

Department of Minerals and Petroleum Resources
COMPREHENSIVE FRAMEWORK FOR THE PETROLEUM
SECTOR DEVELOPMENT PLAN (PSDP)
Mineral and Petroleum Regulation Branch

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COMPREHENSIVE FRAMEWORK FOR THE PETROLEUM SECTOR DEVELOPMENT PLAN (PSDP)

1. INTRODUCTION

The Petroleum Sector Development Plan (PSDP) is proposed as South Africa's long-term, integrated framework for petroleum security, downstream industrialization, infrastructure planning, market reform, and energy-transition management.

Scope of the PSDP

The scope of the PSDP covers the full petroleum value chain, including:

- Exploration and production of oil and gas;
- Liquid fuels pipelines, single buoy moorings, depots, and storage infrastructure;
- Refining, synthetic and non-synthetic fuel manufacturing plants;
- Distribution and transportation by road, rail, and coastal shipping;
- Imports and exports; and
- Wholesale and retail infrastructure.

The PSDP adopts a planning methodology aligned to the national Integrated Resource Plan (IRP) process to ensure:

- Evidence-based planning;
- Scenario modelling and demand forecasting;
- Multi-sectoral coordination;
- Transparent stakeholder consultation;
- Investment certainty;
- Infrastructure sequencing; and
- Policy coherence across the energy sector.

The PSDP therefore functions as the petroleum-sector equivalent of the IRP by providing a structured roadmap for:

- National fuel supply security;
- Refining and import strategy;
- Infrastructure expansion;
- Transition fuel development;
- Market regulation; and
- Long-term petroleum sector resilience.

2. PURPOSE OF THE PSDP FRAMEWORK

The purpose of the framework is to establish:

- A national petroleum planning architecture;
- A coordinated intergovernmental implementation mechanism;
- A long-term investment and infrastructure roadmap;
- A national fuel security framework;
- A vulnerability mitigation and resilience strategy; and
- A transition pathway balancing energy security, affordability, industrialization, and decarbonization.

3. ALIGNMENT TO THE IRP DEVELOPMENT PROCESS

3.1 IRP-Based Planning Methodology Applied to Petroleum Sector Planning

IRP Planning Process	PSDP Equivalent Application	Synergies Across Phases and Outputs
Demand Forecasting	Petroleum demand and consumption forecasting across fuels, regions, sectors, and time horizons	Provides the evidence base for Phase 2 scenario modelling, informs Phase 4 infrastructure sizing and sequencing, strengthens Phase 3 pricing and market reform options, and supports the final investment and implementation roadmap.
Baseline Diagnostics	Baseline assessment, vulnerability analysis, infrastructure audit, value chain policy mapping, and market diagnostics	Forms the core input to all later phases by identifying system constraints, regulatory gaps, investment priorities, transition risks, and resilience vulnerabilities that shape every subsequent output.
Capacity Planning	Planning for refining, storage, pipeline, import, logistics, and upstream resource development capacity	Connects Phase 2 system planning to Phase 4 infrastructure investment decisions, informs Phase 7 financing priorities, and supports Phase 8 monitoring through measurable throughput, reserve cover, and availability indicators.
Scenario Modelling	Testing supply shocks, import dependency, transition pathways, climate and logistics risks, and regional integration scenarios	Shapes Phase 3 reform design, prioritises Phase 4 infrastructure pathways, informs stakeholder engagement on trade-offs in Phase 5, and provides the strategic logic for approval and implementation choices.
Least-Cost and Investment Modelling	Identification of optimal infrastructure, logistics, and strategic stockholding	Aligns directly with Phase 4 outputs, informs financing priorities in section 7, links the costing framework to delivery workstreams, and supports a sequenced

	pathways under different futures	implementation roadmap linked to affordability and resilience outcomes.
Policy and Regulatory Review	Review of legislation, pricing frameworks, governance mandates, and institutional arrangements across the value chain	Uses Phase 1 and 2 evidence to produce Phase 3 reform outputs, while creating the enabling framework for investment execution, compliance, stakeholder compacting, and long-term governance alignment.
Stakeholder Consultation	Structured engagement with government, regulators, SOEs, industry, labour, municipalities, civil society, and regional actors	Validates outputs from Phases 1 to 4, strengthens implementation legitimacy in Phase 5, informs the social compact, and supports finalisation, approval, and institutional ownership of the PSDP.
Approval and Review Cycle	Interdepartmental, executive, and Cabinet approval process, followed by periodic review and annual updates	Ensures the PSDP remains iterative and evidence-led, with implementation feedback from monitoring, evaluation, updated risk analysis, and future costing reviews feeding the next planning cycle.

In application to the PSDP, the IRP-based methodology is not a linear sequence of isolated tasks, but an integrated planning cycle in which each phase generates the evidence, options, and implementation inputs required by the next phase, while also refining the final outputs of the Plan.

Phase 1 establishes the diagnostic foundation through the baseline assessment, vulnerability study, infrastructure audit, demand analysis, and value-chain policy mapping. Phase 2 converts that evidence into future pathways through scenario modelling, system planning, strategic reserve modelling, and options analysis. Phase 3 translates the evidence and options into policy, regulatory, governance, and institutional reform proposals that remove implementation barriers and create an enabling framework for investment and compliance.

Phase 4 converts the preferred pathways into a sequenced infrastructure and investment programme, including a masterplan, financing framework, logistics resilience interventions, and prioritised capital pipeline. Phase 5 validates the technical and policy package through structured consultation, public comment integration, socio-economic testing, and social compacting.

Finalisation, approval support, and knowledge transfer then consolidate the complete planning package for decision-making, implementation, and future review. This integrated approach ensures strong synergies across phases, coherence across outputs, alignment between methodology and delivery, and a clear relationship between technical workstreams, institutional responsibilities, and resource allocation.

4. PSDP DEVELOPMENT PROCESS MAP

PHASE 1: BASELINE ASSESSMENT & VULNERABILITY ANALYSIS

Component	Description
Phase 1	Baseline Assessment & Vulnerability Analysis
Objectives	1. Establish national petroleum baseline 2. Update and confirm identified systemic risks and vulnerabilities 3. Assess current infrastructure and market capability 4. Value Chain Policy Review & Map – integration / alignment across government and industry sectors 5. Develop an Integrated Framework Plan (informed by existing policy and future Policy direction)
Key Activities	1. Liquid Fuels Vulnerability update and confirmation) 2. Refinery capacity assessment 3. Fuel demand analysis 4. Import dependency assessment 5. Infrastructure audit 6. Integrated Value chain policy map and gap analysis 7. Supply chain map 8. Review of the institution pricing mechanisms
5BExpected Outputs	1. National petroleum baseline report 2. Vulnerability and risk matrix, including fuel security, logistics, climate, and geopolitical exposure 3. Infrastructure and market constraints report, including refinery, storage, port, pipeline, and distribution bottlenecks 4. Integrated value-chain policy, legal, regulatory, and institutional mapping report with reform gaps and priority adjustments 5. Demand analysis and baseline data pack to support Phase 2 modelling and Phase 3 reform design

PHASE 2: SCENARIO MODELLING & SYSTEM PLANNING

Phase 2 tests plausible futures to inform resilient petroleum planning, investment choices, and risk mitigation priorities.

Objectives		Output
1. Develop future petroleum supply and demand pathways 2. Assess resilience under multiple risk scenarios		1. Petroleum demand forecast to 2050 2. Scenario modelling report and preferred planning pathways 3. Infrastructure investment pathways and strategic reserve modelling 4. Transition fuel penetration scenarios and policy options note
Scenario Stream	Scenario Description	Strategic Planning Focus
High Import Dependency Scenario	Assesses rising reliance on imported crude oil and refined products as domestic refining capacity declines.	Assess exposure to global supply disruptions, exchange-rate volatility, shipping constraints, and geopolitical risk.

Domestic Refinery Recovery & Expansion Scenario	Models the rehabilitation, expansion, or development of domestic and modular refining capacity	Promote local beneficiation, reduce import dependence, strengthen industrialisation, and improve fuel self-sufficiency
Accelerated Energy Transition Scenario	Assesses the impact of the rapid adoption of electric vehicles, renewable energy, and low-carbon technologies on petroleum demand	Plan for declining liquid fuel demand, fuel switching, and long-term market restructuring
Geopolitical Shock & Supply Disruption Scenario	Models external shocks such as wars, sanctions, trade restrictions, or global shipping disruptions affecting crude and fuel supply	Strengthening strategic reserves, diversifying supply sources, and improving emergency response capability
High Economic Growth & Industrial Expansion Scenario	Models increased fuel demand driven by industrial growth, freight expansion, mining activity, aviation growth, and economic recovery	Ensure sufficient refining, import, storage, and logistics infrastructure to support economic growth
Green Fuels & Low-Carbon Transition Scenario	Assesses the gradual introduction and scaling of biofuels, Sustainable Aviation Fuel (SAF), hydrogen, synthetic fuels, and cleaner fuel technologies	Develop future fuels strategy, infrastructure readiness, emissions reduction pathways, and green industrial opportunities
Infrastructure Failure & Logistics Disruption Scenario	Models the impact of major pipeline failures, port congestion, refinery shutdowns, rail disruptions, cyberattacks, or sabotage	Improve system redundancy, infrastructure resilience, and contingency logistics planning
Climate & Extreme Weather Risk Scenario	Assesses the impact of floods, droughts, storms, heatwaves, and climate-related disasters on petroleum infrastructure and supply chains	Climate-proof strategic infrastructure and strengthen disaster response mechanisms
Market Volatility & Price Shock Scenario	Models severe crude oil price fluctuations, exchange rate instability, and international market volatility	Develop pricing stabilisation mechanisms and consumer protection interventions
Regional Integration & SADC Energy Cooperation Scenario	Evaluates opportunities for regional petroleum infrastructure integration and cross-border fuel security cooperation within SADC	Strengthen regional supply corridors, shared reserves, and regional energy trade partnerships

PHASE 3: POLICY & REGULATORY DESIGN (2026-2027)

Phase 3 translates the planning evidence into targeted policy, regulatory, and institutional reforms.

Phase 3: Policy, Regulatory & Institutional Reform Design		
Strategic Objectives		
1. Align petroleum legislation, regulation, institutional arrangements, and market frameworks with the strategic objectives of the Petroleum Sector Development Plan (PSDP) 2. Remove structural, regulatory, infrastructure, and investment barriers affecting national fuel security, sector competitiveness, industrialization, and long-term resilience 3. Establish a modernized, transparent, investment-friendly, and transformation-oriented petroleum regulatory environment		
POLICY FOCUS AREAS		
No.	Policy Focus Area	Policy Explanation / Strategic Intent
1	Fuel Pricing & Market Reform	Modernise fuel pricing to improve transparency, affordability, efficiency, and market stability, while reducing volatility and pricing distortions across the value chain.
2	Strategic Stockholding & Energy Security Policy	Establish mandatory strategic fuel stockholding obligations for industry and government to strengthen national fuel security and emergency preparedness. Develop national reserve targets, contingency supply mechanisms, and emergency response protocols to mitigate supply disruptions and geopolitical shocks.
3	Petroleum Licensing & Regulatory Modernisation	Streamline petroleum licensing, compliance, and approval processes to reduce delays, eliminate regulatory fragmentation, and improve investor confidence. Introduce digitized licensing systems, automated compliance monitoring, and integrated regulatory coordination mechanisms.
4	Refining, Processing & Industrialization Policy	Develop policy interventions supporting refinery rehabilitation, modular refinery development, petrochemical expansion, and domestic fuel processing capability. Promote industrialization, beneficiation, localization, and value-chain development in the downstream petroleum sector.
5	Cleaner Fuels & Energy Transition Framework	Establish policy pathways supporting low-carbon fuels, including biofuels, Sustainable Aviation Fuel (SAF), hydrogen, synthetic fuels, and cleaner fuel specifications. Align petroleum sector development with climate commitments, emissions reduction objectives, and the Just Energy Transition framework.
6	Petroleum Infrastructure Investment & Financing Framework	Introduce fiscal, regulatory, and financing incentives to accelerate investment in strategic petroleum infrastructure, including ports, pipelines, storage, refineries, rail, and logistics corridors.
7	Market Competition, Compliance & Enforcement Reform	Strengthen market oversight, anti-collusion enforcement, compliance monitoring, and regulatory enforcement mechanisms. Enhance inter-agency coordination to combat illegal fuel trade, smuggling, tax evasion, fuel adulteration, and anti-competitive conduct.
8	Transformation, Inclusion & Localization Framework	Advance inclusive economic participation through strengthened black economic empowerment, women and youth participation, SME development, supplier localisation, and township fuel economy initiatives. Promote equitable participation across the petroleum value chain.
9	Institutional Governance & Intergovernmental Coordination	Clarify institutional mandates, strengthen interdepartmental coordination, and improve alignment between national, provincial, municipal, and SOE regulatory systems. Establish integrated mechanisms for governance, reporting, oversight, and implementation coordination in the petroleum sector.
10.	Accelerated Upstream Exploration and Production Development	Promote and incentivise the active exploration and production of oil and gas to enable the country to improve its energy security, reduce balance of payments, increase economic development and industrialisation, and create sustainable jobs

PHASE 4: INFRASTRUCTURE & INVESTMENT PLANNING

Strategic Objectives		Expected Outputs
1. Prioritise strategic petroleum infrastructure essential to fuel security and economic resilience 2. Align public and private investment sequencing to support long-term sector development, logistics efficiency, and industrialisation		1. National Petroleum Infrastructure Masterplan 2. Petroleum infrastructure investment pipeline and financing framework 3. SOE infrastructure alignment and capital investment plan 4. Strategic logistics resilience and redundancy framework 5. Prioritised implementation sequencing linked to the costing framework and funding options
Priority Infrastructure Areas		
Infrastructure Area	Strategic Objective	Strategic Focus / Intended Outcome
Strategic Fuel Storage Infrastructure	Emergency fuel security	Expand strategic and commercial storage to increase reserve cover, strengthen preparedness, and reduce supply risk.
Ports & Terminal Infrastructure	Import resilience	Upgrade terminals, berth capacity, and marine logistics to improve import reliability, reduce congestion, and strengthen supply resilience.
Pipeline Infrastructure	Inland distribution security	Expand and modernise petroleum pipeline networks to improve inland fuel distribution efficiency, reduce supply bottlenecks, and strengthen system redundancy
Rail Logistics Infrastructure	Reduced road dependence	Improve rail-based petroleum transportation capacity to reduce overreliance on road freight, lower logistics costs, and improve fuel transport resilience
Refining & Processing Infrastructure	Domestic processing capability	Support refinery rehabilitation, refinery development, and downstream processing capacity to strengthen domestic fuel production and industrialization
Transition Fuel Infrastructure	Future fuels readiness	Develop enabling infrastructure for biofuels, Sustainable Aviation Fuel (SAF), hydrogen, synthetic fuels, and other low-carbon fuel technologies to support long-term energy transition objectives
Exploration and Production of Oil & Gas	Energy Security	Develop a framework to incentivize accelerated investment in the exploration and production of oil and gas

PHASE 5: STAKEHOLDER CONSULTATION & SOCIAL COMPACTING

Strategic Objectives	Expected Outputs
1. Build broad national consensus and stakeholder alignment on the Petroleum Sector Development Plan (PSDP) 2. Strengthen transparency, institutional coordination, social compacting, and implementation support across the petroleum value chain	1. Stakeholder consultation and engagement report 2. Socio-economic impact assessment report 3. Public comment consolidation and integration report 4. Social compact and implementation support framework 5. Finalisation, approval support, and knowledge transfer package
Key Stakeholders	

Stakeholder participation is essential to strengthen legitimacy, coordination, and implementation readiness across the petroleum value chain.

Stakeholder Category	Strategic Role in PSDP Development
National Government Departments	Provide policy alignment, regulatory coordination, fiscal support, and sector governance inputs
State-Owned Entities (SOEs) & Regulators	Support infrastructure planning, regulatory oversight, strategic reserves management, and operational delivery.
Petroleum Industry Participants	Provide industry data, investment insights, operational expertise, and implementation capability
Organised Labour	Support workforce transition planning, labour stability, skills development, and social protection measures
Provincial Governments & Municipalities	Coordinate land use planning, local approvals, infrastructure integration, and regional implementation support
Academia & Research Institutions	Provide technical research, modelling support, innovation insights, and evidence-based policy recommendations
Civil Society & Community Stakeholders	Contribute public-interest perspectives relating to affordability, environmental sustainability, inclusion, and social impact
Development Finance Institutions (DFIs)	Support project financing, blended finance structures, infrastructure investment, and transition funding mechanisms

5A. PROJECT DELIVERY MODEL AND PROCUREMENT OF AN INDEPENDENT INDUSTRY EXPERT

5A.1 Evaluation Criteria

Requirement Area	Minimum Expectation
Technical Expertise	Demonstrated expertise in petroleum markets, downstream infrastructure, fuel security, regulation, and energy transition impacts
Strategic Planning Capability	Ability to develop sector strategies, implementation roadmaps, institutional options, and policy reform proposals
Analytical Capability	Proven capacity for demand forecasting, scenario modelling, financial and economic analysis, and risk assessment
Stakeholder Facilitation	Experience in facilitating engagements with government, regulators, industry, labour, and affected stakeholders
Governance and Integrity	Independence from material conflicts of interest, ability to sign confidentiality undertakings, and willingness to disclose relationships across the sector
Project Management	Structured workplan, milestone tracking, quality control, reporting discipline, and ability to deliver within approved timeframes

5B. ILLUSTRATIVE PROJECT PLAN AND IMPLEMENTATION SCHEDULE

Workstream	Indicative Timeline	Main Deliverables	Lead Responsibility
Baseline and Diagnostics	Week8-10	Baseline assessment, risk and vulnerability analysis, infrastructure and market diagnostics, and inception technical report	Independent service provider under Departmental oversight
Scenario Modelling and Options	Months 11-14	Demand forecasts, scenario outputs, strategic options, and interim policy and infrastructure recommendations	Independent service provider and technical working group
Drafting and Consultation	Months 14-19	Draft PSDP, consultation materials, stakeholder workshop outputs, and comment matrix	Department and independent service provider
Finalisation and Approval Support	Months 20-25	Final PSDP, approval memoranda, executive presentation material, and implementation roadmap	Department with service provider support
Close-Out and Handover	Month 26-30	Knowledge transfer, final datasets and models, close-out report, contract completion certificate, and institutional repository of methods, assumptions, and planning tools	Department and SCM

5C. KEY CONTROL MEASURES FOR THE APPOINTMENT AND MANAGEMENT OF THE SERVICE PROVIDER

- Use a clearly defined Terms of Reference with milestone-based deliverables, acceptance criteria, and reporting obligations.
- Require full declaration of interests by bidders and key experts to manage real, potential, or perceived conflicts of interest.
- Keep specification, evaluation, adjudication, and contract management roles separate to strengthen governance and reduce process risk.
- Link payments to approved deliverables, documented performance reviews, and quality assurance sign-off.
- Maintain a project issue log, risk register, and change-control process for scope, timeline, and budget adjustments.
- Ensure all datasets, models, working papers, presentations, and final outputs are handed over to the Department at contract close-out.

6. STRATEGIC PILLARS OF THE PSDP

Pillar	Strategic Objective
Pillar 1: Fuel Security & Strategic Stockholding	Protect the national fuel supply
Pillar 2: Infrastructure & Logistics Resilience	Eliminate bottlenecks and single-point failures
Pillar 3: Refining & Industrialisation	Promote domestic value addition
Pillar 4: Market Reform & Competition	Improve efficiency and transparency
Pillar 5: Regulatory Modernisation	Accelerate approvals and compliance
Pillar 6: Transformation & Skills Development	Promote inclusive participation
Pillar 7: Energy Transition & Cleaner Fuels	Future-proof the sector
Pillar 8: Security & Risk Management	Protect strategic infrastructure
Pillar 9: Information management and decision support environment	Evidence-based and proactive management of the Oil and Gas sector

6. GOVERNANCE ARCHITECTURE

6.1 National Petroleum Sector Steering Committee

Chair

Department of Minerals and Petroleum Resources

Members

- National departments
- SOEs
- Regulators
- Industry representatives
- Security cluster
- DFIs
- Labour representatives

Functions

- Policy coordination
- Infrastructure prioritisation
- Risk mitigation oversight
- Investment coordination
- Crisis response management

7. INVESTMENT & FINANCING FRAMEWORK

Funding Sources

- National fiscus
- PPPs
- Infrastructure bonds
- Green finance instruments
- Development finance institutions
- Climate transition financing

Investment Priorities

Investment Area	Priority Allocation
Logistics infrastructure	High
Strategic reserves	High
Refining & industrialisation	High
Cleaner fuels	Medium–High
Transformation funding	Medium

Policy / Legal/Regulatory Priorities

Focus Area	Priority Allocation
Regulatory Pricing Reform	High

8. MONITORING, EVALUATION & PERFORMANCE MANAGEMENT

Key Performance Dimensions

Dimension	Key Indicator
Petroleum Products Supply Security	Fuel stock cover days (Nationally and regionally – per supply corridor) Product Import % of Demand (Nationally and per port of entry) Ports of Entry
Infrastructure	Throughput and downtime
Economic Impact	Jobs and investment GDP Contribution
Market Efficiency	Pricing stability
Transformation	SME participation
Sustainability	Emissions intensity & tax revenue

9. POLICY & LEGISLATIVE ALIGNMENT

The PSDP shall align with:

- Petroleum Products Act;
- National Energy Act;
- Gas Act;
- Upstream Petroleum Resources Development Act;
- National Development Plan (NDP);
- Integrated Resource Plan (IRP);
- Just Energy Transition Framework;
- Paris Agreement commitments;
- PFMA and PAJA.

10. EXPECTED NATIONAL OUTCOMES

The Petroleum Sector Development Plan is expected to deliver:

- Improved national fuel security;
- Reduced import dependency;
- Modernised logistics and storage infrastructure;
- Increased exploration & production, domestic refining and industrialisation;
- Stronger market governance;
- Greater transformation and localisation;
- Enhanced resilience against geopolitical and climate shocks; and

- A managed and economically balanced petroleum transition pathway.
- exploration & production,
- Information management and decision support approach for proactive decision making.

11. CONCLUSION

The PSDP establishes a long-term, integrated, and evidence-based petroleum planning framework aligned with the principles and governance approach of the IRP. It provides a coordinated national planning instrument that balances:

- Energy security;
- Economic competitiveness;
- Infrastructure resilience;
- Industrialization;
- Transformation; and
- Climate transition obligations.

The Plan provides South Africa with a structured pathway to a secure, resilient, inclusive, and future-ready petroleum sector through 2050.