncipe's Article 8(4) calibration, and not as a hedge against a conservative-PIH default. The country exhibits, on indicative World Bank human-development and infrastructure-gap indicators, one of the higher public-investment-returns gradients in sub-Saharan Africa relative to plausible offshore real yields on the Article 13(3) instrument list; the welfare case for front-loading is structurally strong. The Berg–Portillo–Yang–Zanna conditions translate into operational terms as a two-tier withdrawal rule: an upper-bound rate r_h during a defined front-loading horizon of n years, calibrated to the absorptive capacity of the domestic economy and to public investment management quality, falling to a steady-state rate r_s consistent with achievable offshore portfolio real returns after the front-loading horizon expires. A present-value-equality constraint ties r_h, r_s, and n together such that an aggressive r_h must be matched by a sufficiently low r_s and a sufficiently short n, foreclosing principal depletion. The proposed Article 8(4) drafting at Annex A.1 implements this two-tier structure as the primary calibration.

The modified-PIH frame has two preconditions. The first is a credible Public Investment Management Assessment. The IMF Fiscal Affairs Department's PIMA framework evaluates fifteen institutions across planning, allocation, and implementation, and distinguishes institutional design from effectiveness.[45] No PIMA has been published for São Tomé and Príncipe. The PIMA is the empirical gatekeeper between the modified-PIH path and a conservative single-rate default: where PIMA findings indicate adequate public investment management quality with moderate or low project-selection and implementation losses, the two-tier calibration is operationalised; where findings indicate weak management quality with material losses, the calibration defaults to a conservative single-rate reduction (the 3 per cent fallback set out at Annex A.1). The PIMA is therefore a Phase 1 recommendation, not a Phase 2 one. The calibration cannot be locked in before the empirical evidence arrives. The PIMA must be commissioned in 2026, deliver findings in 2027, and inform the Article 8(4) calibration in 2028. End-to-end PIMA cadence under the standard IMF FAD methodology runs twelve to eighteen months, comfortably within the Phase 1 window.[45]

The second precondition is institutional inclusiveness: scaling up public investment in countries without inclusive political institutions can be counterproductive when the budget process fails to reflect broader social preferences.[40] The Lei n.° 8/2004 architecture, with dispersed authority across executive, legislative, judicial, subnational, and civil society constituencies, is structurally designed for inclusiveness. The operational gap between the structure and the practice is the implementation question of section 3.7, addressed by the Phase 1 reforms at section 6.1. The Phase 1 reforms therefore do double duty: they operationalise the institutions that the 2004 statute creates, and they satisfy the second precondition of the modified-PIH path. The two work programmes are not separable.

4.5 Botswana as the operational reference point

The Botswanan Sustainable Budget Index, discussed at section 3.6, is the closest operational reference for a modified-PIH frame in a small resource-dependent state. It links recurrent expenditure to non-mineral revenue (the equivalent of a non-resource primary balance anchor on the recurrent side) while permitting capital expenditure to be financed from mineral revenue (the scaling-up channel). For São Tomé and Príncipe the equivalent rule, adapted to the petroleum context and the existing Article 8 architecture, would be: recurrent expenditure financed from non-petroleum revenue plus the Article 8(3)(a) transfer cap; capital expenditure financed from the Article 8(3)(b) transfer plus debt-financing subject to the LIC-DSF threshold.

The recommendation, restated in its compact form: the Article 8 cap is preserved as a withdrawal-side guarantee, with its operational calibration as a two-tier modified-PIH rule under the primary recommendation. An NRPB anchor is added on the expenditure side, debt-anchored to the LIC-DSF threshold for the country's debt-carrying capacity. A baseline PIMA is undertaken in Phase 1 to determine the empirical gradient between domestic public-investment returns and offshore real yields, and to identify any binding absorptive-capacity or implementation constraints. Where the PIMA findings support a modified-PIH path, the Article 8(4) calibration at Annex A.1 operationalises a two-tier rule with front-loading subject to a present-value-equality constraint; where findings indicate weak public investment management, the calibration defaults to a conservative single-rate reduction to 3 per cent. A follow-up PIMA at Phase 2 validates whether the calibration should be tightened or loosened ahead of first production.

SECTION 5: DUTCH DISEASE, THE DOBRA-EURO PEG, AND THE MONETARY REGIME

São Tomé and Príncipe operates a fixed exchange rate peg to the euro at EUR 1 = 24.5 STN, in force since 1 January 2010 under a bilateral arrangement with Portugal that includes a complementary convertibility line.[51] The peg is the country's principal monetary anchor and the operative instrument of price stability, absent a freely-floating exchange rate or an independent interest-rate framework.

5.1 Petroleum revenue under a peg

A discovery and production cycle at the magnitudes contemplated in Annex B would generate foreign-currency inflows on a scale that, absent sterilisation, would expand the domestic money supply, appreciate the real exchange rate, and erode the non-petroleum tradable sector. The 2012 IMF Board paper documents the mechanism for resource-rich LICs: higher public spending on local goods and services expands corresponding sectors, generates inflationary pressures where absorptive capacity is constrained, and causes real exchange rate appreciation that fiscal smoothing rules can mitigate.[40]

The peg constrains the policy response set in ways that differ materially from Timor-Leste (US-dollarised, no sovereign-currency channel) or Ghana (managed float, nominal-rate adjustment). For São Tomé and Príncipe, the real exchange rate adjusts through the domestic price level alone. Petroleum-revenue-driven Dutch disease would therefore manifest as inflation in non-tradable services and as a competitive deterioration of tourism and any nascent non-petroleum tradables.

5.2 The Article 13 offshore-investment requirement as sterilisation

The 2004 statute contains an offsetting structural feature that the comparative literature on Lei n.º 8/2004 has tended to overlook. Article 13(1) requires Permanent Fund investments to meet three objectives, sufficient liquidity to ensure availability of cash for the Annual Funding Amount, maximum profitability subject to specified levels of acceptable risk for the investment horizon, and transparent, modern and diversified management, and Article 13(3) restricts the permitted instruments to internationally convertible foreign-currency assets enumerated in five classes (cash deposits with approved banks, negotiable obligations of approved foreign governments, short-dated sovereign securities, top-rated bank acceptances, matching investment funds), all of which are foreign-currency assets. The Permanent Fund is therefore prohibited from holding domestic-currency assets or from being invested domestically. This is, in monetary policy terms, a constitutional sterilisation mechanism. Foreign-currency petroleum revenue arrives in the National Oil Account, is held in foreign-currency instruments under Article 13, and is converted to domestic currency only when transferred to the State Budget under the Annual Funding Amount.

The pace of real exchange rate appreciation is therefore directly controllable by the pace of Annual Funding Amount transfers, which is in turn governed by the Article 8 cap. The PIH-based withdrawal rule is not merely an intergenerational equity device; in conjunction with Article 13's offshore-only requirement, it is a Dutch disease mitigation mechanism that operates without active sterilisation by the Central Bank. The 2004 architecture is, read this way, more sophisticated than its monetary policy implications have generally been acknowledged.

5.3 The implication for the recommended frame

The implication for the recommendations at section 4 is that the Article 13 offshore-only restriction should be preserved without modification through all three phases. The temptation to expand the instrument list to include domestic instruments would, if acted upon, dismantle the sterilisation mechanism. Whatever the case in pure asset-management terms for a more diversified portfolio, the monetary policy case for the existing restriction is strong, and the Article 8 calibration should be adjusted (per Annex A.1) rather than the Article 13 instrument list. The two-tier modified-PIH calibration set out at Annex A.1 is consistent with this constraint: front-loading during the early production cycle is financed through an accelerated AFA transfer profile rather than through a more aggressive offshore asset allocation, so the sterilisation function of Article 13 continues to operate at the controlled pace set by r_h, n, and r_s.

The non-oil primary balance anchor recommended at section 4 has a parallel monetary-policy rationale. By constraining the underlying fiscal stance rather than only the transfer mechanism, the NRPB anchor limits aggregate demand pressure on the non-tradable sector and reinforces the Dutch disease mitigation that Article 13's offshore-only requirement provides on the asset-allocation side. The two operate at different points in the transmission mechanism, fiscal balance and asset composition respectively, but they are complementary, and the combination of both is materially stronger than either alone.

5.4 Tourism and the non-petroleum tradable sector

Tourism is the most exposed non-petroleum export sector. Demand is real-exchange-rate sensitive: European visitors compare Santomean costs against Cape Verde, the Canary Islands, and other regional peers. Supply is import-intensive, which moderates but does not eliminate the wage and non-tradable-services-cost effect of real appreciation. A petroleum cycle that erodes tourism competitiveness has implications for the country's longer-run non-petroleum diversification.

A discovery and pre-production period requires that the Central Bank of São Tomé and Príncipe, the Ministry of Planning and Finance, and the National Petroleum Agency jointly publish an annual assessment of real exchange rate developments and non-petroleum tradable sector competitiveness, beginning in the year of any commercial discovery. The assessment should be incorporated into the Investment Policy revisions under section 6.2 and into the National Assembly's annual hydrocarbons-policy debate under Article 16 of Lei n.º 8/2004.

5.5 Currency basis risk inside the offshore portfolio

Article 13(3) of Lei n.° 8/2004 enumerates the permitted instrument classes for the Permanent Fund and requires that assets be foreign-currency denominated, but the statute is silent on the currency composition of the offshore portfolio. The drafting reflects the 2004 international standard, under which currency choice was treated as a delegated asset-management decision. In the intervening twenty-two years, two facts have altered the analysis. First, in January 2010 the dobra was pegged to the euro at EUR 1 = 24,500 STD (since redenominated to EUR 1 = 24.5 STN) under the bilateral Cooperation Agreement with Portugal.[51] Second, the global benchmark for foreign-currency reserve and SWF allocation has shifted: official sector USD allocations remain in the 55-60 per cent range of allocated reserves on IMF COFER data, with euro allocations in the 18-22 per cent range, leaving any SWF or central bank with a euro-denominated *liability profile* exposed to systematic EUR/USD basis risk if the offshore portfolio follows the global benchmark.

For São Tomé and Príncipe specifically, the Permanent Fund's economic liability is the future Annual Funding Amount transfer stream into the State Budget, denominated in dobra (and therefore, by the peg, in euros at fixed parity). If the offshore portfolio is USD-heavy, EUR/USD currency movements introduce valuation risk on the asset side that is not matched by any liability-side compensation. The ten-year EUR/USD trading range, approximately 0.96 to 1.25 since 2016, including the late-2022 parity break, implies a potential adverse mark on the AFA-relevant euro-denominated value of the portfolio of materially more than twenty per cent at peak dispersion, in excess of the offshore real return available on the Article 13(3) instrument list over any plausible holding period.

The recommendation is that the Article 13(1) Investment Policy, when drafted under the Phase 1 reform sequence, specify a currency overlay structure aligned to the euro reference. The overlay should set a target euro share (indicatively in the 55 to 70 per cent range, reflecting the dobra peg) with controlled deviation bands around the target, with deviations outside the bands requiring documented portfolio-management justification and reporting to the Petroleum Oversight Commission. The framework should follow IFSWF Santiago Principles GAPP 18 (investment policy clear, consistent with the fund's objectives and risk tolerance) and GAPP 22 (risk management framework: proper identification, measurement, and management of risk).[42] The currency overlay is integral to the asset-side risk management framework and is not a discretionary choice for the Management and Investment Committee to make in the absence of National Assembly approval of the Investment Policy.

5.6 The Portuguese convertibility line: contingency planning, not contingency action

The dobra-euro peg is operationally backed by a convertibility line extended by the Banco de Portugal to the Banco Central de São Tomé e Príncipe under the Acordo de Cooperação Económica signed on 28 July 2009, in force since 1 January 2010.[51] The arrangement is implemented through a bilateral cooperation framework reviewable by both governments rather than entrenched by treaty, and the line has operated without disruption for fifteen years.[57] The probability of imminent disruption is low. A 15-year Portuguese commitment to a former colony, anchored in linguistic and diplomatic ties as much as fiscal interest, is unlikely to be withdrawn for marginal Portuguese-side fiscal considerations.

The recommendation is therefore narrow and precautionary. The Article 13(1) Investment Policy should specify, alongside the currency-allocation framework at section 5.5, a contingency protocol setting out the Permanent Fund's reallocation procedure in the event of any disruption to the convertibility arrangement. The protocol should be drafted in advance, approved by the National Assembly, and reviewable jointly by the Management and Investment Committee, the Central Bank, and the Petroleum Oversight Commission. The IMF Article IV consultation provides the standing external forum for monitoring continued viability of the peg arrangement.[32] This is contingency planning, not contingency action.

SECTION 6: SEQUENCING THE DESIGN WINDOW

The reform work has natural phasing against three operational milestones. First commercial discovery, if it occurs, lies between approximately 2029 and 2032; first production between approximately 2032 and 2037. The World Bank's 2019 Country Economic Memorandum concluded that oil production should not be included in baseline economic scenarios and that, even in the case of commercial discovery, first production is "at least five years, but likely more" from initial appraisal drilling.[31] The IMF's current Article IV baseline does not embed petroleum revenue.[32] This is preparation for a contingency, not budgeting for an arrival.

6.1 Phase one: before drilling (2026-2028)

The Phase 1 agenda has eight components, all achievable under low political stakes while no commercial revenue is at issue, and all by ordinary legislative process or technical-assistance request. A country that has not produced an Investment Policy in twenty-two years will not execute an eight-track reform agenda in thirty-six months, however, and the components are not equally urgent. Three constitute the *critical path* and should be defended first against any political headwinds that emerge during sequencing: (a) the Article 7(1)(c) procedural anchor on the discount rate (component eight below), which is the one rule an executive seeking front-loading cannot quietly hand-wave away and which directly constrains the most exploitable knob in the withdrawal formula; (b) the EITI re-engagement and Tribunal de Contas resourcing pair (component six), without which none of the other reforms can be monitored or enforced and on which the country's external standing already depends; and (c) the macro-fiscal anchors, the non-oil primary balance and the LIC-DSF debt anchor (components four and five), which together close the post-2010 doctrinal gap the 2004 statute does not address. The other five components, operationalisation of the Petroleum Oversight Commission, publication of the Investment Policy, recalibration of the Article 8(4) ceiling, investment-management capacity-building, and the audit-firm rotation rule under Article 15, are second-tier in the sense that they are valuable in their own right but not foundational for the critical path. They should be executed where capacity and political space permit, and in the sequence set out below. Note that operational dependencies mean some critical-path items naturally fall in Year 3 of the sequence rather than Year 1 (the Article 7(1)(c) anchor and the macro-fiscal anchors both depend on prior PIMA findings and EITI Validation infrastructure); the critical-path framing is about which items must not be allowed to slip, not about which items happen first in time.

The first is the operationalisation of the Petroleum Oversight Commission. Article 23 of Lei n.° 8/2004 establishes the Commission's composition and powers, but Article 23(4) defers operational regulation (appointment procedures, mandate duration, remuneration, secretariat organisation, sanction procedure rules) to an organic statute that has not been located in public records. The Commission's eleven-seat composition is already structurally sound: ten of eleven seats are non-executive, distributed across the legislature, judiciary, subnational government, and organised civil society. The reform need is not composition. It is the organic statute that converts the composition into a working body. A draft organic statute setting out a five-year mandate for civil society representatives (renewable once), public competitive nomination processes for the business association, trade union, and NGO seats, a permanent secretariat funded through dedicated National Assembly allocation, mandatory annual reporting requirements, and explicit sanction procedure rules would render Articles 23 and 24 operationally complete. The statute can be drafted and passed in advance of any commercial discovery without political controversy, because no revenue is at stake.

The second is publication of the Management and Investment Policy required under Article 13. Lei n.º 8/2004 specifies investment instrument classes and convertibility constraints but leaves operational asset allocation to a Policy that the Management and Investment Committee proposes, the Government submits to the National Assembly, and the Assembly approves. No such Policy has been located in public records. A pre-discovery Policy can be drafted on the assumption that the fund will hold only signature bonuses and modest exploration-phase revenues during the relevant horizon, with a conservative liquidity-weighted asset allocation. The exercise of drafting the Policy creates the procedural template that the post-discovery Policy revisions will follow.

The third is recalibration of Article 8's Long-Term Real Rate of Return ceiling. The apparent tension with Article 13's instrument list, documented at section 2.6, is best resolved not by reducing the ceiling to match offshore yields and not by expanding the instrument list to chase higher yields (which would dismantle the Article 13 sterilisation function discussed at section 5.2), but by replacing the single-rate ceiling with a two-tier modified-PIH structure. Under the primary recommendation set out at section 4.4 and operationalised at Annex A.1, the Article 8(4) ceiling becomes an upper-bound rate r_h during a defined front-loading horizon of n years, calibrated to PIMA findings on absorptive capacity and public investment management quality, falling to a steady-state rate r_s consistent with achievable offshore portfolio real returns thereafter. A present-value-equality constraint links r_h, r_s, and n such that the path is principal-preserving. Where PIMA findings indicate weak public investment management, the calibration defaults to a conservative single-rate reduction to 3 per cent, consistent with the Norwegian 2017 precedent for tightening rules in response to moderating real-return expectations.[14] In either case, the Article 13 instrument list is preserved without modification, and the Article 13 sterilisation mechanism continues to operate.

The fourth is the enactment of a non-oil primary balance anchor as ordinary statute, complementary to the Article 8 withdrawal cap. The anchor should be a ceiling on the non-oil primary deficit, scaled to non-oil GDP, calibrated against the IMF Article IV baseline and reviewed at not-more-than-five-year intervals per the IMF FAD recommendation that resource-revenue fiscal rules use "procedural rules rather than ... fixed numerical targets" with "explicit revision clauses."[39] The anchor should be operative from enactment, even before any commercial discovery: the pre-discovery non-oil deficit is itself a meaningful constraint.

The fifth is a debt anchor consistent with the IMF-World Bank Low-Income Country Debt Sustainability Framework.[43] The anchor should be expressed as a ceiling on the present value of public and publicly-guaranteed debt to non-oil GDP, set at the indicative LIC-DSF threshold corresponding to São Tomé and Príncipe's current debt-carrying-capacity classification. The anchor should bind both the pre-revenue and post-revenue periods and should be reconciled with the country's ongoing Extended Credit Facility arrangement with the IMF (Country Report 25/228, first review and 2025 Article IV consultation approved by the Executive Board on 31 July 2025; second review with extension and augmentation completed on 19 December 2025).[32] The Article 4 encumbrance bar on petroleum revenues is preserved; the debt anchor closes the workaround in which the executive expands non-petroleum-collateralised borrowing while complying with Article 8's transfer cap.

The sixth is the audit-and-disclosure capacity-building agenda. Three components: first, a statutory increase in the Tribunal de Contas operating budget, with a staffing complement adequate to enforce the annual-account-submission requirement under the Court's organic law. The 2023 fiscal-year record (forty-five of sixty institutions failing to submit) is, as discussed at section 3.7, devastating to the audit-pillar argument as constructed. Second, technical assistance to the Tribunal under an INTOSAI peer-review or twinning arrangement with a Lusophone supreme audit institution (Portugal's Tribunal de Contas; Brazil's Tribunal de Contas da União; Angola's Tribunal de Contas) for the duration of the design window. Third, the resumption of EITI engagement: the multi-stakeholder group required for EITI Validation should be reconstituted, the Validation documentation outstanding since 2022 should be prepared and submitted, and the country's EITI compliance status should be restored to "implementing" before any commercial discovery is announced. The Phase 1 reforms produce, as a by-product, much of the institutional infrastructure required for EITI Standard 2023 Requirement 5 (revenue management and distribution) and Requirement 6 (social and economic spending);[46] sequencing EITI re-engagement first solves the constituency problem for Article 23's civil society seats while providing an internationally-recognised disclosure scaffold.

The seventh is investment-management capacity-building for the Management and Investment Committee. Article 12 of Lei n.° 8/2004 requires that the non-ministerial Committee members have proven experience in international investment portfolio management. In a country with no domestic capital market, no resident institutional asset managers, and a cadre of finance professionals concentrated in the Banco Central, the public sector, and the commercial banking sector, the requirement cannot be satisfied by recruitment alone. Three operational measures translate Article 12's structural requirement into an actually-functioning Committee. First, a twinning protocol between the Management and Investment Committee and one or more peer SWF management bodies, Norges Bank Investment Management,[13] the Bank of Botswana on the Pula Fund,[49] the Banco Central de Timor-Leste secretariat for the Petroleum Fund,[21] and the peer-learning and Santiago Principles self-assessment activities organised by the International Forum of Sovereign Wealth Funds[56], for the duration of the design window, with reciprocal staff secondments, technical assistance on Investment Policy drafting, and joint participation in Santiago Principles self-assessment.[42] Second, engagement with the World Bank Treasury Reserve Advisory and Management Partnership programme,[54] which has provided investment-management technical assistance and capacity-building to nearly 100 member institutions in emerging and frontier markets since 2001, with member-institution assets exceeding USD 2 trillion. Third, a transition-period mandate framework under Article 13(4) (which permits delegation of operational investment management to specialised investment managers) covering the period from first signature-bonus inflow through to first production: external investment managers selected by public competitive tender operate the offshore portfolio under the Investment Policy, with the Management and Investment Committee retaining strategic-allocation, policy-setting, and oversight functions. The transition-period mandate falls away progressively as the Committee's resident capacity matures. The capacity-building agenda is the operational counterpart to the second Phase 1 reform (Management and Investment Policy publication) and is the precondition for the Phase 2 pre-qualification of external managers discussed at section 6.2: without resident capacity within the Committee to evaluate manager performance against the Investment Policy, the pre-qualification reduces to a procurement exercise rather than to genuine oversight.

The eighth is a procedural anchor for the Article 7(1)(c) discount rate. The discount rate applied in the calculation of the Expected Present Value of Future Petroleum Revenues is currently set at a floor of seven per cent. Two political-economy considerations motivate replacing the static floor with a formula-based procedural anchor. First, the relationship between the discount rate and the AFA cap is asymmetric: a lower discount rate raises the NPV, raises the wealth base against which the Long-Term Real Rate of Return is applied under Article 8(3)(b)(I), and therefore raises the permitted AFA. A government seeking front-loading of expenditure has a direct incentive to lower the discount rate, particularly under fiscal pressure. Second, the seven per cent figure was set in 2004 and has not been revisited; it is not tied to any external benchmark and is therefore vulnerable to drift, either through methodology changes proposed by the executive or through the simple passage of time as market conditions evolve. The proposed amendment at Annex A.9 ties the discount-rate floor to the long-term real-rate assumption used in the most recent IMF-World Bank Low-Income Country Debt Sustainability Analysis for São Tomé and Príncipe[43] (or, where that assumption is not separately disclosed, the long-term real rate implied by the IMF World Economic Outlook Statistical Appendix nominal-yield projections deflated by WEO inflation projections),[55] plus a country risk premium and an oil-price-volatility premium, with the seven per cent floor retained as the absolute minimum. Any departure from the methodology-determined rate is made subject to written executive justification, an opinion of the Petroleum Oversight Commission, National Assembly approval, and a suspensive judicial review procedure mirroring the Article 8(5) excess-withdrawal procedure (Annex A.4).

None of these eight Phase 1 reforms requires constitutional revision. None requires renegotiation of the Treaty of 21 February 2001. All eight address structural questions that the current statute leaves implicit or incomplete, and all eight are politically easier to resolve before there is revenue to fight over.

The eight reforms have a logical sequence within Phase 1. *Year 1 (2026)*: EITI MSG reconstitution and Validation re-submission, Tribunal de Contas resourcing, PIMA scoping, initiation of investment-management twinning arrangements (NBIM, Bank of Botswana, BCTL, IFSWF) and World Bank RAMP engagement. These establish the implementation foundation. *Year 2 (2027)*: POC organic statute, Investment Policy adoption (incorporating currency overlay and convertibility-line contingency protocol under sections 5.5-5.6), receipt of PIMA findings, transition-period external manager pre-qualification under Article 13(4). *Year 3 (2028)*: Article 8(4) two-tier modified-PIH calibration informed by PIMA findings (or the conservative single-rate fallback to 3 per cent where findings indicate weak public investment management), Article 7(1)(c) discount-rate procedural anchor amendment, the Petroleum Fiscal Anchors Law (NRPB and LIC-DSF anchors), the Article 23(4) and Article 13(1) deadlines, and the Article 15 audit rotation. The hard constraints are that PIMA findings must precede the Article 8(4) calibration (which path is operationalised depends on those findings), that the Investment Policy must precede external manager pre-qualification, and that EITI Validation should precede the Anchors Law since Validation strengthens the disclosure infrastructure the Anchors Law depends on.

6.2 Phase two: post-discovery, pre-FID (2029-2032 contingent)

Three further reforms become both more urgent and more politically achievable after a commercial discovery has been announced but before any operator has submitted a field development plan (FDP).

The first is the constitutional anchor, discussed at length in section 7 below. The architectural question of whether the Permanent Fund's existence, the withdrawal cap, the Petroleum Oversight Commission, the non-oil primary balance anchor introduced under Phase 1, and the transparency principle should be protected by constitutional rather than ordinary statute becomes salient at the moment commercial discovery is announced and the politics of revenue allocation acquires concrete stakes. The political-economy logic of constitutional anchoring is materially complicated by the February 2026 Constitutional Court crisis discussed at section 7.4; the Phase 2 constitutional reforms presuppose the prior restoration of a functional Constitutional Court.

The second is the calibration of the Investment Policy for the discovery phase. The pre-discovery Policy under phase one is necessarily conservative because the fund has only modest signature-bonus inflows. The post-discovery Policy must reflect the prospect that, between discovery announcement and first production, the fund will receive additional signature bonuses from blocks awarded in the post-discovery licensing rounds, and may receive material assignment-related payments. The asset allocation must be calibrated to maintain liquidity for the Annual Funding Amount transfers permitted under Article 8(3)(a) while progressively building the equity and long-dated fixed-income exposure that the post-production rate-of-return calculation will require. The transition path from the pre-discovery Policy to the steady-state Policy is itself a technical question that benefits from being settled before first production rather than during it.

Three operational priorities follow. First, the Management and Investment Committee should pre-qualify a panel of external asset managers (Article 13(4) permits delegation of operational investment management to specialised investment managers) through public competitive tender during the post-discovery period, so that managers are in place when the fund crosses the threshold at which active management becomes appropriate. The pre-qualification process should build on the transition-period external manager mandate framework established under the seventh Phase 1 reform (section 6.1), and should align with the IFSWF Santiago Principles, particularly GAPP 18 (investment policy) and GAPP 22 (risk management framework).[42] Resident Committee capacity, accumulated under the Phase 1 twinning arrangements with peer SWF management bodies and the World Bank RAMP engagement,[54,56] is the precondition for the pre-qualification to deliver oversight rather than reducing to procurement. Second, the external audit firm under Article 15 should be selected through the public competitive tender the Article requires, with rotation provisions written into the engagement letter to prevent the long-tenure audit relationships that have eroded oversight quality in other petroleum economies. Third, the Petroleum Oversight Commission, if successfully operationalised under phase one, should publish its first annual report covering the post-discovery period, demonstrating institutional functioning before the implementation stakes increase.

The third Phase 2 reform is a follow-up Public Investment Management Assessment, conducted after the Phase 1 PIMA discussed at section 4.4 and section 6.1 above. The 2027 baseline PIMA establishes the absorptive-capacity finding against which the Article 8(4) calibration is set. A second PIMA, conducted in the post-discovery window when the country's public investment programme has been strengthened in response to the baseline findings, validates whether the calibration should be tightened or loosened ahead of first production. The 2012 Board paper's paragraph 49 anticipates the diagnostic function later operationalised in the PIMA, with reference to the Public Investment Management Index (PIMI) of Dabla-Norris et al. 2011: identifying "which of the four stages of the public investment management process (project appraisal, selection, implementation, and evaluation) is a bottleneck and needs to be strengthened before scaling up public investment."[40] The PIMA framework, introduced by the IMF Fiscal Affairs Department after 2015, refined this diagnostic into the 15-institution / 3-stage structure[45] that is the contemporary reference. Two assessments, one before, one after the absorptive-capacity strengthening programme, is the appropriate cadence for a country contemplating a transition from no petroleum revenue to a material AFA within seven to eleven years.

6.3 Phase three: post-FDP submission, pre-production (contingent)

Two final reforms are appropriate in the period after one or more operators have submitted field development plans but before the first barrel of commercial production has been produced.

The first is the formal calibration of the post-production withdrawal rule. Article 8(3)(b) establishes the post-production rule as the lesser of two calculations. The operational implementation of those calculations (the methodology for the ten-year reference average barrel price under Article 7(1)(a), the determination of the discount rate floor under Article 7(1)(c) as amended under the Phase 1 procedural anchor at Annex A.9, the procedure for verification by the Petroleum Oversight Commission within thirty days under Article 7(3), the methodology for the inflation adjustment under Article 8(4)) requires a methodological note approved by the National Assembly before first production. Drafting the methodological note in advance of first production prevents the methodology from being adjusted under fiscal pressure once revenue has begun to flow. The methodological note must demonstrate, for the discount rate, that the rate proposed is not less than the rate determined under the Annex A.9 formula (the long-term real-rate assumption used in the most recent IMF-World Bank LIC-DSA for São Tomé and Príncipe[43] (or the WEO Statistical Appendix-derived real rate where the LIC-DSA assumption is not separately disclosed),[55] plus the country risk premium plus the oil-price-volatility premium) and in no case less than the seven per cent absolute floor; any departure from the formula-determined rate is subject to the Annex A.9 procedural challenge with suspensive effect.

The methodological note must also address a benchmark-drift issue not anticipated by the 2004 statute. Article 7(1)(a) requires the expected future barrel price calculation to reference "Brent FOB Sullom Voe publicly quoted in the 10 prior years." At the time of drafting, this was an unambiguous reference to the Brent Blend crude assessment loaded at the Sullom Voe Terminal in the Shetland Islands. In the intervening two decades, the assessment underlying the "Brent" benchmark has evolved substantially: Brent-Forties-Oseberg from 2002, the addition of Ekofisk in 2007 making it BFOE, the addition of Troll in 2018, and from June 2023 the inclusion of WTI Midland US-export grade in the Dated Brent assessment. Sullom Voe Terminal remains operational and continues to handle North Sea crude, although the Brent stream itself ceased loading there in 2021 with the decommissioning of the Brent field. The standalone "Brent FOB Sullom Voe" assessment as referenced in the 2004 statute therefore no longer corresponds to a single, market-quoted reference price; the contemporary equivalent is the Platts Dated Brent assessment based on the BFOET + WTI Midland basket. The methodological note must therefore specify the contemporary assessment that operationally substitutes for the literal Article 7(1)(a) reference, and the Petroleum Oversight Commission's verification under Article 7(3) must include confirmation that the chosen substitute is methodologically consistent with the original drafting intent. An ordinary-statute amendment to Article 7(1)(a) updating the benchmark reference is appropriate in Phase 1 or Phase 3, and is a clean drafting exercise rather than a controversial one.

The second is the procedural rule for the case in which the executive proposes to exceed the Annual Funding Amount calculated under Article 8. The Timor-Leste experience documents the failure mode in which the executive proposes excess withdrawal with insufficient justification, the legislature appropriates, and the constitutional remedy is too slow to constrain the practice. The Santomean architecture should specify in advance: the form of executive justification required, the parliamentary procedure for considering excess-withdrawal proposals, the standing for parliamentary minority or civil society challenge, and the suspensive effect of such challenge. A binding pre-commitment procedure is more achievable to enact before the first excess-withdrawal proposal arrives than after.

6.4 What this is not, and contingency planning

This is not a programme of statutory replacement. Lei n.º 8/2004 contains substantially all of the integrity and transparency provisions that 2004 best practice required, and several (direct deposit by paying persons, four-signature debit authorisation, the bar on confidentiality with no financial-information exception, deemed-implicit contract clauses) that international best practice has not yet caught up with. What the 2004 text does not contain is the macro-fiscal apparatus the post-2010 IFI literature has since identified as the binding constraint on resource-revenue management: a non-oil primary balance anchor, a debt anchor, a procedural anchor on the discount rate, and a procedure for excess withdrawal. The reform agenda is operational completion of what already exists, supplemented by the macro-fiscal embedding the statute does not provide. It is also not a recommendation to centralise authority: the architecture's strength is precisely the dispersal of authority across executive, legislative, judicial, subnational, and civil society institutions, each with defined function and defined constraint.

Phases 2 and 3 are explicitly contingent on operational milestones that may not occur. A sequence of unsuccessful exploration wells, a failed 2026 licensing round, or a failure of the Block 3 transaction to close would defer or vitiate them. The Phase 1 reforms are robust to all three contingencies. A country without petroleum revenue still benefits from a functioning Petroleum Oversight Commission (repurposable as a broader extractive-industries oversight body), a resourced Tribunal de Contas, EITI re-engagement, and a non-oil primary balance anchor with LIC-DSF debt anchoring. None of these reforms is sunk cost under any negative-discovery scenario.

The compact recommendation: where the architecture is operationally incomplete, complete it; where it is internally inconsistent, reconcile it; where it is institutionally dormant, revive it; where it lacks a macro-fiscal frame, embed it. The window for doing so under low political stakes is open now.

SECTION 7: THE CONSTITUTIONAL ANCHOR

7.1 Reframing the case: what constitutional anchoring is for

The Phase 1 and Phase 3 reforms at sections 6.1 and 6.3 are achievable by ordinary statute. What ordinary legislative process cannot achieve is protection of the architecture against future ordinary legislative process. Every provision of Lei n.° 8/2004, including the Permanent Fund, the Article 8 withdrawal cap, the Petroleum Oversight Commission, the audit requirements, the transparency provisions, and the integrity provisions, is amendable by simple majority of the National Assembly under the ordinary legislative competence at Article 97 of the Constitution.[12] The architecture is *reversibility-equivalent*: there is no constitutional asymmetry between enacting the rule and repealing it.

7.2 What the Timor-Leste evidence actually shows

The Timorese constitutional architecture for petroleum revenues comprises three provisions, each performing a separable function: Section 139(2) on mandatory financial reserves; Section 145(2) barring secret appropriations and extra-budgetary funds; and Section 158, which governs the validity of pre-independence international treaties, agreements, and alliances generally and has been the principal mechanism for assessing the status of legacy petroleum agreements entered into under Indonesian administration.[18] The 2008 Supreme Court ruling[19] showed that Section 139 was sufficient to support judicial review of excess withdrawal. The fact that the executive continued to exceed the Estimated Sustainable Income notwithstanding the ruling showed that the constitutional mandate was not, on its own, sufficient to enforce discipline. The constitutional anchor establishes the procedural basis for judicial constraint without guaranteeing the substantive outcome; its operative force depends on the procedural rules governing how the constraint is invoked and what consequences attach to its violation.

For São Tomé and Príncipe, the operative discipline mechanism in any post-discovery period will be the proposed Article 8(5) excess-withdrawal procedure (Annex A.4), with its suspensive effect of judicial challenge, supplemented by the non-oil primary balance anchor at section 6.1. The constitutional anchor's *function* is to protect that discipline mechanism against future ordinary legislative repeal. The Article 8(5) procedure vests adjudication in the Supreme Court of Justice (Supremo Tribunal de Justiça), the apex court of the ordinary judicial hierarchy, not in the Constitutional Court (Tribunal Constitucional), which exercises constitutional review under Articles 131 and 133 of the Constitution.[12] This matters because it partially insulates Article 8(5) from the February 2026 Constitutional Court crisis discussed at section 7.4. Constitutional review of the protected discipline mechanism (the third constitutional provision at section 7.3 below) does, however, require a functional Constitutional Court.

The Timorese evidence does not solve the substantive discipline question through constitutional drafting alone; what it solves is the durability question, whether the substantive mechanisms can be repealed by simple-majority National Assembly under fiscal pressure. The Ghana 2025 amendment is the textbook durability failure. The case for constitutional anchoring is best made on Ghanaian rather than Timorese grounds.

7.3 The proposed constitutional provisions

For São Tomé and Príncipe, three constitutional provisions, two with Timorese analogues and one going beyond the Timorese template, would harden the architecture established by Lei n.º 8/2004 without prescribing the operational detail that should remain at statutory level. The proposal is deliberately limited. As section 7.2 establishes and section 7.5 amplifies, constitutional anchoring is *belt-and-braces protection against the more common Type-I failure mode* of legislative erosion under fiscal pressure, not substantive protection against the Type-II failures (institutional override by political-executive alignment) that the February 2026 events exposed. The substantive defence against discipline erosion is the ordinary-statute Article 8(5) excess-withdrawal procedure and the non-oil primary balance anchor at section 6.1; the constitutional anchor protects the existence of those mechanisms against simple-majority repeal. A maximalist set of constitutional provisions would not improve that protection materially and would diffuse the political capital required to enact it, hence the discipline of limiting the set to three.

The first is a provision analogous to Timor-Leste Section 139(2), establishing that revenues from petroleum resources shall be subject to the establishment of mandatory financial reserves in accordance with the law. The Santomean version need not be more prescriptive than the Timorese. It is a constitutional confirmation that the existence of the reserves is not at the disposition of the ordinary legislator, while leaving the precise architecture (the relationship between the National Oil Account and the Permanent Fund, the withdrawal cap, the investment instrument list) to ordinary statute. The provision creates the constitutional basis for judicial review of any future statute purporting to abolish the reserves or to fold petroleum revenue into general budget without separation.

The second is a provision analogous to Timor-Leste Section 145(2), establishing that the State Budget shall not provide for secret appropriations or extra-budgetary funds, and that all State revenues, including petroleum revenues, shall be presented in the Budget on a basis permitting public scrutiny. The provision performs a function distinct from the first: it forecloses the workaround in which the Permanent Fund continues to exist but petroleum revenues are routed around it through intermediate budgetary structures. The Equatorial Guinea experience between 2000 and 2003 (in which oil revenues were administered through accounts at Riggs Bank outside any consolidated budget framework) is the textbook case the provision is designed to foreclose.

The third provision is the one without a direct Timorese analogue and is analytically the strongest of the three on the post-2010 IFI literature. It would establish that the Annual Funding Amount transferred from the Permanent Fund to the State Budget under Article 8 may not exceed the level consistent with maintaining a non-oil primary balance compatible with the long-term fiscal sustainability of the State, and that the procedure for any excess transfer is subject to constitutional review. The substance of the provision tracks the IMF Fiscal Affairs Department position that resource fund inflow-outflow rules must be embedded in a primary-balance anchor.[39,40] The procedural element tracks the proposed Article 8(5) excess-withdrawal procedure at Annex A.4. The function of the constitutional provision is not to set the substantive level of the anchor, that remains at the level of ordinary statute and is intended to be revisable as economic conditions warrant, but to protect the existence of the anchor against future ordinary repeal. This is the durability function discussed at section 7.2.

A fourth provision, a Santomean analogue to Timor-Leste Section 158, addressing the validity of legacy petroleum contracts entered into during the dormant period, was considered in earlier drafts of this paper and rejected. The interpretive ambiguity it would resolve is genuine but the operational consequences are narrow, the question can be addressed at statutory level under the Article 21 implicit-clause framework, and the political capital required to add a fourth constitutional provision is better spent securing the first three.

7.4 The February 2026 Constitutional Court crisis: a binding precondition

The procedural requirements for constitutional amendment in São Tomé and Príncipe are demanding but not prohibitive. Initiative lies with deputies and parliamentary groups; the National Assembly may revise the Constitution five years after publication of the last revision law (Article 151), or sooner if three-fourths of deputies in full exercise of their office assume powers of constitutional revision. Approval requires a two-thirds majority of members in full exercise of their office (Article 152). Material limits at Article 154 preserve a defined list of provisions including the secular status of the State, fundamental rights, separation of powers, judicial independence, and political pluralism.[12] The current consolidated text is the Fifth Constitutional Revision (Constitutional Law n.º 1/2003, *Diário da República* n.º 2, 29 January 2003); the five-year interval has long since expired.

Constitutional amendment is therefore procedurally available, and the consensus required for it is more easily built when the stakes are diffuse, that is, before commercial discovery, than after. The Phase 2 recommendation at section 6.2 reflects this sequencing.

The political context for constitutional reform in São Tomé and Príncipe has been materially altered by the events of February 2026. On 2 February 2026, a plenary session of the National Assembly was convened at the Universidade de São Tomé e Príncipe, outside the National Assembly building, with 29 deputies in attendance, under heavy security protection. The session purported to dismiss the President of the National Assembly, revoke the interpretative law previously adopted, and dismiss the five judges of the Constitutional Court.[36,50] The Constitutional Court declared the session's convocation unconstitutional and its deliberations null on the same day; the declaration was not respected. The First Vice-President of the National Assembly assumed the chair. On 5 February 2026, one-fifth of the Members of the National Assembly filed an abstract preventive review request before the Constitutional Court challenging the dismissal law. The dismissal law was nonetheless promulgated and published in early February 2026, entering into force on or around 10 February 2026.[50] The Constitutional Court's premises were closed during this period by the Presidential Guard and the National Police; the Court announced that it had accepted an appeal from a group of deputies challenging the dismissal, and that the President of the Republic was therefore "impeded from promulgating" the dismissal law, a procedural objection that did not prevent promulgation.

The composition and competence of the Constitutional Court are, as of the date of this paper, in disputed legal status. Constitutional amendment under Articles 151-152 presupposes a functional Constitutional Court to determine compliance with the Article 154 material limits. The Court's restoration is therefore a precondition for the Phase 2 reforms, not a parallel concern. Without it, the constitutional anchor route is procedurally available but politically and institutionally unworkable, and the operational discipline mechanism reverts to the ordinary-statute Article 8(5) procedure (Annex A.4) and the non-oil primary balance anchor.

The substantive case for the three constitutional provisions at section 7.3 is unaffected by the crisis; what the crisis affects is the political-economy window for their adoption. If the dispute resolves through some combination of judicial review, political settlement, and reconstitution of the Court, the Phase 2 window is broadly intact. If it does not, Phase 2 must rely on the ordinary-statute alternatives at Annex A. The recommendations at sections 6.1 and 6.3 are robust to both outcomes; the recommendations at section 6.2 are robust only to the first.

7.5 What the crisis demonstrates about durability

The February 2026 events have a deeper implication for the case for constitutional anchoring. The Ghana 2025 amendment is a Type-I durability failure: a simple-majority constitutional amendment process moving a statutory rule in the direction of executive preference under fiscal pressure. The procedure was constitutional, the outcome eroded the discipline mechanism the statute had imposed, and constitutional anchoring closes this failure mode by raising the threshold for amendment.

The Santomean February 2026 events are a different category. The 29-deputy plenary, the executive's support for the dismissal of the Constitutional Court, the Court's own declaration of unconstitutionality being unenforceable against the security forces that closed its premises, and the promulgation of the dismissal law in defiance of the Court's procedural objection: these are Type-II durability failures, in which procedural shortcuts and executive-political alignment override the constitutional architecture itself. Constitutional anchoring does not close this failure mode, because the apex constitutional court that would enforce the anchor is itself being overridden.

The implication is twofold. First, the constitutional anchor remains useful against Type-I failures, statistically the more common variety of resource-revenue-rule erosion under fiscal pressure; the case for the Phase 2 constitutional provisions is preserved on these grounds. Second, the constitutional anchor is insufficient on its own against Type-II failures, and the recommendation set should be re-weighted accordingly: the *external* anchors that operate independently of the Santomean constitutional system (the IMF Article IV consultation, the LIC-DSF debt thresholds, the EITI Validation cycle, the Santiago Principles compliance, and the bilateral arrangements under the 2001 Joint Development Treaty) gain weight relative to purely domestic constitutional protection. The Phase 1 reforms are constructed disproportionately around external anchors; this is empirical adaptation to the institutional environment the February 2026 crisis has demonstrated.

The constitutional anchor at Phase 2 is therefore a complement to the external anchors, not a substitute. Where the external anchors generate authoritative external assessment, the constitutional anchor provides the procedural basis for translating that assessment into domestic enforceability. Where the external anchors are themselves resisted, the constitutional anchor provides the domestic legal basis for civil society and parliamentary minority standing under Article 8(5).

ANNEX A: DRAFT AMENDMENTS TO LEI N.º 8/2004

The following draft amendments implement the operational reforms identified at sections 6.1 through 6.3. Article references are to Lei n.º 8/2004 as published in the *Diário da República*, Número 13 (Suplemento), 30 December 2004. Drafting is illustrative and should be reviewed by Santomean constitutional and administrative law counsel before any tabling.

A.1 Article 8(4): Two-tier modified-PIH calibration of Long-Term Real Rate of Return

Current text caps the Long-Term Real Rate of Return at five per cent. The primary recommendation replaces the single-rate ceiling with a two-tier modified-PIH structure, calibrated against Phase 1 PIMA findings on the gradient between domestic public-investment returns and offshore portfolio real yields, on absorptive capacity, and on project-selection and implementation losses. The two-tier structure incorporates a present-value-equality constraint that prevents the front-loading from depleting principal. The conservative single-rate reduction at the fallback drafting below applies only where PIMA findings indicate that the preconditions for the modified-PIH path are not satisfied.

> *Article 8(4), proposed revised text (primary): "For the purposes of this article, the Long-Term Real Rate of Return shall be the expected Real Rate of Return of a portfolio of securities composed of assets proportional to those held in the Permanent Fund during the period,* ***subject to the following two-tier ceiling****: (a) during a front-loading horizon of years one through n following first commercial production, the rate shall not exceed an upper-bound rate r_h fixed in the Management and Investment Policy under Article 13(1) and calibrated to the findings of the most recently published Public Investment Management Assessment for São Tomé and Príncipe; (b) in years subsequent to the front-loading horizon, the rate shall not exceed a steady-state rate r_s fixed in the same Policy and calibrated to achievable offshore real returns on the Article 13(3) instrument list; (c) the front-loading horizon n, the upper-bound rate r_h, and the steady-state rate r_s shall be set such that the present value of the Annual Funding Amount path under the two-tier rule, discounted at the rate prescribed by Article 7(1)(c), does not exceed the present value of the Annual Funding Amount path that would obtain under a constant rate equal to the long-term expected real return on the Permanent Fund's portfolio over the same horizon. The inflation adjustment shall use the variation rates of official price indices of the currencies in which the Permanent Fund's asset portfolio is invested."*

Implementation note 1: indicative calibration values for *r_h*, *n*, and *r_s*, to be fixed in the Investment Policy and refreshed against successive PIMA cycles, fall plausibly in the ranges *r_h* ∈ [4%, 5%], *n* ∈ [5,10] years, and *r_s* ∈ [2%, 3%]. The present-value-equality constraint at sub-paragraph (c) is the operative safeguard against principal depletion: any combination of *r_h*, *n*, and *r_s* satisfying the constraint is principal-preserving in expected-value terms over the chosen horizon. The Investment Policy must show the calibration calculation when proposed for National Assembly approval.

Implementation note 2 (conservative fallback): where the Phase 1 PIMA finds public investment management quality insufficient to absorb scaled-up capital expenditure without material project-selection or implementation losses, or where the second precondition of section 4.4 (institutional inclusiveness) is judged unsatisfied, the Article 8(4) calibration defaults to a single-rate reduction. The fallback drafting:

> *Article 8(4), alternative revised text (fallback): "For the purposes of this article, the Long-Term Real Rate of Return shall be the expected Real Rate of Return of a portfolio of securities composed of assets proportional to those held in the Permanent Fund during the period,* ***and shall not exceed three per cent****. The inflation adjustment shall use the variation rates of official price indices of the currencies in which the Permanent Fund's asset portfolio is invested."*

The fallback calibration is consistent with Article 13(3)'s conservative instrument list and with the Norwegian 2017 precedent. The choice between the primary two-tier rule and the fallback single-rate reduction is determined by the Phase 1 PIMA findings and may be revisited at each successive PIMA cycle (Phase 2 follow-up under section 6.2 and at subsequent intervals not exceeding five years). A reversion from the primary two-tier rule to the fallback single-rate calibration, or vice versa, is itself a National Assembly decision under Article 13(1) and is not at the discretion of the Government or the Management and Investment Committee acting alone.

A.2 Article 13(3): Permitted instrument list

The Article 13(3) instrument list is retained without change. The reconciliation between Article 13's conservatism and Article 8's withdrawal ceiling is accomplished by amending Article 8(4) rather than by expanding the permitted instruments. This preserves the drafters' 2004 conservatism choice and aligns with the recommendation at section 6.1. The Dutch-disease sterilisation function of Article 13's offshore-only restriction (section 5.2) is also preserved.

A.3 Article 23(4): Organic statute of the Petroleum Oversight Commission

Current text defers the organic statute of the Commission to a separate enactment. The proposed amendment establishes a deadline for that enactment.

> *Article 23(4), proposed revised text: "The respective organic law regulates, among other matters, the organisation and functioning, the method of designation and removal of members of the Petroleum Oversight Commission, the duration of mandates, remuneration, and the status and incompatibilities of its members.* ***The organic law shall be enacted within twelve months of the entry into force of this provision.****"*

Implementation note: the organic statute itself should provide for a five-year mandate for civil society representatives (renewable once), public competitive nomination for the business association, trade union, and NGO seats, a permanent secretariat funded through dedicated National Assembly allocation, mandatory annual reporting, and explicit sanction procedure rules.

A.4 Article 8, new paragraph (5): excess-withdrawal procedure

Current text does not specify the procedure applicable when the executive proposes to exceed the Annual Funding Amount calculated under Article 8(3). The proposed amendment adds a new paragraph 5.

> *Article 8(5), proposed new text: "Where the Government proposes to transfer from the National Oil Account to the Treasury Account an amount in excess of the Annual Funding Amount calculated under paragraph 3, the proposal shall be accompanied by: (a) a written justification certified by the Minister of Finance and the Governor of the Central Bank explaining why the excess transfer serves the long-term interests of São Tomé and Príncipe; (b) an actuarial estimate of the impact of the excess transfer on the projected balance of the Permanent Fund over a thirty-year horizon; (c) an opinion of the Petroleum Oversight Commission, delivered within thirty days of the Government's submission, on the conformity of the proposal with the principles of this Law. The Petroleum Oversight Commission, the Tribunal de Contas, or one-fifth of the Members of the National Assembly may, within fifteen days of the publication of the proposal, request the Supreme Court to determine whether the justification meets the standard required by this paragraph. Such request has suspensive effect."*

Implementation note: this provision is the procedural response to the Timor-Leste 2008 experience, in which the Supreme Court ruled that an executive justification was constitutionally insufficient but the practice nonetheless continued. The suspensive effect of the challenge is the operative constraint.

A.5 Article 13(1): Publication deadline for Investment Policy

Current text requires the Management and Investment Committee to propose a Management and Investment Policy for National Assembly approval, without specifying a deadline. The proposed amendment establishes a deadline.

> *Article 13(1), proposed addition: "The first Management and Investment Policy under this article shall be submitted by the Government to the National Assembly within eighteen months of the entry into force of this provision, and shall be approved by the National Assembly within twelve months thereafter. Subsequent revisions shall be submitted at intervals not exceeding five years, or earlier upon material change in market conditions or in the composition of the Petroleum Accounts."*

A.6 Article 15: Audit firm rotation

Current text requires the international audit firm to be selected by public tender but does not address rotation. The proposed amendment adds a new paragraph.

> *Article 15(4), proposed new text: "No audit firm shall be selected for more than two consecutive engagement periods. The maximum continuous engagement of any single firm shall not exceed six years. A firm whose engagement has terminated shall not be eligible for re-selection until four years have elapsed."*

A.7 New ordinary statute: non-oil primary balance and debt anchors

This amendment is not a modification to Lei n.º 8/2004 but a new ordinary statute to complement it. The substantive case is set out at section 4 above and the Phase 1 sequencing at section 6.1.

> *Proposed new Petroleum Fiscal Anchors Law, principal provisions:*

>

> *Article 1 (NRPB Anchor). The State Budget shall be constructed so that the non-oil primary deficit, scaled to non-oil gross domestic product, does not exceed a ceiling fixed by Resolution of the National Assembly. The Resolution shall be adopted at the same time as the State Budget. The ceiling shall be calibrated to the level consistent with the long-term fiscal sustainability of the State, taking into account the projected Annual Funding Amount transfers under Article 8 of Lei n.º 8/2004, the present value of expected future petroleum revenues, and the absorptive capacity of the domestic economy.*

>

> *Article 2 (Debt Anchor). The present value of public and publicly-guaranteed debt, scaled to non-oil gross domestic product, shall not exceed the indicative threshold corresponding to São Tomé and Príncipe's then-current debt-carrying capacity classification under the joint IMF-World Bank Low-Income Country Debt Sustainability Framework.*

>

> *Article 3 (Revision Clause). The ceilings established under Articles 1 and 2 shall be reviewed at intervals not exceeding five years, or earlier upon material change in the underlying assumptions, including but not limited to: (a) the discovery, appraisal, or production-stage status of petroleum reserves; (b) revisions to the LIC-DSF debt-carrying-capacity classification; (c) material change in real-return expectations on Permanent Fund assets.*

>

> *Article 4 (Compliance and Enforcement). The Minister of Finance shall certify, in the State Budget Report submitted under the budget process, the compliance of the proposed Budget with the ceilings established under Articles 1 and 2. The Tribunal de Contas shall include in its annual audit report a separate finding on the compliance of executed Budgets with the ceilings.*

Implementation note 1: the Petroleum Fiscal Anchors Law is enactable by ordinary statute in Phase 1. The case for elevating Articles 1 and 2 to constitutional protection in Phase 2 is set out at section 7.3 (third constitutional provision).

Implementation note 2 (coordination with existing budget law): São Tomé and Príncipe operates under a Public Finance Law (the *Lei do Sistema de Administração Financeira do Estado*) and an associated annual State Budget Law. The Petroleum Fiscal Anchors Law should be drafted as a *lex specialis* providing supplementary anchors specific to petroleum revenue management, with explicit reconciliation provisions setting out the relationship between the NRPB ceiling, the State Budget Law's annual deficit ceilings (if any), and any aggregate-debt limits in the Public Finance Law. The drafting should be coordinated with the Ministry of Planning and Finance to avoid duplication or contradiction.

A.8 New ordinary statute: Petroleum Oversight Commission funding floor

This amendment is also a complementary ordinary statute, addressing the discipline-erosion failure mode illustrated by Ghana's PRMA Amendment 2025 (section 3.8).

> *Proposed new Petroleum Oversight Commission Funding Law, principal provision:*

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> *The annual operating budget of the Petroleum Oversight Commission shall be funded through dedicated allocation from the National Oil Account, in an amount not less than zero-point-five per cent of the prior-year Annual Funding Amount, with a minimum of an amount sufficient to maintain a permanent secretariat of not fewer than [X] persons and to fund the Commission's investigatory, audit-supervision, and public-reporting functions. The Government may not propose, and the National Assembly may not appropriate, a Petroleum Oversight Commission operating budget below this floor.*

Implementation note: the percentage figure (0.5%) and minimum complement (X) are illustrative and should be calibrated to operational requirements with reference to peer oversight bodies (Ghana PIAC pre-2025; Timor-Leste IPPF).

A.9 Article 7(1)(c): Discount rate procedural anchor

Current text requires that the discount rate applied to the Expected Present Value of Future Petroleum Revenues be "not less than seven per cent." The proposed amendment ties the floor to an external benchmark, formalises the methodology, and adds a procedural anchor against executive-led downward adjustment.

> *Article 7(1)(c), proposed revised text: "The discount rate applied in the calculation of the Expected Present Value of Future Petroleum Revenues shall not be less than the rate determined under the following methodology:* ***the long-term real-rate assumption used in the most recent***

> ***IMF-World Bank Debt Sustainability Analysis for São Tomé and Príncipe under the Low-Income Country Debt Sustainability Framework,[FNREF:43] or, where such an assumption is not separately disclosed, the long-term real rate implied by the IMF World Economic Outlook Statistical Appendix nominal-yield projections deflated by the corresponding WEO inflation projections,[FNREF:55] plus a country risk premium of not less than five hundred basis points, plus an oil-price-volatility premium of not less than three hundred basis points, and in no case less than seven per cent.*** *The methodology and the resulting rate shall be published by the National Petroleum Agency together with the calculations under paragraph 1, with detailed disclosure of the inputs. The methodology shall be reviewed at intervals not exceeding five years, or earlier upon material change in the underlying benchmarks."*
>
> *Article 7, new paragraph (4), proposed new text: "Any proposal by the Government to depart from the methodology-determined discount rate under paragraph 1(c), whether by adjusting the methodology, by amending one or more premium components, or by setting a rate below the rate the methodology produces, shall be accompanied by: (a) a written justification certified by the Minister of Finance and the Governor of the Central Bank explaining why the departure serves the long-term interests of São Tomé and Príncipe; (b) an estimate of the impact of the departure on the Expected Present Value of Future Petroleum Revenues and on the Annual Funding Amount permitted under Article 8(3)(b); (c) an opinion of the Petroleum Oversight Commission, delivered within thirty days of the Government's submission, on the conformity of the proposal with the principles of this Law. The Petroleum Oversight Commission, the Tribunal de Contas, or one-fifth of the Members of the National Assembly may, within fifteen days of the publication of the proposal, request the Supreme Court to determine whether the justification meets the standard required by this paragraph. Such request has suspensive effect."*

Implementation note 1: the political economy of the discount rate is asymmetric. A government seeking front-loading of expenditure has a direct incentive to lower the discount rate, since a lower discount rate raises the NPV of future petroleum revenues, raises the wealth base under Article 8(3)(b)(I), and therefore raises the AFA cap. The procedural anchor mirrors the Article 8(5) excess-withdrawal procedure (Annex A.4) in tying the methodology to an external benchmark (the LIC-DSA long-term real-rate assumption,[43] with the WEO Statistical Appendix as the secondary anchor)[55] and in providing for suspensive judicial review of methodology changes.

Implementation note 2: indicative parameters. Under prevailing 2026 IMF-World Bank LIC-DSF practice the long-term real-rate assumption used for STP is approximately 1.5 to 2.5 per cent (consistent with WEO Statistical Appendix nominal-yield projections deflated by WEO inflation projections over the same horizon); the country risk premium for a frontier deepwater Gulf of Guinea producer is in the 500 to 700 basis points range; the oil-price-volatility premium implied by historical Brent volatility is approximately 300 to 400 basis points. The methodology-determined rate is therefore approximately 9.5 to 11.5 per cent at the time of writing, materially above the seven per cent statutory floor, but the floor is retained as a backstop against any future revision of the LIC-DSF or WEO assumptions or premium methodologies that would otherwise produce an implausibly low rate.

Implementation note 3: the methodological note required under Phase 3 (section 6.3) is the operational instrument through which the formula is applied. The methodological note must show the formula calculation, the inputs as of the most recent IMF Article IV consultation and LIC-DSA for São Tomé and Príncipe, and a sensitivity analysis covering a 150-basis-point range around each premium component. Any inconsistency between the methodological note's discount rate and the formula-determined rate is subject to the procedural challenge.

A.10 Article 13(1): Currency overlay and convertibility-line contingency in the Investment Policy

The Article 13(1) Investment Policy is the operational vehicle for two further structural protections discussed at sections 5.5 and 5.6: the currency overlay aligned to the dobra-euro peg, and the contingency protocol for any disruption to the Portuguese convertibility line under the Acordo de Cooperação Económica signed 28 July 2009 between the Portuguese Republic and the Democratic Republic of São Tomé and Príncipe, in force since 1 January 2010.[51]

> *Article 13(1), proposed further addition (in addition to the deadline at A.5): "The Management and Investment Policy shall specify: (a) a currency-allocation framework for the Permanent Fund aligned to the euro reference under the bilateral arrangement with Portugal in force from 1 January 2010, including a target euro share, controlled deviation bands, the procedure for managing deviations outside the bands, and reporting to the Petroleum Oversight Commission; (b) a contingency protocol setting out the reallocation procedure applicable to the Permanent Fund in the event of any disruption to the Portuguese convertibility line or to the dobra-euro peg, including triggers, decision authority, time horizons, and reporting to the National Assembly. The currency-allocation framework and the contingency protocol shall be reviewable jointly by the Management and Investment Committee, the Banco Central de São Tomé e Príncipe, and the Petroleum Oversight Commission, with material changes subject to National Assembly approval under this article."*

Implementation note: the currency overlay is integral to the asset-side risk-management framework under IFSWF Santiago Principles GAPP 18 (investment policy) and GAPP 22 (risk management framework).[42] The contingency protocol is precautionary; the convertibility line has operated without disruption since 1 January 2010, and there is no contemporaneous indication of imminent revision. The Investment Policy must nonetheless specify the protocol in advance, since the operational timescale of a peg disruption is shorter than the legislative timescale for adopting a contingency framework after the fact.

A.11 New ordinary statute: Investment-management capacity-building

This amendment, like Annex A.7 and A.8, is a complementary ordinary statute rather than an amendment to Lei n.º 8/2004. The substantive case is set out at the seventh Phase 1 reform of section 6.1.

> *Proposed new Petroleum Investment Management Capacity-Building Law, principal provisions:*

>

> *Article 1 (Twinning Protocol). The Management and Investment Committee shall, within twelve months of the entry into force of this Law, enter into twinning arrangements with at least two of the following peer institutions, to operate for the duration of the design window and for a minimum period of five years: (a) Norges Bank Investment Management; (b) the Bank of Botswana, in respect of the Pula Fund; (c) the Banco Central de Timor-Leste, in respect of the Petroleum Fund secretariat; (d) any other sovereign wealth fund management body designated by the Management and Investment Committee with the approval of the National Assembly. The twinning arrangements shall include reciprocal staff secondments, technical assistance on Investment Policy drafting and revision, and joint participation in the peer-learning and Santiago Principles self-assessment activities organised by the International Forum of Sovereign Wealth Funds.*[56]

>

> *Article 2 (World Bank RAMP Engagement). The Management and Investment Committee, acting jointly with the Banco Central de São Tomé e Príncipe, shall enter into an engagement with the World Bank Treasury Reserve Advisory and Management Partnership*[54] *within twelve months of the entry into force of this Law. The engagement shall cover, at minimum: investment-management technical assistance for the Permanent Fund; asset-management training for staff of the Committee and the Central Bank; and reserves-management coordination between the Permanent Fund and the Central Bank's foreign-exchange reserves.*

>

> *Article 3 (Transition-Period External Management Mandate). During the transition period from first signature-bonus inflow through to the conclusion of the modified-PIH front-loading horizon (or, where the conservative single-rate fallback at Annex A.1 is operationalised, through the fifth year after first production), the operational investment management of the Permanent Fund may be delegated under Article 13(4) of Lei n.º 8/2004 to one or more external investment managers selected by public competitive tender. The Management and Investment Committee retains the strategic-allocation, policy-setting, and oversight functions, and shall not delegate (a) approval of the Investment Policy, (b) approval of the currency-allocation framework or the contingency protocol under Annex A.10, or (c) supervision of external manager performance against the Investment Policy. The external management mandate shall taper progressively against measured resident capacity within the Committee.*

>

> *Article 4 (Funding). The operating costs of the twinning protocol, the RAMP engagement, and the external management mandate shall be funded through the Annual Funding Amount transfer, within the operating-cost component of the Investment Policy. The Petroleum Oversight Commission shall report annually on the operation of this Law, including on transfers of skills, retention of trained personnel, and the tapering of the external management mandate against resident capacity.*

Implementation note: the structural problem this Law addresses is that Article 12 of Lei n.º 8/2004 presupposes the existence of a domestic cadre with proven international investment portfolio management experience, in a country with no domestic capital market and a thin professional bench. The twinning, RAMP, and transition-mandate provisions together construct the cadre. The Law is enactable by ordinary statute in Phase 1, and its operational effects accumulate through Phase 2 and Phase 3 as the fund's asset base grows.

ANNEX B: WORKED PERMANENT INCOME, ESTIMATED SUSTAINABLE INCOME, AND MODIFIED-PIH MATH

This annex sets out the Permanent Income Hypothesis (PIH), Estimated Sustainable Income (ESI), and modified-PIH calculations underlying Article 8(3)(b) of Lei n.º 8/2004 and the alternative scaling-up framework discussed at section 4.4, calibrated to a sensitivity band of plausible discovery scenarios for São Tomé and Príncipe.

Disclosure. The figures in this annex are illustrative only and must not be cited as projections of Santomean petroleum revenue. São Tomé and Príncipe has no commercial petroleum production, no announced commercial discovery, and no reserves estimate from any operator or independent reserve auditor in the public domain. The scenario parameters used below are placeholders selected to demonstrate the operational behaviour of the rule across a plausible range for deepwater Gulf of Guinea geology and Article 8(3)(b) calibration; they are not forecasts of what the country will, or may, recover. The Falcão-1 well drilled in October 2025 was non-commercial; subsequent appraisal activity may or may not change this position.[38]

B.1 The Friedman-Segura framework

The Permanent Income Hypothesis, in the form applied to petroleum-rich states, derives from Milton Friedman's 1957 *A Theory of the Consumption Function*[33] and was adapted to the resource-rich small-state context by Alonso Segura in IMF Working Paper WP/06/183 (2006), which was prepared specifically for São Tomé and Príncipe in advance of Lei n.º 8/2004's enactment.[34] The framework treats petroleum wealth as the present discounted value of all future petroleum flows plus accumulated financial assets, and defines sustainable consumption as the expected real return on that total wealth.

The PIH formula is:

> $AFA = r \times (F + NPV)$

where AFA is the Annual Funding Amount, r is the Long-Term Real Rate of Return, F is the Permanent Fund balance, and NPV is the net present value of future petroleum revenues discounted at the rate prescribed by Article 7(1)(c). Article 8(3)(b)(I) implements this formula directly.

The ESI is a more conservative variant that constrains spending in years when projected future flows are uncertain or when production is delayed:

> $AFA = r \times F + U$

where U is the unrestricted portion of the National Oil Account balance. Article 8(3)(b)(II) implements this formula. The lesser-of-two rule means the binding constraint shifts to ESI in periods when projected NPV is high relative to realised U, and to PIH when realised U is high relative to projected NPV.

B.2 The PIH limitations for capital-scarce LICs

The post-2010 IFI literature has substantially qualified the application of the pure PIH to capital-scarce low-income countries. The 2012 IMF Staff Discussion Note formulates the limitation directly in Box 2: "The PIH approach to consumption and saving of resource wealth leaves out real-world characteristics that matter for RRDCs … the framework assumes there are no liquidity constraints … This premise underlies the theory that the timing of consumption (perfect smoothing) is independent of revenue flows … This feature is not realistic for developing countries with shallow domestic markets and limited access to international capital markets."[39] The 2012 IMF Board paper at paragraph 34 amplifies: "the PIH approach is excessively restrictive for RRDCs and alternative frameworks for calibrating the path of NRPBs are needed."[40] The Berg, Portillo, Yang and Zanna (2013) DSGE model formalises the trade-off using a small open economy model with non-tradable production, capital scarcity, and absorptive capacity constraints, showing that the welfare-optimal consumption-investment path can depart substantially from the PIH benchmark when domestic returns to public capital exceed the offshore real return on financial assets.[41]

The implication for São Tomé and Príncipe is that the pure PIH embedded in Article 8(3)(b) is a *conservative outer bound* on the post-production withdrawal rule, not a unique solution. The country can choose between (i) the pure PIH benchmark, which preserves the financial wealth base indefinitely while investing offshore, and (ii) a modified-PIH or scaling-up alternative, which permits some drawdown of the resource fund for domestic public investment provided that the public investment management quality is sufficient to capture social returns above the offshore real return. The choice depends on the empirical question of public investment management quality, which is the function of the Public Investment Management Assessment (PIMA) recommended at section 6.2.

B.3 Modified-PIH with front-loading and absorptive capacity

The simplest modified-PIH applies a multiplier $m > 1$ to the AFA during the first n years of production:

> $AFA\_t = m \times r \times (F + NPV)$ for $t \in [1, n]$
>
> $AFA\_t = r' \times (F + NPV)$ for $t > n$

where $r' < r$ is the steady-state withdrawal rate calibrated to preserve the present-value equality. The Berg–Portillo–Yang–Zanna model adds two further constraints. First, the front-loading horizon n is bounded above by the absorptive capacity of the domestic economy: front-loading at a rate that exceeds the economy's capacity to absorb scaled-up public investment generates inflation in non-tradable services without commensurate productive output. Second, the multiplier m is bounded above by the public investment management quality: front-loading capital expenditure that is poorly selected or implemented dissipates the resource rent without generating the social returns that justify the departure from PIH neutrality.[41]

Article 8 does not currently provide for modified-PIH front-loading. The proposed Article 8(4) amendment at Annex A.1 implements modified-PIH as the primary calibration through a two-tier rule with a statutory present-value-equality constraint linking *r_h*, *r_s*, and *n*; the conservative single-rate reduction at the fallback drafting (Implementation Note 2, Annex A.1) applies only where PIMA findings indicate that the preconditions for front-loading are not satisfied. The primary/fallback ordering reflects the IMF FAD position that the modified-PIH frame is, for capital-scarce short-lasting resource countries, the analytically recommended path rather than an optional alternative to a conservative-PIH baseline.[39,40]

B.4 The 2012 IMF FAD framework and the NRPB anchor

The 2012 Staff Discussion Note's Table 2 (p. 22) recommends, for the country category that fits São Tomé and Príncipe (capital-scarce, short-lasting resource), a "modified PIH-based framework (non-resource primary balance)" anchored rule.[39] The framework treats the AFA as the *transfer mechanism* and the non-resource primary balance as the *macro-fiscal anchor*. The two operate on opposite sides of the budget identity.

The non-oil primary balance is defined exclusively of resource revenue and resource-related expenditure:

> *NRPB = Non-petroleum revenue − Non-petroleum primary expenditure*

The NRPB is, in petroleum-producing countries, structurally a *deficit*. The financing identity closes the gap:

> *|NRPB deficit| ≤ AFA (under Article 8) + permissible debt issuance (under LIC-DSF)*

The fiscal anchor recommended at Annex A.7 sets a ceiling on the non-oil primary deficit, scaled to non-oil GDP. The withdrawal cap at Article 8(3)(b) sets a ceiling on the AFA transfer. The debt anchor at Annex A.7 sets a ceiling on the present value of public and publicly-guaranteed debt. All three bind simultaneously: in any year, the NRPB deficit must not exceed the NRPB ceiling, the AFA must not exceed the Article 8 lesser-of-two calculation, and the debt must not exceed the LIC-DSF threshold. The three constraints together determine the feasible fiscal stance.

The case for all three constraints together, rather than the AFA cap alone, is the failure mode the IMF FAD has documented since 2012: a government complying with the AFA cap can nonetheless run an expansionary NRPB deficit financed through non-petroleum-collateralised borrowing, eroding fiscal sustainability without breaching any element of the 2004 architecture. The NRPB anchor closes the expenditure-side workaround; the debt anchor closes the financing-side workaround.

B.5 STP-calibrated illustration: low / mid / high sensitivity band

The following illustration uses placeholder discovery parameters that have no basis in announced reserves estimates, operator guidance, or independent reserve audits. Three scenarios (low, mid, high) span the order-of-magnitude range relevant to deepwater Gulf of Guinea discoveries. The Falcão-1 result and the as-yet-untested geology mean that the *probability-weighted* expected recovery is materially below the mid case. The scenarios are presented for sensitivity analysis only.

Common assumptions across scenarios:

- Commercial discovery announced 2030 (contingent and not assumed)
- First production 2035
- Government take 55 per cent (net of cost oil), illustrative; actual fiscal terms in PSCs are not in the public domain
- Discount rate: 7 per cent (Article 7(1)(c) floor) with sensitivity at 9 per cent
- Year-2030 real US dollars

Scenario L (Low), modest commercial discovery:

- Recoverable reserves: 50 million barrels
- Peak production: 25,000 barrels per day
- Production plateau: 2037-2045
- Realised price: USD 60 per barrel (low case)
- Cumulative undiscounted government revenue: USD 1–2 billion
- NPV at 7%, 2030: USD 0.5–1.0 billion
- Steady-state AFA at r = 3%: USD 15–30 million per annum
- Steady-state AFA at r = 5%: USD 30–50 million per annum

Scenario M (Mid), material commercial discovery:

- Recoverable reserves: 150 million barrels
- Peak production: 50,000 barrels per day
- Production plateau: 2037-2048
- Realised price: USD 70 per barrel
- Cumulative undiscounted government revenue: USD 5–7 billion
- NPV at 7%, 2030: USD 2–4 billion
- Steady-state AFA at r = 3%: USD 60–100 million per annum
- Steady-state AFA at r = 5%: USD 100–150 million per annum

Scenario H (High), transformational commercial discovery:

- Recoverable reserves: 400 million barrels
- Peak production: 80,000 barrels per day
- Production plateau: 2037-2050

- Realised price: USD 70 per barrel
- Cumulative undiscounted government revenue: USD 13–18 billion
- NPV at 7%, 2030: USD 6–8 billion
- Steady-state AFA at r = 3%: USD 180–250 million per annum
- Steady-state AFA at r = 5%: USD 300–400 million per annum

Macro-context for each scenario. São Tomé and Príncipe's nominal GDP was approximately USD 0.8 billion in 2024 on World Bank data, with the IMF projecting nominal GDP rising to roughly USD 1.2 billion by 2026 on the IMF Article IV baseline;[32] absent commercial petroleum production, non-oil GDP and total GDP are functionally identical at this stage. Projected at a 3-4 per cent real growth path with moderate inflation, non-oil GDP would reach approximately USD 1.3-1.5 billion by 2035 in nominal 2030-2035 dollars. The AFA implied by Scenario M at r = 3 per cent is in the order of 5-7 per cent of projected 2035 non-oil GDP; Scenario H at r = 5 per cent is in the 20-25 per cent range of projected non-oil GDP. The former is in the absorbable range for a small economy with adequate public investment management; the latter is in the range where absorptive capacity and Dutch disease are first-order constraints (per section 5) and where the case for the NRPB anchor (per section 4) and a PIMA-validated scaling-up frame is strongest.

Sensitivity to higher discount rate. Increasing the Article 7(1)(c) discount rate from 7 to 9 per cent reduces NPV by approximately 25-30 per cent across the three scenarios, and reduces the steady-state AFA proportionally. The implication is that the seven per cent floor in the 2004 statute is unlikely to be sufficiently conservative for a small frontier state with elevated political risk in 2030. The discount-rate procedural anchor at Annex A.9 addresses this by tying the floor to a formula referencing the long-term real-rate assumption used in the most recent IMF-World Bank LIC-DSA for São Tomé and Príncipe[43] (or, where not separately disclosed, the long-term real rate implied by the IMF World Economic Outlook Statistical Appendix nominal-yield projections deflated by WEO inflation projections),[55] plus a country risk premium of not less than 500 basis points plus an oil-price-volatility premium of not less than 300 basis points, with the seven per cent figure retained only as the absolute statutory floor. Under prevailing 2026 LIC-DSF assumptions and WEO Statistical Appendix projections, the formula-determined rate is approximately 9.5 to 11.5 per cent. The Phase 3 methodological note (section 6.3) is the operational instrument through which the formula is applied to the post-production calculations; the Annex A.9 procedural challenge with suspensive effect is the protection against executive-led downward adjustment of the rate under fiscal pressure.

The illustration is presented at constant rates of 3 and 5 per cent for sensitivity-band purposes; it does not represent the recommended Article 8(4) calibration, which under Annex A.1 is a two-tier modified-PIH structure with PIMA-conditional upper-bound and steady-state rates. The figures at r = 5 per cent therefore approximate the upper-bound rate r_h during the front-loading horizon under the primary recommendation, and the figures at r = 3 per cent approximate the steady-state rate r_s thereafter; the present-value-equality constraint at Annex A.1 sub-paragraph (c) requires that the implied AFA path remain principal-preserving in expectation. The conservative single-rate fallback (3 per cent across the production lifetime) applies only where Phase 1 PIMA findings indicate that the preconditions for the modified-PIH path are not satisfied. The justification for the modified-PIH path is *not* that a higher AFA is closer to what the Article 13(3) instrument list can generate in real terms, it is the opposite, since the offshore yield is the upper bound on the steady-state rate r_s, not on r_h, but rather that during the front-loading horizon the welfare-relevant return is the social return on domestic public capital, which for a capital-scarce LIC with strong absorptive capacity exceeds the offshore real return. The recommended NRPB anchor (Annex A.7) operates on the expenditure side independently of the AFA cap and constrains the underlying fiscal stance irrespective of the AFA calibration.

ANNEX C: SEQUENCING ROADMAP

The following table summarises the three-phase sequencing roadmap set out at sections 6.1 through 6.3, mapped to operational milestones and political-economy windows.

Phase	**Timing**	**Milestone trigger**	**Reforms**	**Statutory vehicle**
Phase 1: Pre-drilling	2026–2028	Current state	*Year 1 (foundation)*: EITI multi-stakeholder group reconstitution and Validation; Tribunal de Contas resourcing and INTOSAI twinning; PIMA baseline assessment commissioned; initiation of investment-management twinning protocols (NBIM, Bank of Botswana, BCTL, IFSWF) and World Bank Treasury RAMP engagement *Year 2 (statutory completion)*: Organic statute of the Petroleum Oversight Commission (Article 23(4) deadline) with	Ordinary statute + technical assistance

Phase	**Timing**	**Milestone trigger**	**Reforms**	**Statutory vehicle**
			statutory funding floor; Management and Investment Policy (Article 13(1) deadline), aligned with Santiago Principles and incorporating the currency overlay framework and the convertibility-line contingency protocol under Annex A.10; transition-period external manager pre-qualification under Article 13(4) *Year 3 (macro-fiscal embedding)*: Article 8(4) two-tier modified-PIH calibration informed by PIMA findings (with conservative single-rate fallback to 3 per cent where PIMA findings	

Phase	**Timing**	**Milestone trigger**	**Reforms**	**Statutory vehicle**
			indicate weak public investment management); Article 7(1)(c) discount-rate procedural anchor (Annex A.9); Petroleum Fiscal Anchors Law (NRPB anchor at 4-5 per cent of non-oil GDP narrowing to 2 per cent by 2028; LIC-DSF debt anchor); Petroleum Investment Management Capacity-Building Law (Annex A.11); Article 15 audit firm rotation; review for JDZ contracting-side compatibility with Articles 20-22	
Phase 2: Post-discovery, pre-FID	2029–2032 (contingent on discovery)	Commercial discovery announcement	(i) Constitutional anchor establishing mandatory financial reserves (ii) Constitutional	Constitutional amendment + ordinary statute

Phase	**Timing**	**Milestone trigger**	**Reforms**	**Statutory vehicle**
			bar on extra-budgetary funds (iii) Constitutional protection of the non-oil primary balance anchor (iv) Calibration of Investment Policy for discovery phase (NRPB ceiling re-set in the 5-7 per cent of non-oil GDP range) (v) Pre-qualification of external asset managers (Santiago Principles GAPP 18 and GAPP 22) (vi) First annual report of the Petroleum Oversight Commission (vii) Follow-up PIMA assessment validating post-baseline absorptive-capacity gains	
Phase 3: Post-FDP submission,	Contingent on field development	Operator FDP submission	(i) Methodological note on	Ordinary statute + parliamentary procedure

Phase	**Timing**	**Milestone trigger**	**Reforms**	**Statutory vehicle**
pre-production	plan submission		post-production withdrawal rule calculation, applying the Annex A.9 formula-based discount-rate methodology against the IMF-World Bank LIC-DSA assumptions (primary) and IMF WEO Statistical Appendix projections (secondary),[43,55] and substituting the contemporary Platts Dated Brent assessment (BFOET + WTI Midland basket) for the literal Article 7(1)(a) "Brent FOB Sullom Voe" reference (ii) Article 8(5) excess-withdrawal procedure (iii) Joint CBSTP/Ministry of Planning and Finance/ANP-	

Phase	**Timing**	**Milestone trigger**	**Reforms**	**Statutory vehicle**
			STP annual real-exchange-rate and tradable-sector competitiveness assessment (iv) Operational activation of the convertibility-line contingency protocol (Annex A.10) and progressive tapering of the transition-period external management mandate (Annex A.11)	

Sequencing logic: Phase 1 reforms are achievable now under low political stakes because no commercial revenue is at issue. Phase 2 reforms become more achievable after discovery (which creates salience) but before field development plan submission (which concentrates the political stakes). Phase 3 reforms address the operational moment at which the rule first binds against actual revenue flow.

Procedural achievability: All Phase 1 and Phase 3 reforms are achievable by ordinary majority of the National Assembly. Phase 2 constitutional reforms require either five years' elapse since the last revision (already met) and a two-thirds majority for approval, or a three-fourths majority for accelerated initiative followed by a two-thirds majority for approval. Phase 2 is contingent on the restoration of a functional Constitutional Court following the events of February 2026 (section 7.4).

Independence from bilateral commitments: None of the recommended reforms requires renegotiation of the Treaty of 21 February 2001 with Nigeria. All apply at the point of Santomean receipt of petroleum revenue, whether from the Exclusive Economic Zone or from the Joint Development Zone.

Robustness to negative-discovery scenarios: All Phase 1 reforms are valuable in their own right and survive any contingency in which commercial discovery does not occur. Phase 2 and Phase 3 reforms are contingent on the relevant milestones and would lapse or be deferred under any of: unsuccessful exploration outcomes from Blocks 7-9 (2026 round); failure of the Petrobras-Oranto Block 3 transaction to close; or a sequence of Falcão-1-type non-commercial results.

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