

VENEZUELA'S OIL & GAS INDUSTRY STATUS & INVESTMENT OPPORTUNITIES

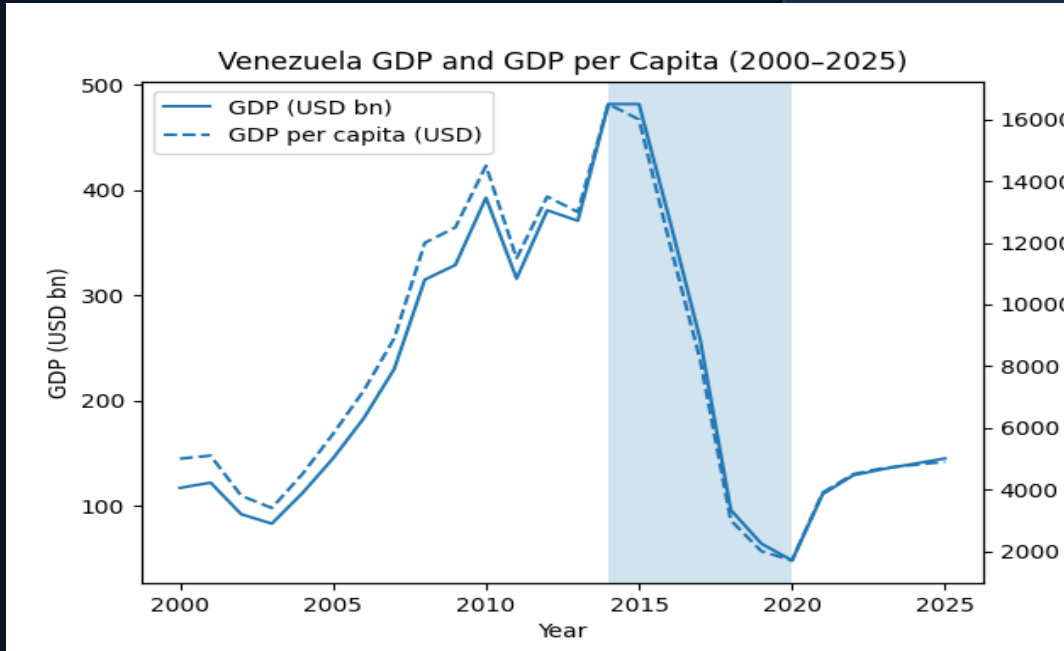
LOST AND FOUND

*Luis A. Pacheco. Baker Institute
OTC, May 2026*



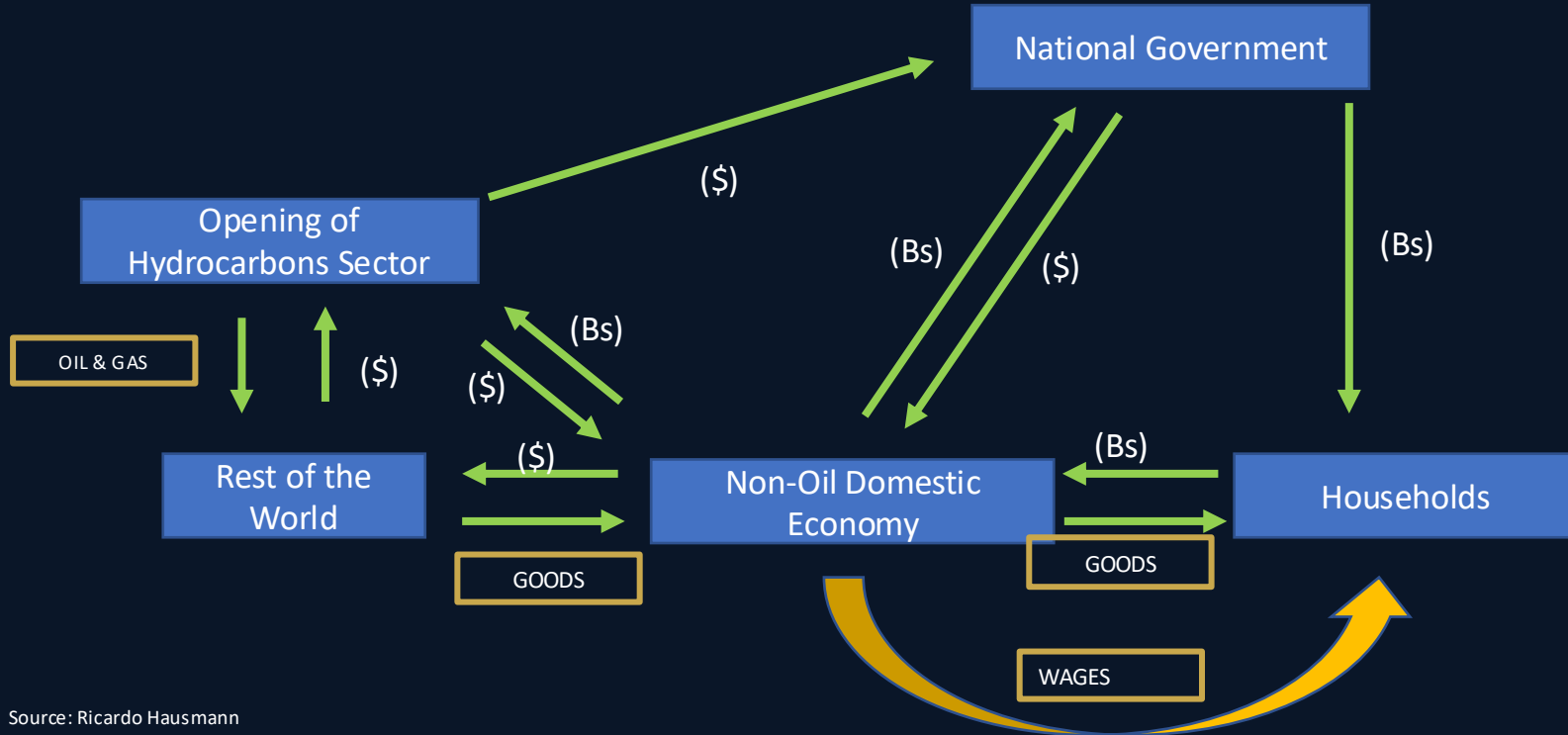
AGENDA

- HOW DOES ONE RECOVER A COUNTRY FROM FAILURE WHEN ITS MAIN SOURCE OF WEALTH HAS BEEN DISMANTLED?

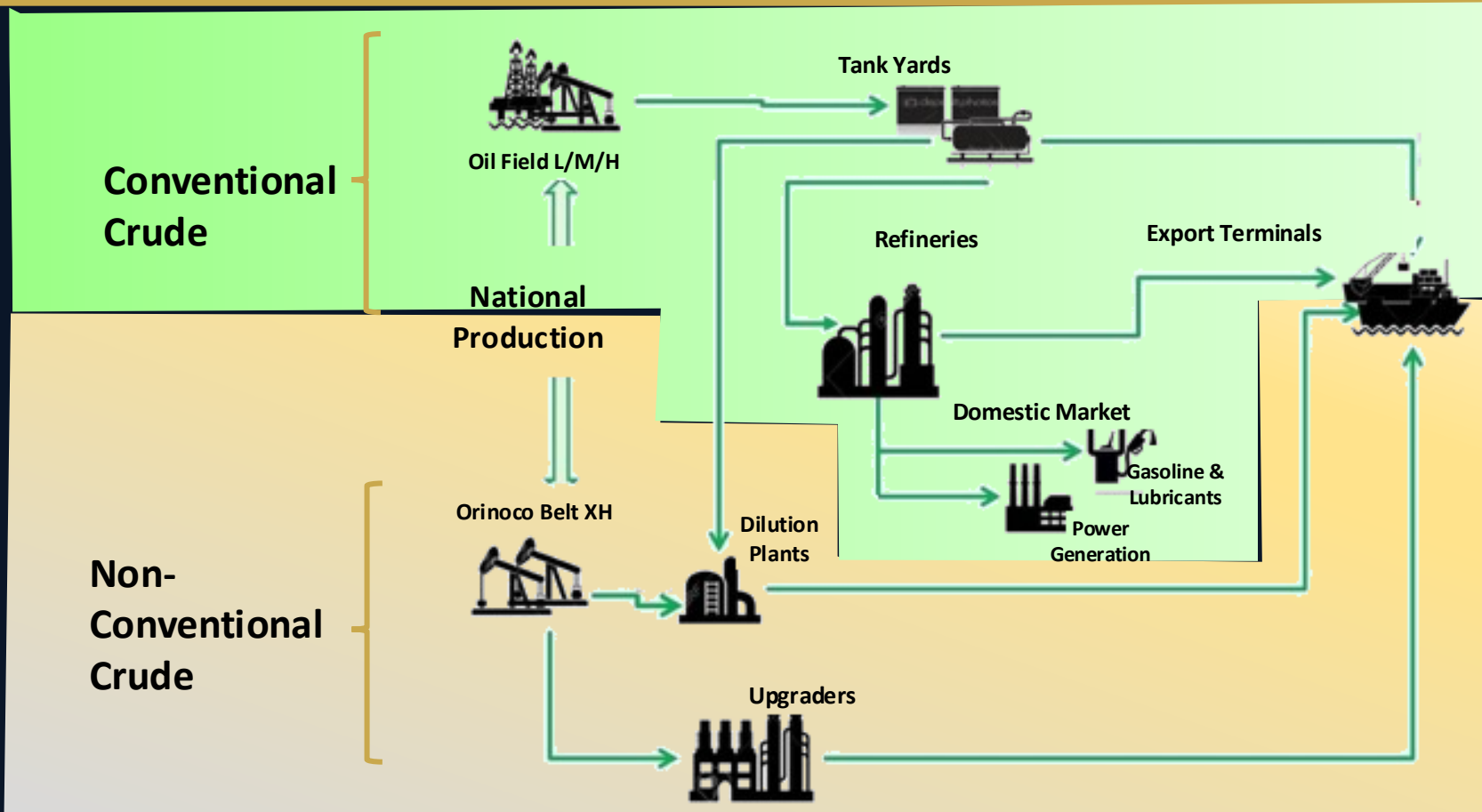


- Severe contraction 2014–2020
- Partial recovery post-2021
- GDP per capita mirrors macro collapse

THE RECONSTRUCTION OF THE VENEZUELAN ECONOMY – A PARTIAL ANSWER



DESIGN OF THE VENEZUELAN OIL SYSTEM



A country-wide brown field – And still an unexplored basin



- Light & Medium Crude
- Heavy & Extra-Heavy Crude
- Gas Development

PRODUCTION HISTORY: DECLINE DESPITE RECORD OIL PRICES



Sources: OPEC secondary sources (Monthly Oil Market Report); World Bank / EIA for Brent.

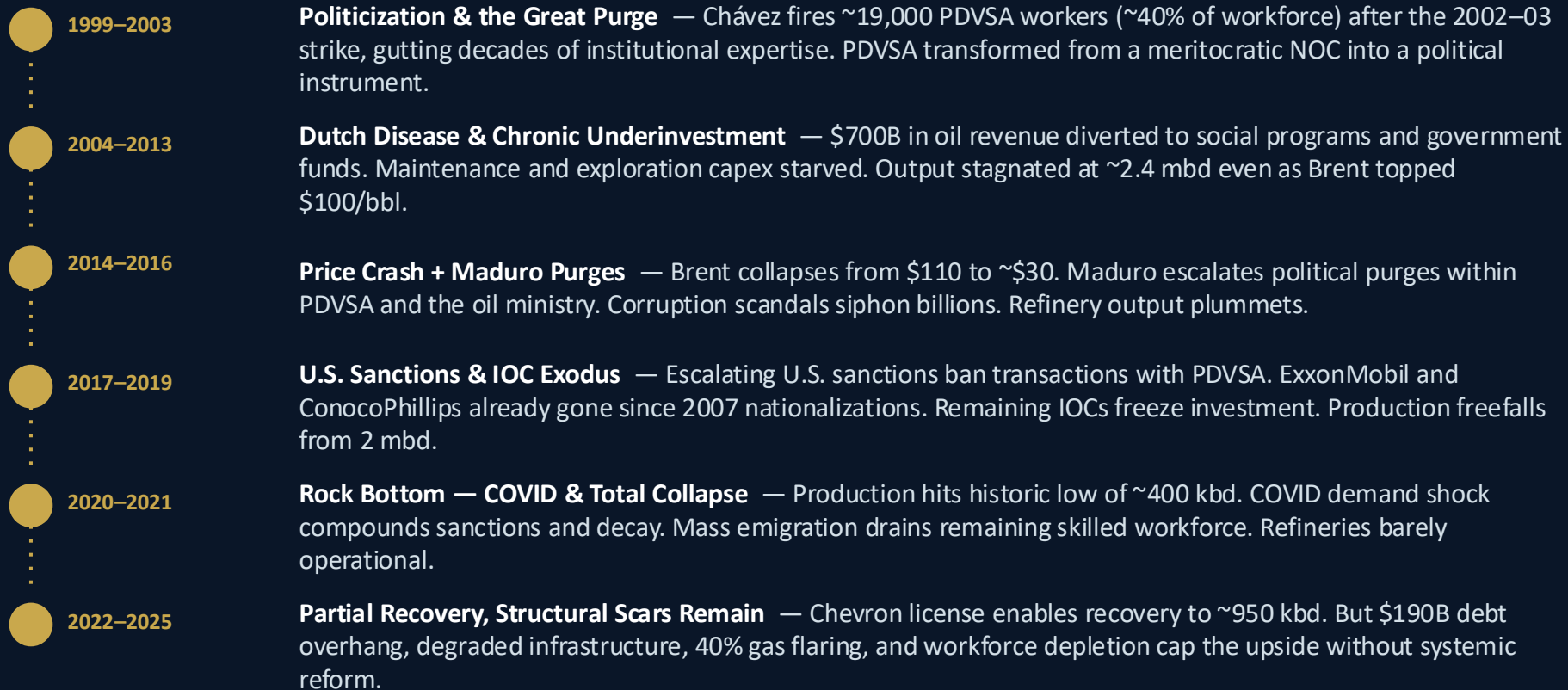
2002–2003 (orange bars): The general strike collapsed production from ~3.0 mb/d to a low of around 2.3 mb/d, with partial recovery afterward.

2014–2020 (deep red bars): The prolonged collapse — driven by underinvestment, US sanctions tightening from 2017–2019, and the COVID crash in 2020 — brought production from 2.5 mb/d down to a historic low of ~0.63 mb/d by 2021.

2021–2026 (gray bars): A partial recovery under relaxed Chevron licenses and higher prices.

The striking paradox visible in the chart is that production continued falling even through the 2011–2014 super-cycle when Brent averaged over \$100/bbl

WHY HAS VENEZUELA LOST 82% OF ITS OIL OUTPUT?



An 82.9% production decline — unprecedented for any oil nation without war or reservoir depletion (IAI, 2021)

CURRENT INDUSTRY STATE: CHALLENGES & BASELINE

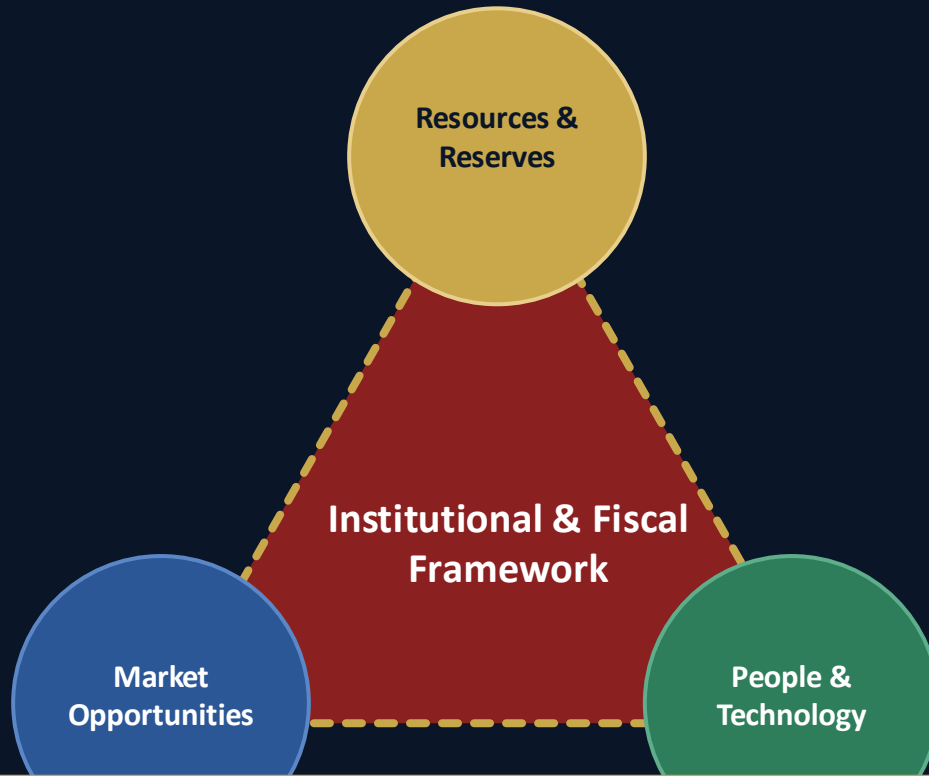
PDVSA — STATE OF THE COMPANY

- Nationalized in 1976; majority-stake required in all JVs
- Effectively bankrupt — ~\$75B in outstanding obligations
- Lost most technical staff during 2002–2003 strike & dismissals
- Infrastructure severely degraded: pipelines, refineries, ports
- El Palito & **CRP** refineries operating well below capacity
- Chevron JV: only active major IOC, ~200 kbd output
- Floating storage of crude being sold under U.S. oversight

KEY METRICS (2025–2026)

Oil Production:	~900 kbd (3.2 mbd in 2000)
Refining capacity:	Well below historical; fuel shortages common
Gas Production:	~ 30 bcm/yr — 100% consumed domestically
Gas Flaring:	~ 30% of output flared/vented (~\$1B/yr loss)
Brent Price:	\$70-110
Proven Reserves:	303 billion barrels (largest globally)
PDVSA Debt:	~\$75 billion outstanding foreign obligations

PILLARS FOR OIL & GAS INDUSTRY RECOVERY



Four Pillars of Recovery

The subsurface resources are only one of the pillars upon which the future of Venezuela's oil and gas industry will be built.

Resources & Reserves: World-class hydrocarbon base in the Orinoco Belt and conventional basins.

Market Opportunities: Proximity to U.S. Gulf Coast refineries and growing Asian demand for heavy crude.

People & Technology: Rebuilding the technical workforce and adopting modern extraction and upgrading technologies.

Institutional & Fiscal: Reforming governance, legal frameworks, and fiscal terms to attract private investment.

Recovery requires all four pillars — resources alone are insufficient without institutional reform, skilled workforce, and market access

Sources: Baker Institute framework analysis; PDVSA strategic planning documents

RESOURCE BASE IS NOT THE ISSUE

#1

Oil Recoverable Resources

303 billion barrels
17% of global total

#7

Natural Gas Reserves

~200 TCF
>60% of Latin America

99%

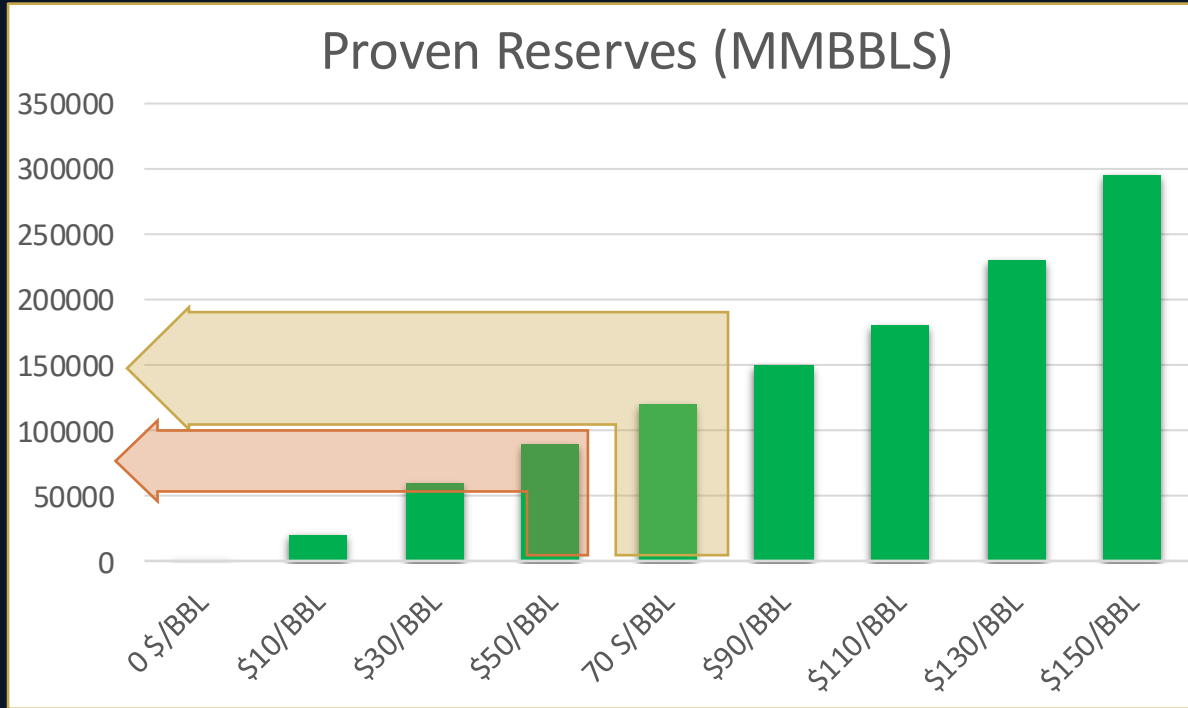
Orinoco Belt

Extra-heavy crude
World's largest deposit

Key Producing Regions

- Orinoco Heavy Oil Belt** — Largest known ultra-heavy oil deposit; Faja del Orinoco; partnered with IOCs via joint ventures
- Maracaibo Basin** — Venezuela's oldest & most developed basin; conventional light/medium crudes
- Eastern Venezuela** — Mature conventional fields; significant gas co-production
- Offshore Gas Field** — Cross-border gas field; key LNG feedstock opportunity for T&T

RESERVES AS A FUNCTION OF PRICE



Proven Reserves (MMBBLs)

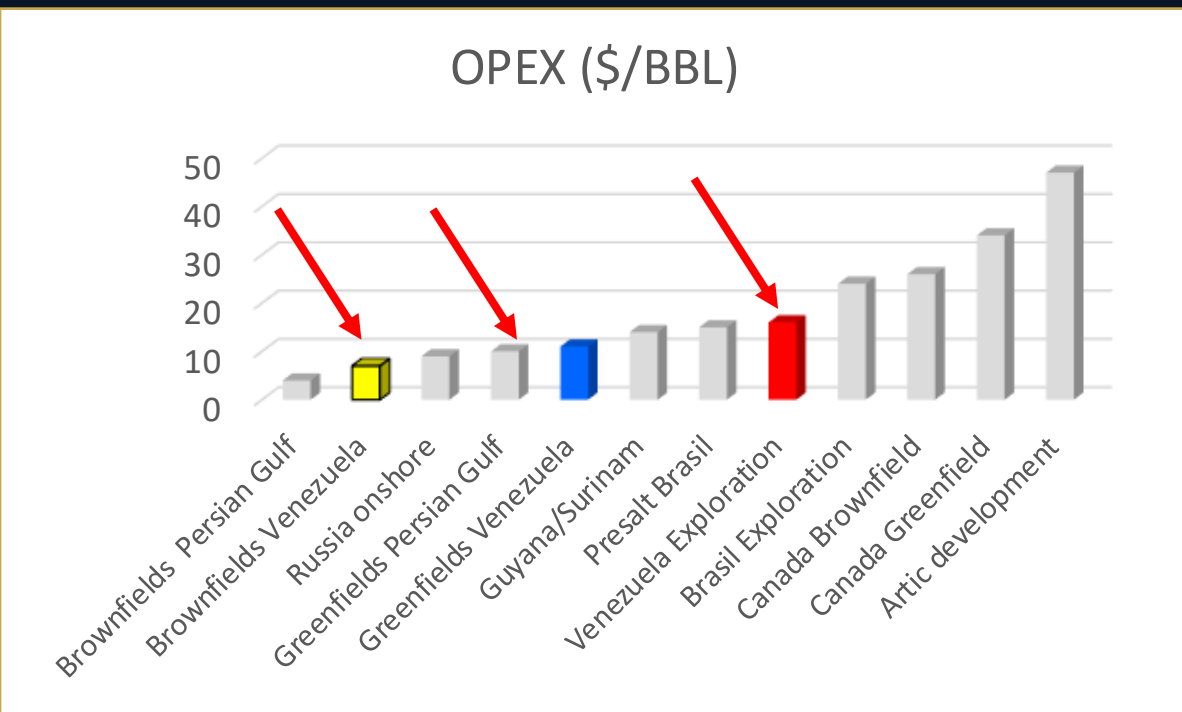
Venezuela's proven reserves are highly price-sensitive. At low prices (\$10–30/bbl), only ~20,000–60,000 MMBBLs of the Orinoco Belt's extra-heavy crude is economically recoverable.

At higher prices (\$90–150/bbl), reserves climb steeply to 150,000–295,000 MMBBLs as upgrading costs become viable.

Key insight: The relationship is non-linear — each \$20 price increment unlocks disproportionately more reserves at the high end, driven by the Orinoco Belt's vast but expensive extra-heavy deposits.

At \$70/bbl, Venezuela's proven reserves reach ~120,000 MMBBLs — rivaling Saudi Arabia and making it the world's largest reserve holder

COMPETITIVENESS: OPERATING COSTS BY REGION (OPEX \$/BBL)



Venezuela's Cost Advantage

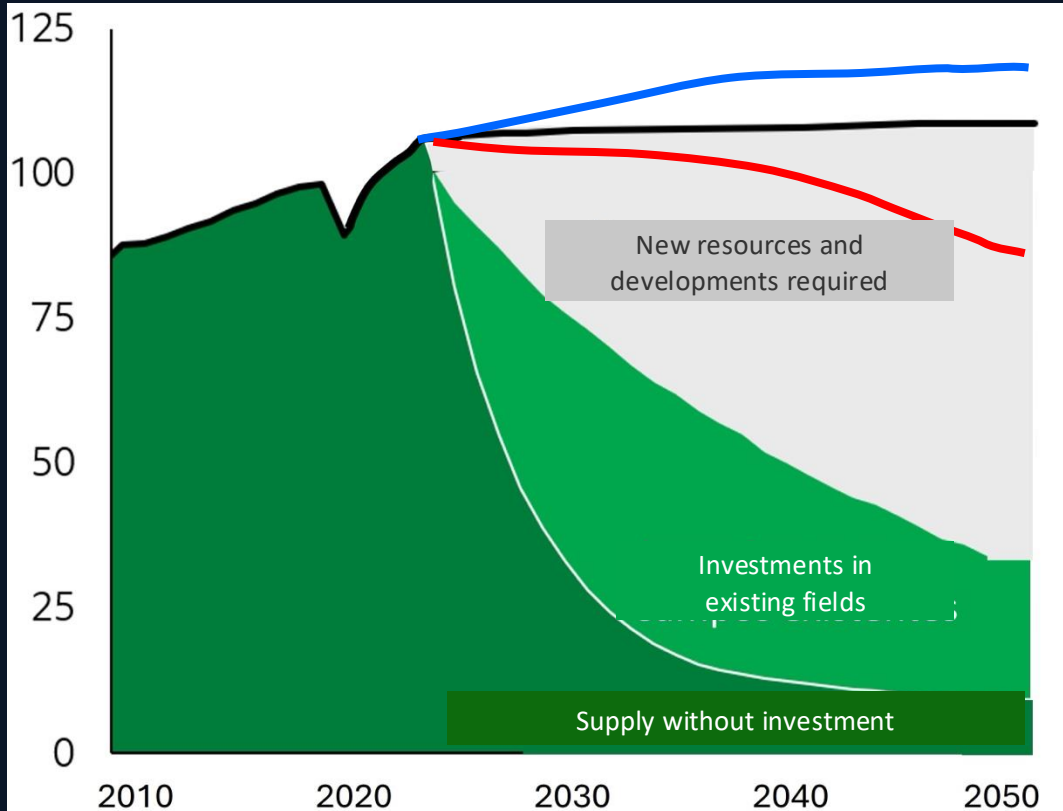
Brownfields (\$7/bbl): Existing fields are among the cheapest to operate globally, second only to the Persian Gulf.

Greenfields (\$11/bbl): New developments still competitive vs. Guyana (\$14), Pre-salt Brazil (\$15), and far cheaper than Canada or Arctic projects.

Exploration (\$16/bbl): Even exploratory costs remain below the global median, underscoring the resource's inherent economic potential.

Venezuela's lifting costs remain globally competitive — the barrier to recovery is not geology or economics, but governance and infrastructure

THE OPPORTUNITY – EVEN BEFORE HORMUZ



OPEC Projection

Exxon Scenario

Extrapolating the Transition

Source: Juan Szabo

THE POLITICAL INFLECTION POINT — JANUARY 2026

● Jul 2024

Maduro declared himself the winner of the disputed election. **International observers condemn the results.** The opposition presents evidence that González won 67% to 30%.

● Jan 2025

Maduro inaugurated for 3rd term despite widespread fraud findings. Biden administration recognizes González as legitimate president-elect.

● Jan 3, 2026

U.S. military operation captures Maduro in Caracas. VP Delcy Rodríguez (also oil minister) assumes acting presidency, signals cooperation.

● Jan 6–7, 2026

Trump announces U.S. will oversee Venezuelan oil sales "indefinitely." Energy Sec. Wright begins work with interim authorities to modernize energy sector.

● Jan 2026+

U.S. sanctions framework under review; OFAC license awarded to Chevron and other IOCs. Reform of Hydrocarbon Law

Venezuela: Ley Orgánica de Hidrocarburos

Reform comparison · LOH 2006 vs LOH 2026 (Gaceta 6.978, 29 Jan 2026)

	LOH 2006	LOH 2026
Operators	PDVSA + mixed companies only (≥51% PDVSA). Private operators from the 1990s apertura forcibly converted in 2006.	MAJOR CHANGE Three tiers: state companies · mixed companies · private companies domiciled in Venezuela. Private hold rights
Royalty	Fixed 30% floor — non-negotiable for all projects.	CHANGED Maximum 30%; Ministry may reduce per project. Floor: 20% (private) / 15% (mixed). Discounts for economics, capital
Tax regime	Impuesto de Extracción (33.3%) + Impuesto Superficial + Impuesto de Consumo + windfall tax on extraordinary prices.	CHANGED Unified Impuesto Integrado de Hidrocarburos (≤15% of gross revenue). eliminated.
Commercialization	PDVSA sole authorised seller of Venezuelan crude in international markets.	NEW Mixed companies & private operators may commercialize production directly with Ministry authorization.
Parliament oversight	AN must approve terms & conditions for mixed companies (Acuerdo AN, Gaceta 38.410, 2006 — now derogated).	WEAKENED AN only notified of authorisations — no approval required. Critics flag reduced legislative control over strategic assets.
Contract stability	Venezuelan courts. International arbitration heavily restricted after Exxon/ConocoPhillips ICSID cases.	NEW Economic equilibrium clause: if fiscal/legal changes harm project economics, Ministry must adjust royalties/taxes.

INVESTMENT LANDSCAPE: KEY PLAYERS & POSITIONS

Company / Entity	Status	Strategic Position
Chevron (USA)	ACTIVE — JV with PDVSA	Only major IOC never to leave; ~240 kbd today; best-positioned to scale up quickly; on-ground staff & geological knowledge
ExxonMobil (USA)	Withdrawn since 2007	Arbitration claim unresolved; strong technical capacity for heavy oil; returning requires claim settlement
ConocoPhillips (USA)	Withdrawn since 2007	Similar situation to ExxonMobil; potential to re-enter Orinoco Belt
Shell / Repsol / ENI	Active	Companies have agreed to go forward with various projects
Chinese NOCs (CNPC, CNOOC)	Significant creditors	Owed billions; future role uncertain under U.S.-managed transition
PDVSA (Venezuela)	State NOC — bankrupt	Constitutionally holds majority in JVs; role likely restructured; minority stake model proposed
U.S. Government	Active overseer	Controlling oil sales; Energy Sec. Wright directly managing transition; sanctions framework under review

THE CENTRAL TENSION – A MIRAGE?

⚠️ THE RISKS

The Resource Curse — Venezuela has had oil booms before; without institutions, elites capture the wealth.

Capital concentrates in Caracas & commercial hubs while the rest of the country stagnates.

Expectations rise faster than institutions rebuild — that asymmetry is politically explosive.

Criminal networks embedded under Maduro remain active, tied to global crime syndicates.

✓ WHAT'S REQUIRED

Reliable electricity, clean water, functional hospitals — visible gains in daily life for ordinary citizens.

Economic growth distributed broadly, not just to insiders and opaque international financiers.

Independent institutions capable of constraining executive power and enforcing the rule of law.

Political recovery must run parallel to economic recovery — the two are inseparable.

STRATEGIC OUTLOOK & CONCLUSIONS

Venezuela's energy sector stands at a pivotal crossroads. The political transition of early 2026, following Maduro's removal, has reopened one of the world's most resource-rich yet underperforming energy markets. The investment case is compelling — but not without significant structural prerequisites.

Near-Term (0–2 years)

01

Chevron to lead initial ramp-up from ~950 kbd to ~1.3–1.4 mbd. Dragon field LNG development is the single most actionable near-term opportunity. U.S. government support reduces execution risk for early movers.

Medium-Term (3–7 years)

02

Full IOC return (ExxonMobil, ConocoPhillips and others) contingent on debt restructuring, clear contract frameworks, and governance reform. Orinoco Belt joint ventures offer largest upside. Target: 2 mbd by ~2032.

Long-Term (8–15 years)

03

With **\$140B in total capex, Venezuela could return to 3.8 mbd by 2040** — restoring late-1990s output levels. Gas sector could unlock \$1–1.5B/yr in new export revenues. This is the "Back to 3 mbd" scenario.

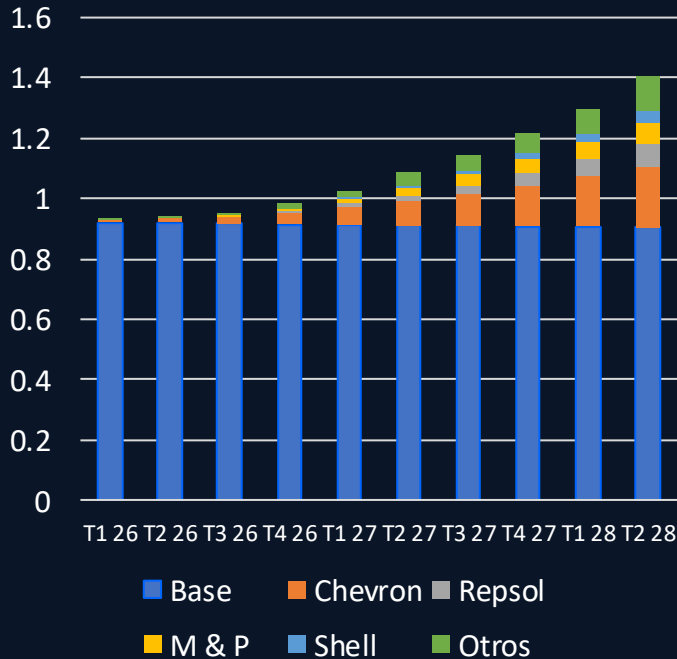
Critical Prerequisites

04

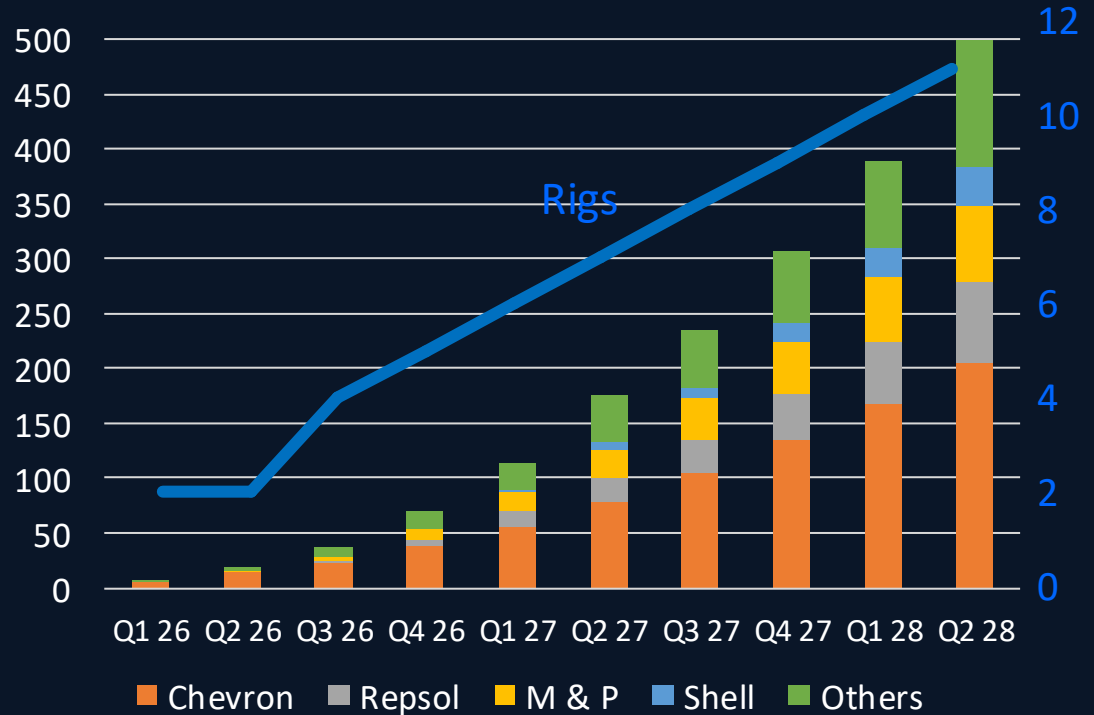
Legal framework reform, PDVSA restructuring, debt resolution, infrastructure investment, and sustained U.S. & multilateral support are non-negotiable for the investment thesis to materialize at scale.

Production Forecast & Rig Count – Lack of clarity stops significant investment

Production Venezuela (MMBPD)

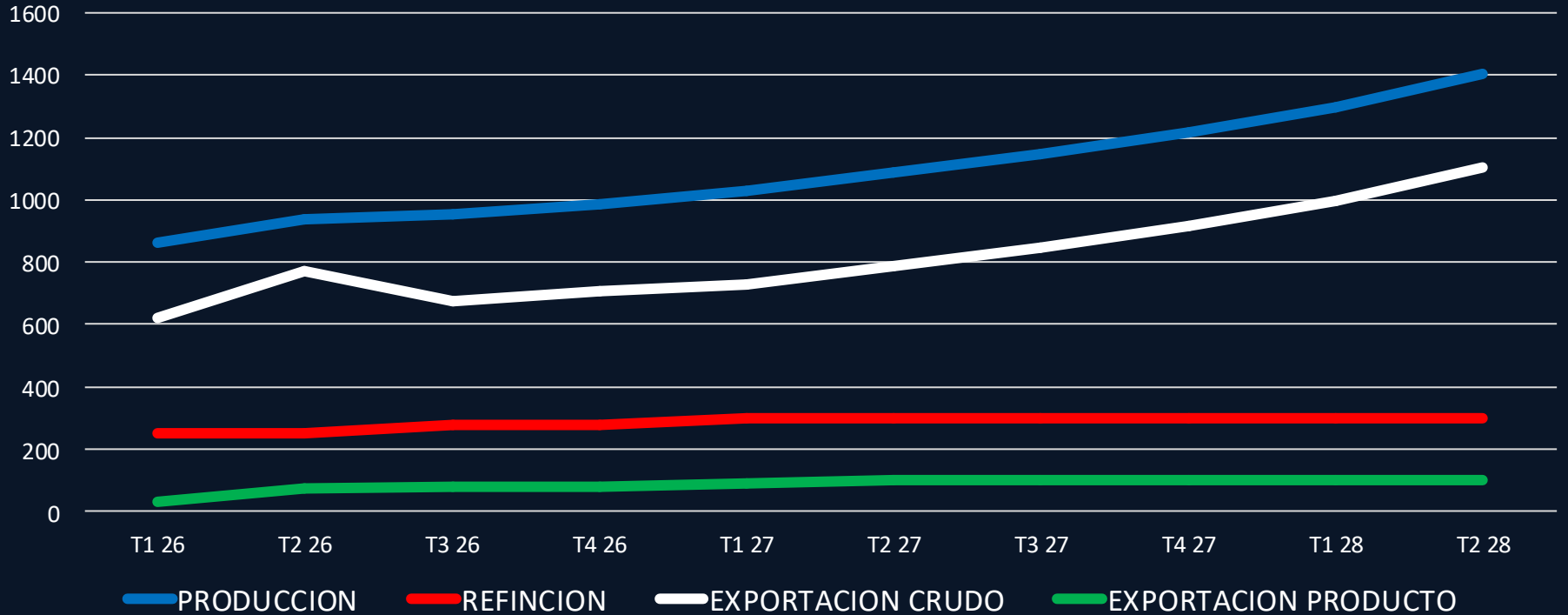


Incremental Production MBPD



Venezuela Summary Outlook

(MBPD)



BUT IS IT ENOUGH
OR EVEN
SUSTAINABLE?