



PetroSA

# **Presentation on the 2014/2015 Impairment Report Presented to the Portfolio Committee on Energy**

## **November 2016**





PetroSA

# Introductory Remarks (1/2)

## Our Mandate

Operate as a commercial entity and create value for the shareholder.

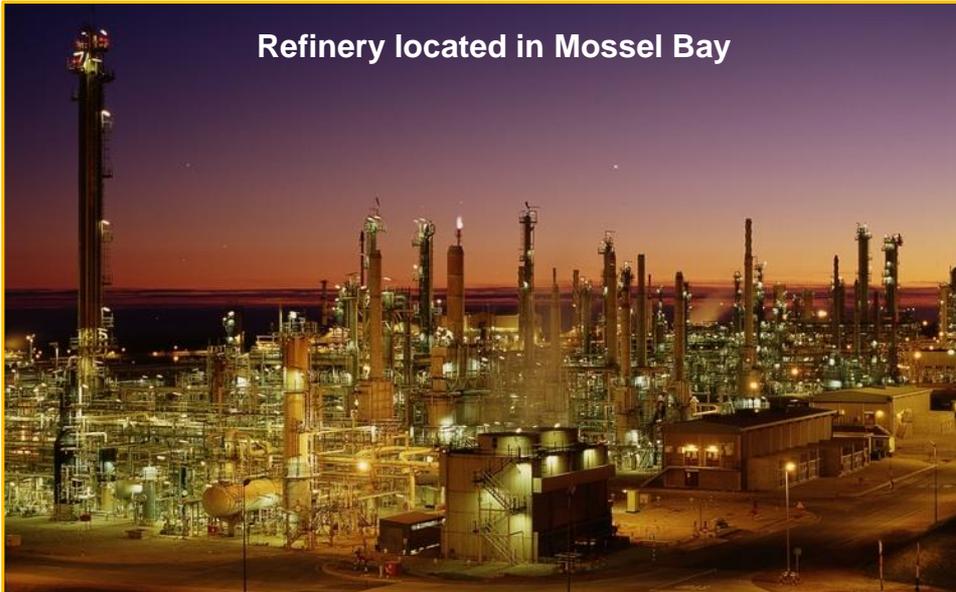
- Ensuring security of energy supply, payment of tax and dividends

Advance national objectives in the petroleum industry

- Supporting economic growth, job creation, spearheading industry transformation

Compliment and promote Government policy and strategic thrust (advance energy goals)

Refinery located in Mossel Bay



## Overview of PetroSA:

- Established in 2002\*
- Employs ~1400 staff.
- Owns one of the world's largest GTL refineries.
- >2 Decades of experience in developing and operating gas infrastructure.
- Business spans the petroleum value chain
- Produces diesel, gasoline, kerosene and specialty products
- Has produced ~70 MMbbl crude oil & more than 1 Tcf of natural gas to date.
- Has upstream presence in South Africa and Ghana.

## Our Core Activities:

- Exploration, development and production of oil and gas.
- Participation in and acquisition of local as well as international upstream petroleum ventures.
- Production of synthetic fuels from gas.
- Development of domestic refining and liquid fuels logistical infrastructure.
- Marketing and trading of oil and petro-chemicals.

\* Established through the merger between Soekor (Pty) Ltd and parts of the Strategic Fuel Fund



## ***Rationale for Ikhwezi Project***

- Gas sourced from Block 9 in South Africa has sustained the Mossel Bay gas to liquid (GTL) operation in South Africa since the early 1990s
- In 2007, the F-O discovery, a field in 160 m of water was chosen as a candidate to tie-back to the F-A platform to sustain the existing GTL refinery operation
- At the time, PetroSA was also focused on a liquefied natural gas (LNG) floating storage regasification unit (FSRU) project to meet GTL operations. These two competing development schemes, an F-O field development project or an FSRU project.
- In February 2010, the LNG FSRU Project was deemed to be uneconomic so development of the F-O field was accelerated as the preferred alternative to supply the GTL facility
- It was estimated in 2010 that the available gas would be depleted by 2013, thus implying closure of the GTL Refinery which is the heart of the Mossel Bay economy and employing over 1800 people at the time
- The Board took a Financial Investment Decision in March of 2011 expecting delivery of first gas in the first quarter of 2013

# Project Ikhwezi Timeline

The last scale and risky project is initiated and the organisation goes about the procurement process after the firming up of potential prospects. Various governance structures are set up with a view of improving the project delivery process and ensure that first gas is landed in **December 2013**.

More resources (both financial and human capital) are further deployed. The Board initiates a number of project reviews to better comprehend the delays and emerging cost overruns. Key milestones are being missed and finding gas is proving a major challenge. The CEF Board also intervenes on a number of levels.

With the underperformance and impairment loss, a number of executives are suspended..

2010

2011

2012

2013

2014

2015

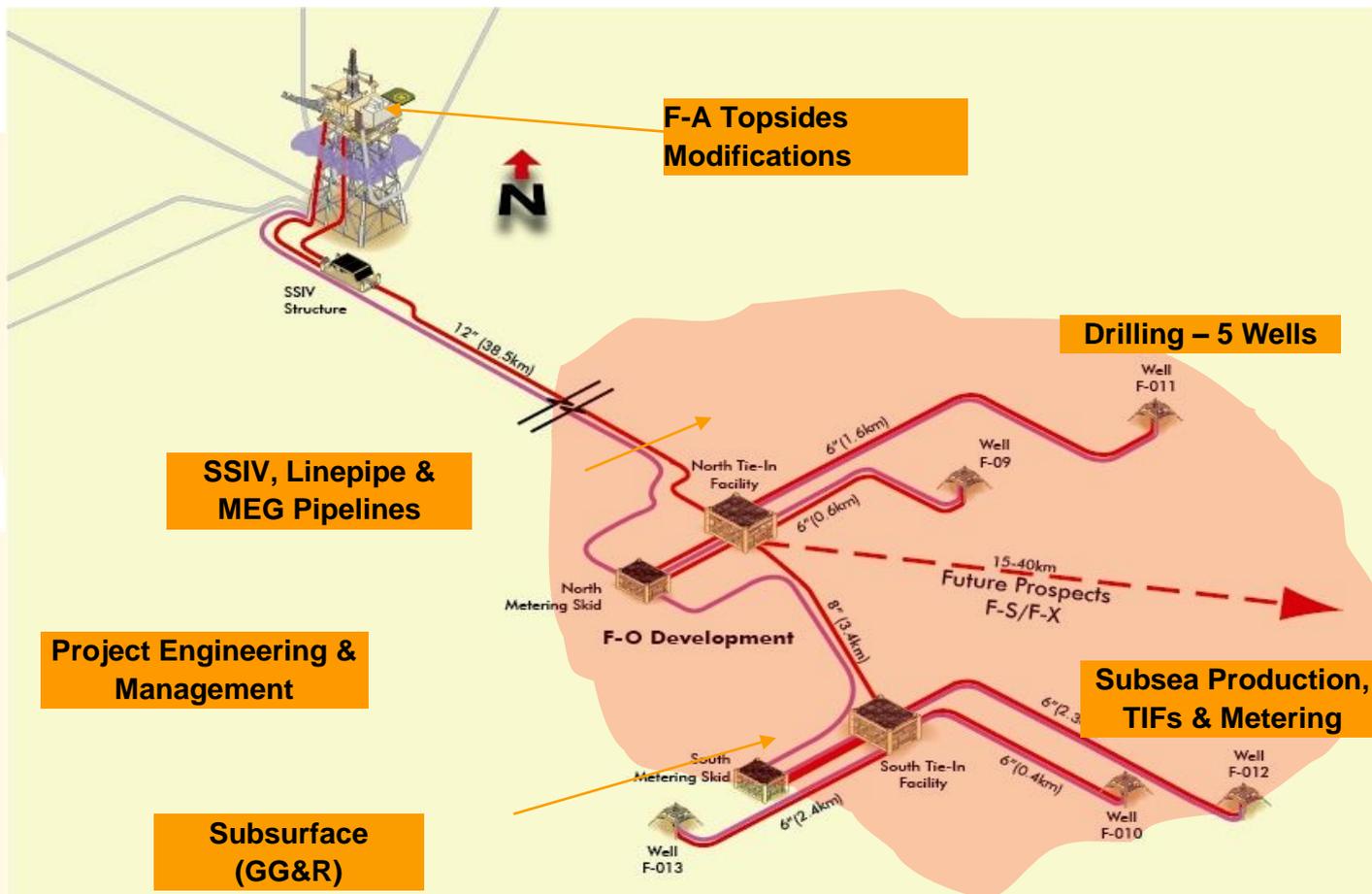
Faced with depleting feedstock challenges and operations running at a 2x1 PetroSA under the leadership of their board embarks on a number of studies to find the best solution to sustain the GTL Refinery. A number of options are considered including using LNG as feedstock. The final decision to drill **5 Wells** in the Block 9 area to find additional gas albeit the inherent risk is chosen as best option. The project is to be funded from own Balance Sheet. Success of the project would also fund future Downstream acquisitions.

A number of challenges begin to emerge with regards to project execution due to the complexity of such a large scale project. Many resources are deployed to improve project delivery. Frequent leadership changes at the Board and Executive level compound the issues of accountability and project ownership.

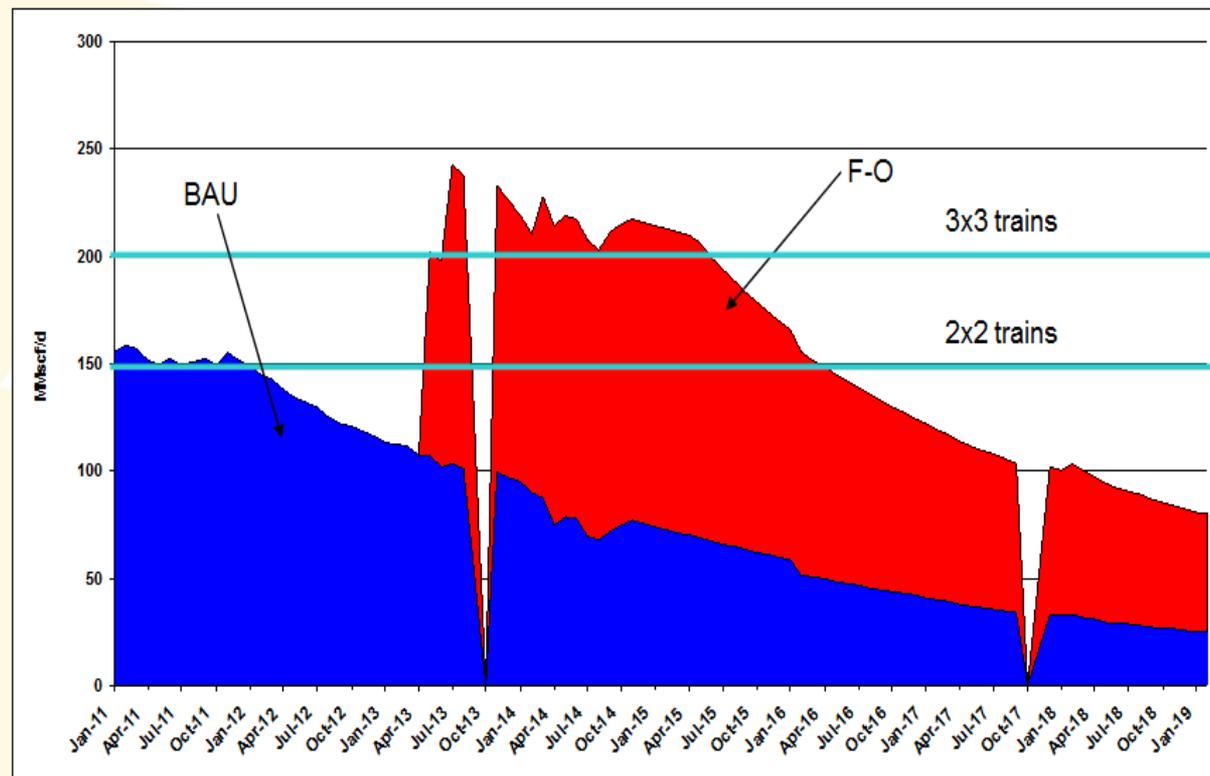
More project delays are experienced. Further technical and forensic reviews are initiated as results are not forthcoming. First gas after numerous delays is only delivered in December 2014.



# ***Scope of Project Ikhwezi***



## Production forecast at the time of project initiation



Expected **volumes**

242Bcf

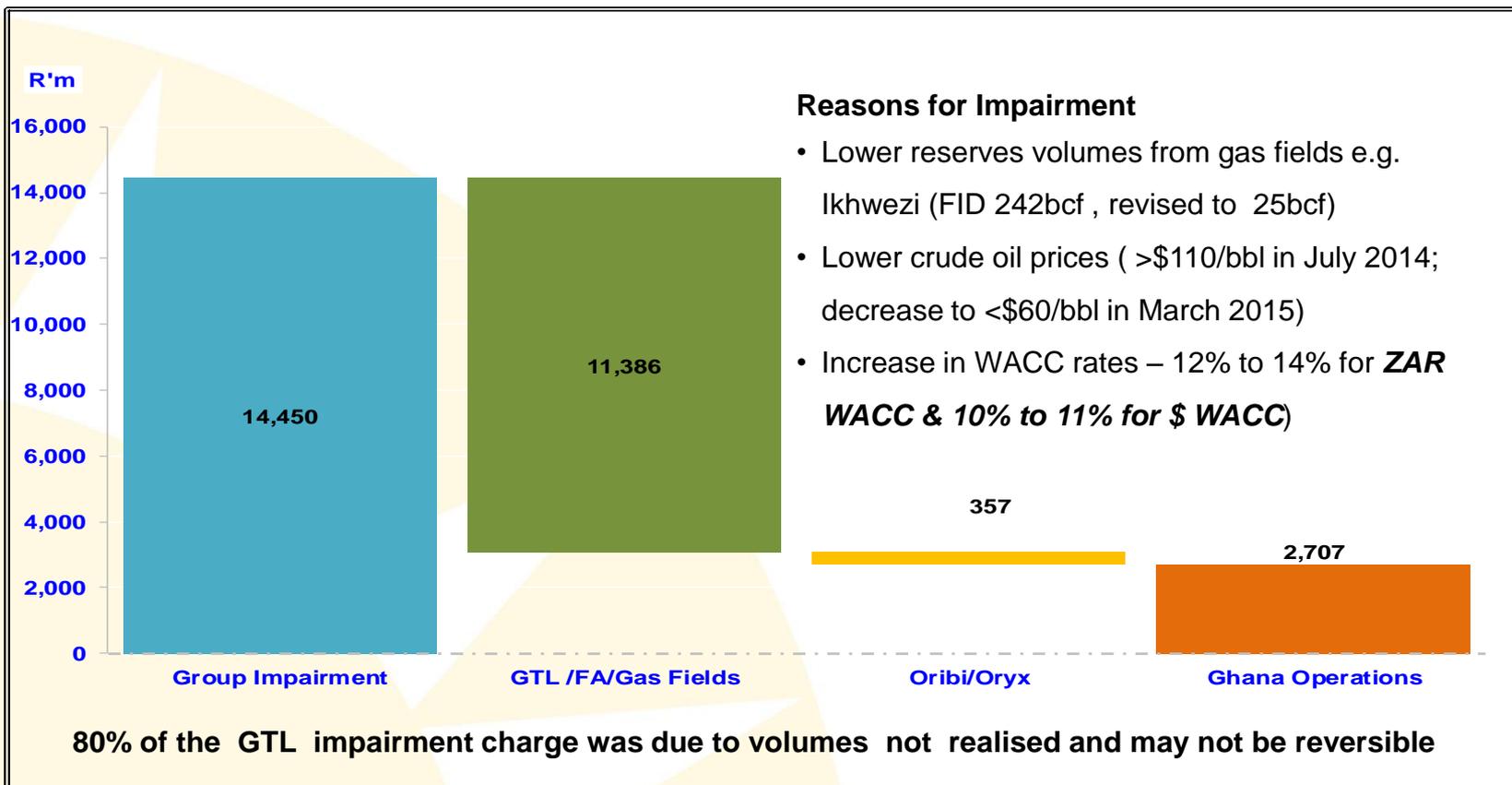
- Without Ikhwezi the gas would have come to the end of commercial operation by the end of 2013
- First Gas from Project Ikhwezi was expected to flow in 2013 and this would have taken the GTL Refinery back to a 3X3 operation
- Gas would have run out in Q1 2019

<b>FINANCIAL COST REPORT ON PROJECT IKHWEZI (FO DEVELOPMENT) MARCH 2010 TO MARCH 2016</b>							
		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	
<b>Object</b>					<b>Forecast Assuming only partial insurance claim USD</b>	<b>Forecast Assuming full insurance claim USD</b>	
<b>Displayed in</b>		<b>Original Budget USD</b>	<b>Budget after transfers USD</b>	<b>Actual @ Ave month rates USD</b>			
6*	WBS N.U.10201.2	Project Planning (FEED)	\$18,850,000	\$18,850,000	\$15,183,576	\$15,183,576	\$15,183,576
		Contingency	\$212,620,000	\$104,747,268	\$0	\$0	\$0
6*	WBS N.U.10201.3	Project Implementation (FID)	\$1,063,309,730	\$1,220,132,732	\$1,188,633,754	\$1,204,551,611	\$1,192,393,061
4*	WBS N.U.10201.3.2.01	Owner Project Management	\$27,314,830	\$0	\$33,614,867	\$33,614,867	\$33,614,867
4*	WBS N.U.10201.3.2.02	Drilling	\$685,824,177	\$0	\$677,864,296	\$677,864,296	\$677,864,296
4*	WBS N.U.10201.3.2.03	Sub Sea Facilities	\$319,679,662	\$0	\$403,518,751	\$419,436,609	\$407,278,059
4*	WBS N.U.10201.3.2.04	Topsides Modificatio	\$20,064,456	\$0	\$66,350,127	\$66,350,127	\$66,350,127
***	WBS N.U.10201.3.2.08	Insurance	\$10,050,012	\$0	\$7,285,713	\$7,285,713	\$7,285,713
<b>TOTAL WELL COST</b>			<b>\$1,294,779,730</b>	<b>\$1,343,730,000</b>	<b>\$1,203,817,330</b>	<b>\$1,219,735,188</b>	<b>\$1,207,576,638</b>

## Project Ikhwezi Key Contracts

	Vendor	Service Provided	Contract Value	Actual Value	Currency
Drilling	Ensco	Drill Rig	277,967,500.00	192,865,207.65	USD
	Transocean	Drill Rig	129,000,000.00	119,995,088.84	USD
	Baker Hughes	Drilling Services	147,570,030.11	113,130,485.17	USD
Subsea	SBM	Subsea installation	90,595,425.00	54,436,857.80	USD
	Allseas	Subsea Pipeline installation	56,660,142.00	53,397,211.85	EUR
	Harkand	Subsea installation	42,000,000.00	77,800,000.00	USD
	Wellstream	Subsea Pipeline manufacture	20,750,000.00	19,884,640.05	GBP
	Jumbo	Subsea installation	17,060,000.00	16,198,521.00	EUR
Topsides	Petrofac	Engineering and Design	5,045,372.50	12,644,189.84	GBP
	Kentz	Topsides Construction	38,885,169.00	146,884,393.18	ZAR

# PetroSA Group Impairment - 2015





# ***Findings of the Technical Investigations***



## Weak Project Management Governance

- Project Execution Model not adhered to due to the urgent need for gas to GTL refinery
- Weak project governance during project development except the FID gate
- Lack of proper Risk Mitigation was implemented (considering that we had mixed project development phases)
- The project was not resourced appropriately
- No walk away trigger points were in place: to ensure it would be clear should a need to stop the project arise (F-O12 case in point).
- Lack of continuity due to high turn over of key resources resulting in a lack of project ownership



## Scheduling Challenges

The project suffered a first gas delay of 21 months (Dec 2014 instead of March 2013)

- The schedule was very tight (30% faster than industry average - IPA)
- The Topsides scope was delayed due to a contractor change
- Drilling Rig 12 months delay, PetroSA missed an opportunity to contract the rig



## Cost Management Analysis

Approved Budget - USD1344 million

- Actual Spend– USD 1220 million
- Out of 5 wells, 4 drilled and producing from 3 wells
  - Not following well plan – subsea infrastructure put ahead of drilling
  - Delay in drilling activities
    - Installation of subsea infrastructure – paying standing time on the vessel
    - Exhausted installation window – 2 new vessels hire



## Lessons Learnt & Way Forward

- Perform proper appraisal before any development is done to properly de-risk the reservoir
- Projects should not be fast-tracked because this does not yield the intended result. Rather do front end loading properly
- Projected Management Framework strengthened with the right gates and approvals
- Change Management to be effective and must be accompanied by impact on schedules, costs, etc.
- The contracting strategy to be changed to a EPCM strategy and reduce the number of contracts.



## Lessons Learnt & Way Forward

## Cont'd

- Project Management culture in the organisation needs to be improved and implementation of the gated framework
- Implementation of Business Continuity Framework and knowledge management part of Risk Mitigation strategies
- Hand Over Assurance at Board and Executive level to ensure continuity
- Group project governance structures (PMAC)
- Partnership strategy approach for future investment decisions and ensuring that we de risk the organisation and cushion our balance sheet



## Conclusions

Based on the findings of this Ikhwezi Close out Report, the following can be concluded:

- The Ikhwezi Project's main failure occurred as a result of low gas volumes compared to what was predicted at FID. This can be attributed to a poor or lack of understanding of the reservoir risk involved in drilling the F-O field
- The project eroded value and the NPV was reduced from **+USD261** million to **-USD785** million
- At FID the gas volumes were estimated to be 242 Bscf and as at the date of this report, the forecast for gas reserves is **46 Bscf**, a **80%** reduction from the FID plan
- The Project was concluded with an impressive safety record and all the SHEQ performance targets were met
- First gas was achieved in December 2014 (21 months later than planned) due to the late arrival of the drilling rig and challenges that were encountered on the Topsides portion of the scope



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# **PetroSA STRATEGIC TURNAROUND PLAN (STP)**

**Please note that this version supersedes any other submission previously made**



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# SETTING THE SCENE



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## Introductory Remarks (2/2)

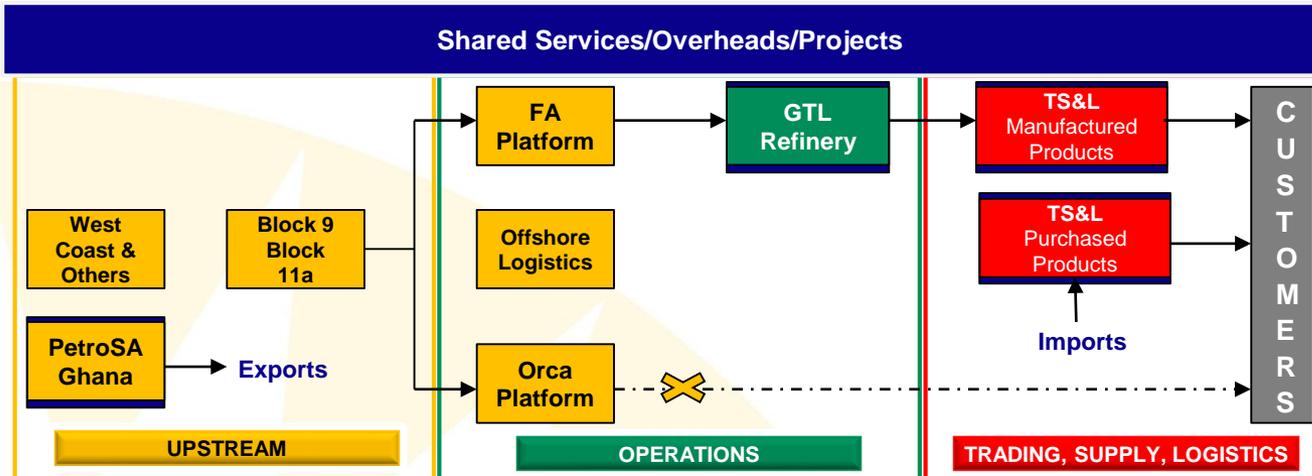
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- PetroSA has continued to deliver on its mandate, by remaining profitable for the greater part of its existence, whilst continuing to play a meaningful role in society.
- Despite its current financial constraints, the company has and continues to excel in Transformation.
- While the formation of entities Soekor and Mossgas were funded through the CEF Levy, no additional State Funding has been granted ever since.
- The company has funded its operations and capital expenditure programs from its own balance sheet – and has never requested Shareholder financial assistance.
- Although the company operates like a National Oil Company (NOC), it is not recognized as such, thus creating several challenges and disadvantages.
- The current financial position of the company hampers its ability to deliver on its mandate.



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# PetroSA's current business model is challenged due to declining feedstock



The GTL Refinery has for many years remained PetroSA's main source of income, supplemented by:

- Trading (TS&L Business); and
- PetroSA Ghana.

- The FA and EM gas fields were discovered in the 1980's , with feedstock estimated to last for **only 20 years (denoting end of life in 2012)**.
- This estimate was significantly revised down by almost half but the Moss gas Project was nonetheless initiated for strategic reasons.
- This alarming reality necessitated continuous costly upstream drilling interventions to augment gas and associated condensate supply to the refinery.
- With declining feedstock, failed projects, high fixed costs and reduced income, the current business model requires an overhaul.



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# We continue to face many challenges.....

<b>1 Operating Environment</b>	Limited access to affordable <b>feedstock</b>	Low <b>oil price</b> environment	Slow global <b>economic growth</b>
<b>2 Leadership and Reputation</b>	<b>Org Structure / Leadership</b> instability	Low morale amongst <b>employees</b>	Poor <b>project execution</b> track record
<b>3 Business Model</b>	Depleted feedstock and <b>Declining Revenue</b> streams	High <b>Fixed Costs</b>	<b>Capital intensive</b> projects
<b>4 Funding</b>	Imminent <b>Decommissioning</b> Liability	<b>Compete "equally"</b> with other IOCs	Lack of Financial/Regulatory <b>Support</b>
<b>5 Competitiveness</b>	Commercial vs. Developmental <b>Mandate</b>	<b>Skills</b> shortages and <b>Limited Market Share</b>	Onerous <b>approval processes</b>
<b>6 General</b>	Lack of oil, gas, logistics <b>infrastructure</b>	Exposed to <b>SHEQ</b> risks	Vulnerability of existing <b>assets</b> e.g. producing wells

*In the absence of external support, PetroSA finds itself on a burning platform with its going concern status under severe threat!*



# Despite these challenges, we have already made strides to stabilize the business:

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- Embarked on a company-wide **cost cutting initiative**, dubbed “BillionPlus” which have already yielded savings;
- We continue to do well on **Transformation** under a very difficult cost containment environment.
- Created a special purpose vehicle in aid of funding the **decommissioning liability**, having set aside funds of R2bn;
- Reduced the **gas throughput rates** to the refinery to a minimum to extend life;
- The recently completed Reserves Audit shows an improvement on the FO **gas reserve projections/**
- Already transitioned to a new refinery operating model, by processing both gas **and larger volumes of imported light crude oil (heavy condensate)** as feedstock;
- Developed a **long-term solution** to convert the GTL refinery into a light crude oil refinery, known as the ECP Project.



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# STRATEGIC TURNAROUND PLAN (STP)



# Overview of the Strategic Turnaround Plan (STP)

Petroleum

1

## Stabilize Income and Operations

- Well Management (LOF; Reduced gas throughput)
- Ramp-up production: (HCP to ECP; PetroSA Ghana)
- Increase Product Sales Income – customer-centric

2

## Contain costs across the organisation

- BillionPlus: company-wide cost savings
- Reduce Feedstock Costs (DIH Revamp, Procurement Strategy, Logistics Infrastructure)
- Improve Organisation/Operational Efficiency

3

## Improve Leadership and Governance

- Appoint competent internal Leadership
- Improve Governance and Project Approval Processes, while managing Risks
- Boost staff morale e.g. ensuring job security, rewarding performance

4

## Re-organisation/Revised Operating Model

- Implement revised organisational structure to deliver on STP by creating Profit Centres

5

## Become a fully-fledged NOC

- Officially recognised in legislation as the NOC with special dispensations e.g. State Participation, Gas Aggregator,

6

## Grow and diversify income streams

- Grow Product Sales Income
- Pursue LNG importation,
- Revised Upstream focus: Oil drilling campaign

7

## Restore and Manage Shareholder/Investor confidence

- Successfully implement the STP
- Develop and Implement a Stakeholder Engagement Plan (i.e. Internal/External)
- Continuous reporting on short-term successes

8

## Revise current Funding Model

- Source external funding: Partnership Strategy
- Legal instruments: State Participation,

9

## Improve SHEQ Performance

- Stricter monitoring and reporting of SHEQ performance
- Thorough investigations and Corrective Measures

10

## Rationalize Corporate Portfolio

- Farm-out Strategy to reduce costs of non-feedstock assets
- Revise portfolio of growth projects



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# PetroSA will stabilise and grow over the next 5 years by:

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1. Transitioning from indigenous natural gas to imported light crude feedstock;
2. Increase refining capacity from 12 k bbls/d to 46 k bbls/d;
3. Expanding downstream presence and migrate to commercial customers as part of customer mix;
4. Continued financial stability and strengthening of the PetroSA balance sheet.
5. Significant productivity and operational efficiency improvements;
6. Diversification of revenue streams;
7. Reducing annual fixed costs



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# Sustainability Interventions for the GTL R

It is important to note that:

- **Gas Feedstock at an affordable price remains the preferred solution for the Refinery, however this requires large funds to support upstream drilling or serious negotiations with suppliers for favorable supply terms.;**
- Given the current funding constraints and the unaffordability of LNG for the GTL business, a liquid feedstock solution\* has become the alternative.
- The proposed long-term solution for the GTL R therefore includes:
  - Increasing the condensate throughput capacity at the Refinery;
  - Preserving the Gas Loop for utilization when gas becomes available.

*\*The GTL Refinery was designed to process natural gas as primary feedstock, with limited liquid feedstock processing capacity.*



# Towards a New Operating Model

Business units of PetroSA, namely:

- *Upstream,*
- *the GTL Refinery,*
- *Gas Business, and*
- *Downstream*

will be ring-fenced and will be viewed as stand-alone business units, each one accounting on its own revenue and costs. This will require organisational re-alignment.

Key Enablers	<ol style="list-style-type: none"><li>1. Integrated IT Systems and business processes</li><li>2. Market intelligence &amp; Business Development capabilities</li><li>3. Leadership and core resources in the right roles</li><li>4. High Performance organisational culture</li><li>5. Infrastructure</li><li>6. Access to capital</li><li>7. Coherent Value proposition</li><li>8. Seamless governance structures</li></ol>
Delivery Model	<ol style="list-style-type: none"><li>1. Agility</li><li>2. Reliability</li><li>3. Focus</li><li>4. Value add</li></ol>



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# Growth Initiatives

*Whilst the following initiatives remain key national imperatives, PetroSA's portfolio of projects will be rationalized to initially focus on turnaround interventions.*

## Upstream

- Exploration and Production based on PetroSA's funnel of Upstream opportunities
- Execute PetroSA's Partnership strategy
- Participation in Shale Gas and other regional gas projects
- Active participation in Operation Phakisa

## Downstream

- Downstream Market Entry - material presence in the downstream sector to influence policy; contribute to security of supply; become fully integrated and diversify income.
- SFF – to be evaluated in more detail but synergies do exist.

## Gas Business

- Gas Aggregator status – active role in growing the local gas market
- LNG – has already completed Feasibility . Active participation in Operation Phakisa.
- iGas – to be evaluated in more detail but synergies do exist
- Ministerial Determination – Gas to Power initiatives



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# Policy Implementation, Enabling Legislation and Exemptions

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- 1 PetroSA be formally adopted through policy and legislation as the **National Oil Company (NOC) of South Africa**.
- 2 Designated as the custodian of the **State's allocation for all Petroleum Rights** in the amendments of the MPRDA, including free carry.
- 3 Accorded **States interest on Shale** and other unconventional opportunities.
- 4 Be nominated the **gas aggregator** in the Draft Gas Utilisation Master Plan.
- 5 PetroSA to **champion additional Refining Capacity**.
- 6 Support for PetroSA to **enter the Downstream market**.

\*NEMA: National Environmental Management Act



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# **NEXT STEPS AND SUPPORT REQUIRED**



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# Next Steps

Focus Area	2016: October - December	2017: January - March	2017: April - June	Longer term
<b>Portfolio of Sustainability Initiatives</b>	<ol style="list-style-type: none"> <li>1. CEO/CFO/Exco permanent appointments</li> <li>2. Development of new Organisational Structure</li> <li>3. Gas Loop Configuration Rate at a gas rate of 70kNm<sup>3</sup>/hr</li> <li>4. Heavy Condensate Processing 16kbbbl</li> <li>5. Terming of condensate feedstock</li> <li>6. Gov-to-Gov negotiation on condensate feedstock pricing</li> <li>7. Cost Containment</li> </ol>	<ol style="list-style-type: none"> <li>1. Execute Downstream Strategy : Obtain section 54 approval by Minister</li> <li>2. Terming of condensate feedstock</li> <li>3. Cost Containment</li> </ol>	<ol style="list-style-type: none"> <li>1. Heavy Condensate Processing 21kbbbl</li> <li>2. Decision on EBK partner</li> <li>3. Implementation of new Organisational Structure</li> <li>4. Cost Containment</li> <li>5. DIH Revamp Project</li> </ol>	<ol style="list-style-type: none"> <li>1. Enhanced Condensate Processing – Front end loading (FEL) April 2018, Construction mid 2019</li> <li>2. Manage and confine the shutdown cost.</li> <li>3. Cost Containment</li> </ol>
<b>Portfolio of Growth Initiatives</b>	<ol style="list-style-type: none"> <li>1. SFF/iGas Synergy within</li> <li>2. Decommissioning Liability plan</li> </ol>	<ol style="list-style-type: none"> <li>1. Support the process of creating a NOC</li> <li>2. Exemption from specific provisions of the PFMA</li> </ol>	<ol style="list-style-type: none"> <li>1. Asset Optimisation</li> <li>2. Specialty Products (Petrochemicals, Marine Fuels and Lubricants)</li> </ol>	<ol style="list-style-type: none"> <li>1. Finalize Upstream Oil and Gas Bill</li> <li>2. Downstream Acquisition</li> <li>3. Additional Refining Capacity (Mthombo)</li> <li>4. LNG Gas Aggregator</li> </ol>



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**Thank You**