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Venezuela's Oil Renaissance

Investment Opportunity, JV Structure, and the Case for Sustainable Growth

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Executive Summary

The Central risk is not resource size. It is execution sequence.

Venezuela's production collapse was institutional, not geological. Every international analog, from Iraq to Libya, shows that institutional decline can be reversed when capital is deployed through the right structure.

300B+	780 kbpd	2618 kbpd	0.95 yr
Barrels Proven reserves #1 Globally	2024 Actual output 24% of the 1998 peak	Base case by 2037 3.3X Current	Top LHF payback period El Furrial & Santa Barbara

Venezuela holds the world's largest proven oil reserves, yet it produces at a fraction of its potential. This analysis was built on a field-level investment model spanning 134 oil fields across the Orinoco Belt, Eastern Venezuela Basin, and Maracaibo Basin. It shows that a disciplined, phased approach to rehabilitation can yield transformational returns for both private investors and the Venezuelan state.

Our model introduces the Low Hanging Fruit (LHF) concept: a prioritized investment queue that targets fields with the shortest pre-production timelines, highest confidence factors, and lowest capital intensity per incremental barrel. Under the Base Case scenario (Brent $75/bbl), the top five LHF fields alone can deliver 185 kbpd of incremental production, $5.0B in total capital deployed, and payback periods as short as 0.95 years.

KEY FINDINGS

1. **Proven assets should come first.** The best near-term opportunities are fields with stronger data, existing infrastructure, and shorter paths to production and cash flow.
2. **Phased entry is the lower-risk model.** The top five LHF fields could add 185 kbpd with $5.0Bn in capital; the top two show payback in under a year.
3. **Eastern Venezuela is the best starting point.** It offers a faster operational restart than the Orinoco Belt and can generate earlier cash flow to support later expansion.
4. **Delays must be built into the base case.** A realistic path to first oil includes 26 months of diligence, negotiation, and mobilization before production starts.
5. **Infrastructure is core, not ancillary.** Depending on the basin, roads, power, water systems, and gas processing can account for 30% to 52% of total spend.

— SECTION 01

The Reserves Argument

> *"Venezuela holds over 300 billion barrels of proven reserves. The geology is extraordinary. The infrastructure is not."*
>
> — Christian Salles, PreScouter

Venezuela's Orinoco Belt alone contains an estimated 1.2 trillion barrels of original oil-in-place, with proven reserves exceeding 300 billion barrels, surpassing Saudi Arabia. Yet in 2024, production languished at under 800 kbpd, a fraction of the 3.3 million bpd peak reached in 1998. The collapse was not geological. It was institutional, financial, and operational.

Figure 1. Venezuela's key oil basins and field locations. Bubble size = risk-adjusted peak production potential. Eastern Venezuela fields show confidence factors of 0.85–0.95, the highest in the model. Source: PreScouter's Venezuela Oil Investment Model (2026).

Three distinct producing basins define Venezuela's oil landscape. The **Orinoco Belt** contains the largest volumes but requires investment in upgrading for its extra-heavy crude (API 8-12). The **Eastern Venezuela Basin** (e.g., Oficina Trend, Monagas-Maturin) contains light-to-medium crudes ideally suited for near-term rehabilitation. The **Maracaibo Basin,** once Venezuela's crown jewel, hosts fields such as Lagunillas and Bachaquero that are still producing at reduced rates and are prime candidates for LHF investment.

> *"The ramp logic is execution-driven, not a reservoir system constraint. The rock is still there."*
>
> — Dr. Gregory Mwenketishi CEng MEI

The model incorporates confidence factors and uptime adjustments derived from basin-level historical performance data, peer-country rehabilitation analogs (Iraq, Libya), and expert assessment. Fields in the Eastern Venezuela Basin carry confidence factors of 0.85–0.95, reflecting strong reservoir characterization data and existing infrastructure. Orinoco fields carry lower confidence initially, rising as ramp-up milestones are met.

— SECTION 02

The Investment Model

> *"We built this model to answer one question: where should the first dollar go?"*
>
> — Christian Salles, PreScouter

The Venezuela Oil Investment Model assesses 134 oil fields under three scenarios: Conservative, Base Case, and Aggressive. For each field, the model applies distinct ramp-up timelines, royalty structures, and confidence adjustments per basin and tier classification.

The model was designed to be conservative by default, with upside scenarios clearly labeled and sensitivity-tested. It also identifies a first wave of priority fields, Low Hanging Fruit (LHF), defined by shorter paths to first production, stronger confidence in recoverability, and lower capital intensity per incremental barrel.

Model Specifications

Parameter	Base Case	Range (Conservative – Aggressive)
Fields evaluated	134 individual fields	134 (all scenarios)
Brent oil price	$75 / bbl	$55 – $100 / bbl
Pre-production timeline	26 months (Base)	20 – 36 months
Royalty rate	20.0%	16.7% – 25.0%
PDVSA carried interest	15.0%	10.0% – 20.0%

The pre-production phase is one of the model's most important innovations. Rather than assuming an immediate production start, the model explicitly sequences three mandatory milestones: **Due Diligence** (8 months), **Government Negotiation** (12 months), and **Equipment Mobilization** (6 months), totaling 26 months under Base Case assumptions. This timeline is consistent with best-practice field rehabilitation in comparable geopolitical environments.

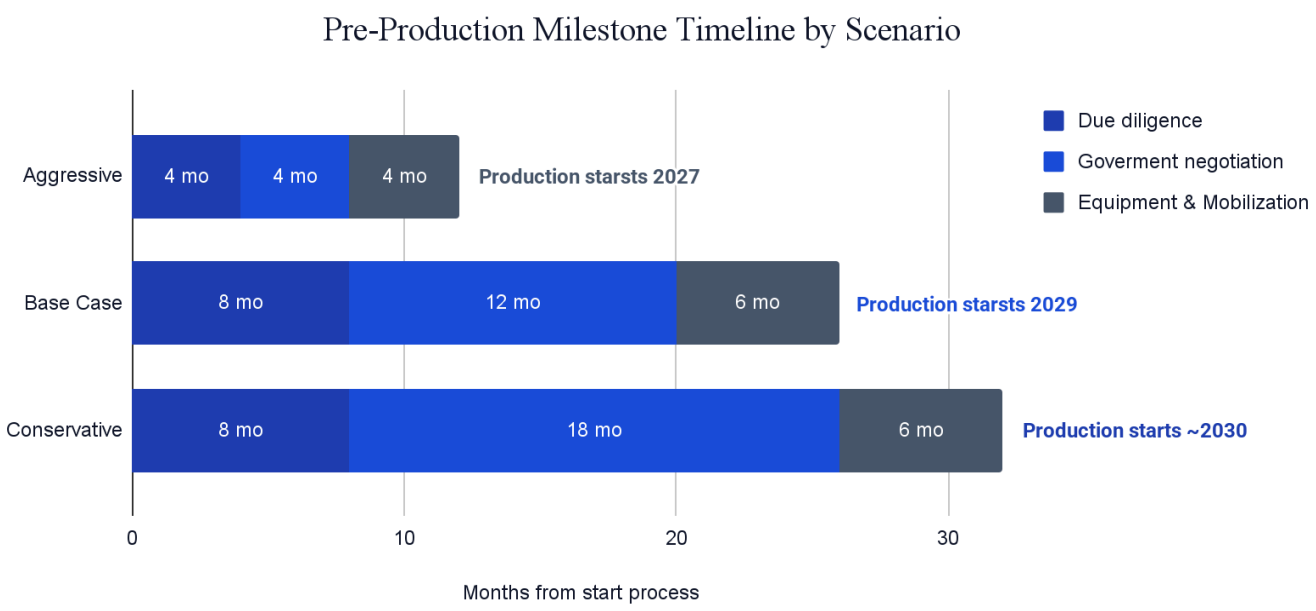


Figure 3. Pre-production timeline across scenarios. Bars show the required milestones before first oil. The estimated production start is 2027 for Aggressive, 2029 for Base Case, and approximately 2030 for Conservative.

— SECTION 03

Three Scenarios, One Country

> *"The risk is the time. The key is how soon you can put the investment there."*
>
> — Dr. Fanhua Zeng, Professor of Petroleum Engineering, University of Regina

The conservative, the base case, and the aggressive scenarios differ not in the reservoir's geology but in the pace of institutional commitment, capital availability, and operational capacity. The **Conservative scenario** assumes limited foreign participation and slow government negotiation. The **Base Case** reflects normalized investment conditions with JV structures modeled on Iraq's successful rehabilitation. The **Aggressive scenario** assumes full international engagement and compressed timelines.

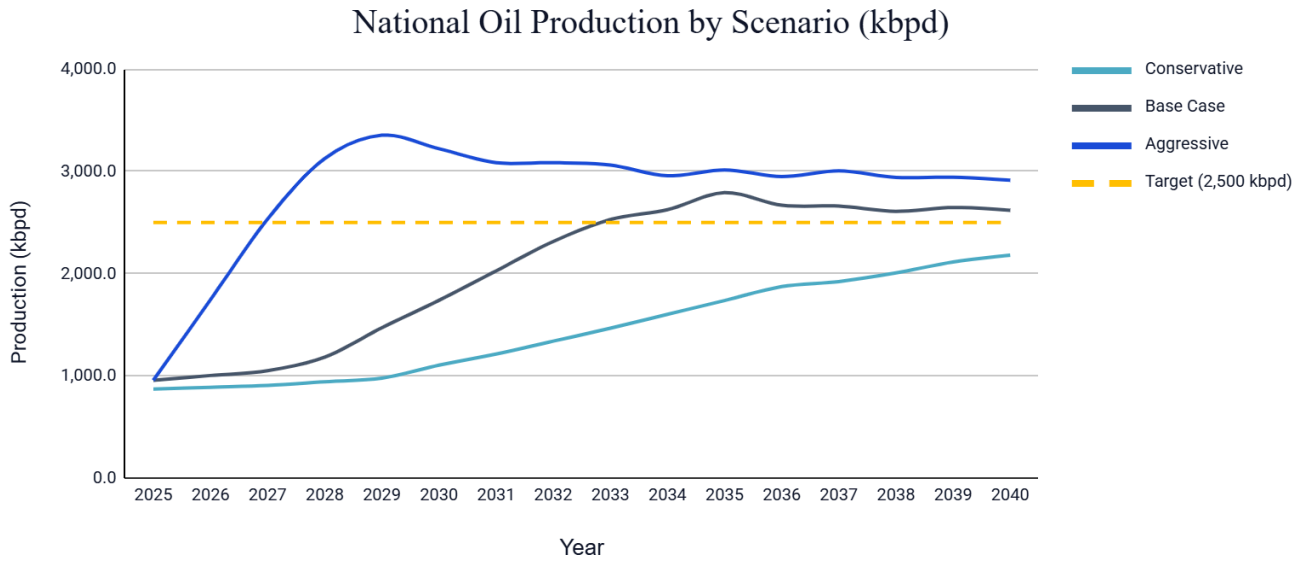


Figure 4. National oil production across three scenarios from 2025 to 2040. The dashed line marks the current production baseline of 786 kbpd.

The divergence between scenarios is most dramatic in the **2028–2034 window**, corresponding to when the LHF fields move from pre-production into peak operation. Under Conservative, the portfolio grows organically. Under Aggressive, production reaches 3.4+ million bpd by 2035, restoring Venezuela to near its historic peak output. The Base Case projects 2,618 kbpd by 2037, a 3.3× increase from today.

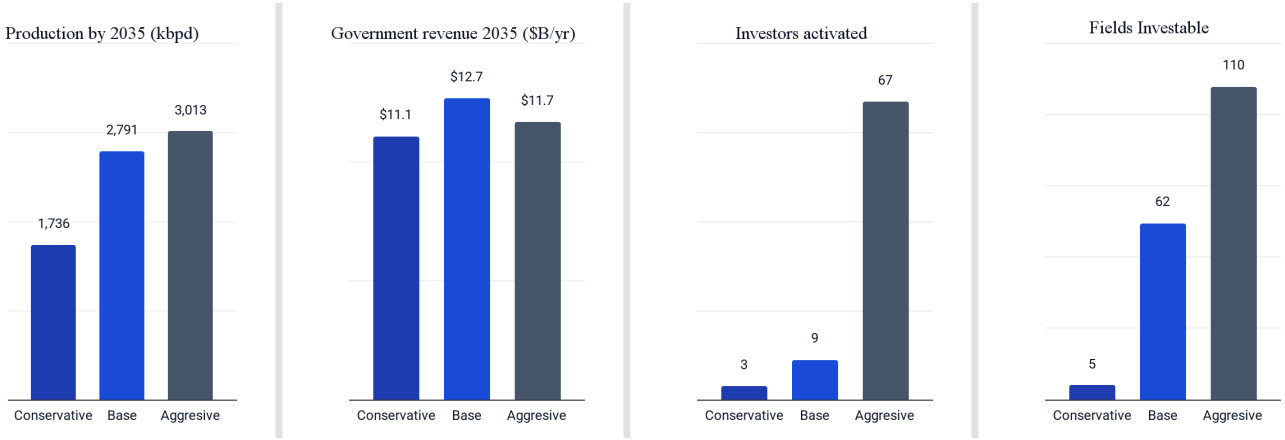


Figure 5. Scenario comparison by 2035 across peak production, government revenue, investors activated, and investable fields.

> *"The more you get confident, the more your hand can really go deeper into the pocket. This is the staircase entry model."*
>
> — Dr. Gregory Mwenketishi CEng MEI

This staircase philosophy is embedded directly in the model's ramp-up logic. Investment is not front-loaded into a single massive commitment but staged: early capital proves the reservoir, validates the JV structure, and unlocks each subsequent tranche. This dramatically reduces downside risk while preserving optionality to accelerate.

— SECTION 04

Capital Deployment

> *"Infrastructure investment is not sunk cost. It is the foundation on which every subsequent barrel is built."*
>
> — Christian Salles, PreScouter

The model separates capital deployment into two categories: **infrastructure investment** (roads, water injection systems, power, gas processing) and **direct field investment** (wellbores, artificial lift, surface facilities). The split ranges from 30–52% infrastructure, depending on basin characteristics, with Maracaibo and Orinoco fields requiring higher infrastructure multiples due to decades of deferred maintenance.

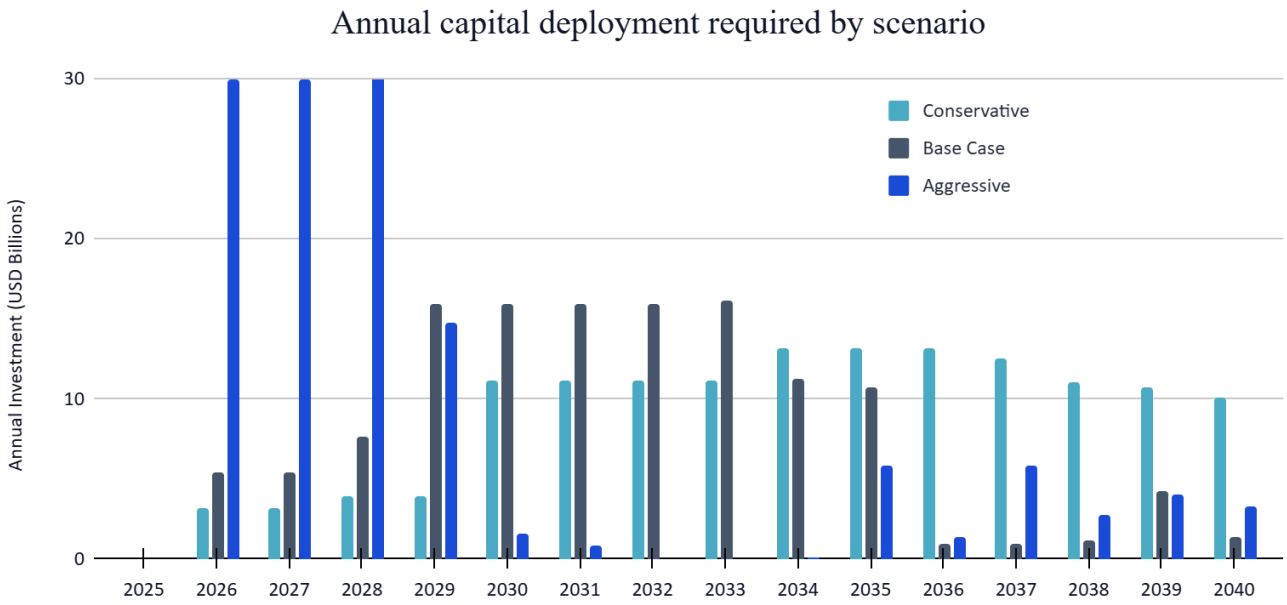


Figure 6. Annual capital deployment by scenario from 2025 to 2040. Infrastructure spending peaks ahead of production as assets are prepared for mobilization, with direct field investment rising as production ramps.

Cumulative CAPEX under Base Case reaches $128.9Bn by 2040, delivering an average capital efficiency of approximately $49,000 per flowing barrel. This compares favorably to greenfield development in comparable basins and is consistent with Iraq rehabilitation benchmarks, where sustained investment achieved similar capital efficiency ratios.

Infrastructure intensity is not merely a cost variable. It is a driver of investment sequencing. Fields with heavier enabling requirements may remain attractive over time, but they rank lower in the initial queue because they require more capital before reaching cash flow. The model explicitly sequences infrastructure spending ahead of the production ramp to ensure forecasts are not held hostage to bottlenecks.

$128.9B	~49K	30-52%	3 Basins
Cumulative CapEx Base Case to 2040	Capital efficiency per flowing barrel	Infrastructure share of total spend	Evaluated across 134 field

— SECTION 05

Low-Hanging Fruit

> *"If you invest $500 million, you expect to start having a return in the next two to three years. That is the definition of low-hanging fruit."*
>
> — Dr. Gregory Mwenketishi CEng MEI

The LHF methodology identifies fields that combine high reservoir confidence, existing infrastructure proximity, well-documented production history, and manageable pre-production timelines. These are not the largest fields by ultimate reserve potential. They are the fields that can generate the earliest, highest-quality cash flows to anchor the investment narrative and fund the next tranche of development.

Top 5 LHF Fields

Field	Basin	Risk-Adj Peak (kbpd)	Capex ($M)	Payback (years)	Ann. Revenue ($M/yr)
El Furrial	Eastern VZ	61.3	$1,378	0.95	$1,453
Santa Barbara	Western VZ	53.8	$1,211	0.95	$1,272
Lagunillas	Maracaibo	32.6	$1,040	2.12	$491
San Tome	Eastern VZ	23.0	$689	1.26	$818
Bachaquero	Maracaibo	13.7	$691	2.12	$326

Note: Revenue assumes Brent $75/bbl. Investor net ~$35-45/bbl after royalties and PDVSA carried interest.

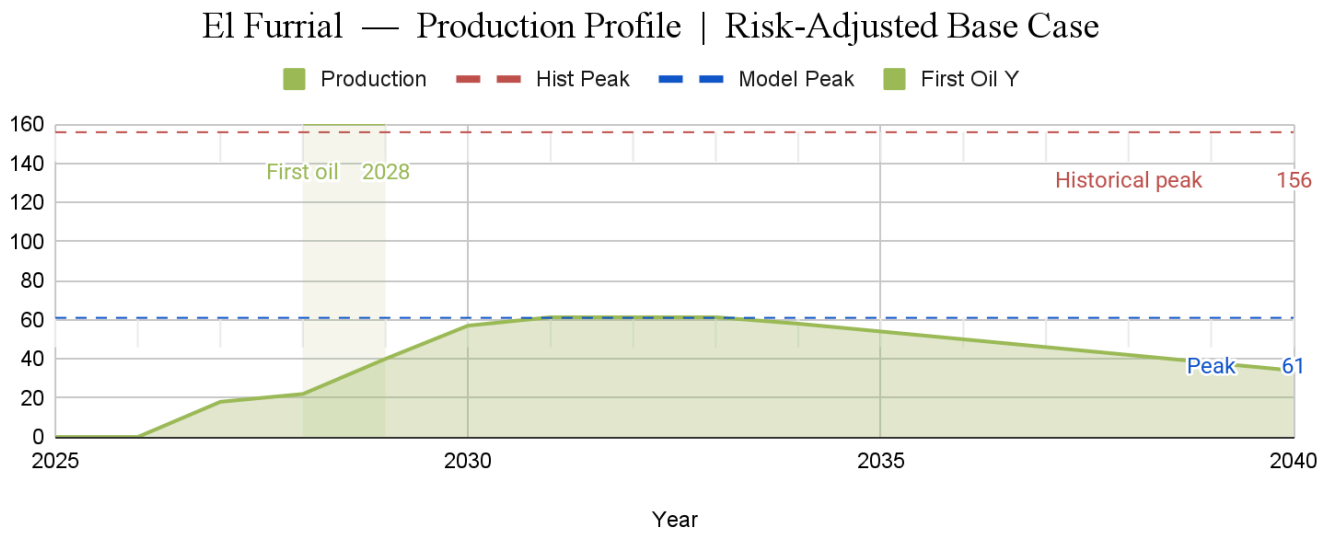
El Furrial and Santa Barbara stand out as the flagship LHF opportunities. Both carry 0.95-year payback periods, meaning investors recover their capital within one year of first production. Both sit in well-characterized basins with existing export infrastructure. Both have historical production records exceeding 130 kbpd.

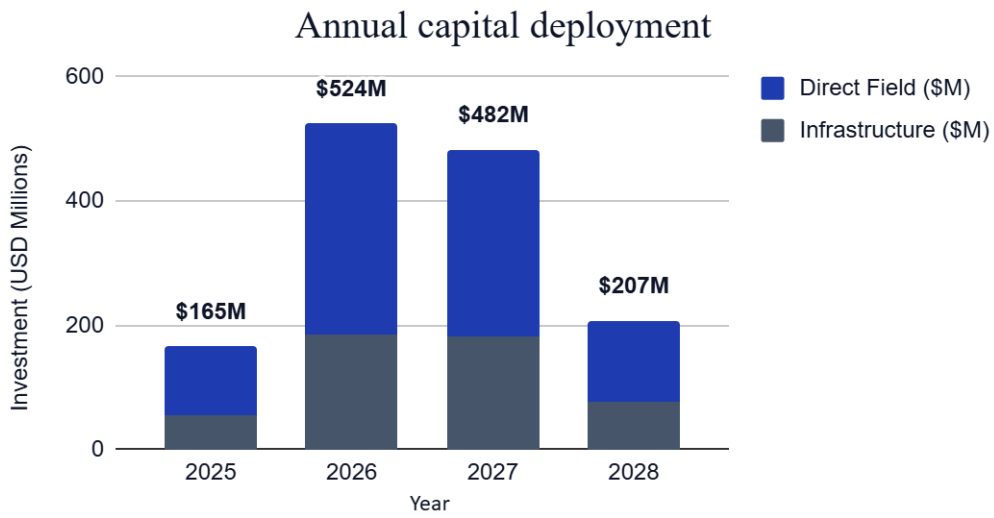
The risk-adjusted peak of 61.3 kbpd for El Furrial reflects a deliberate application of confidence (85%) and uptime (75%) haircuts; the unrisked peak is substantially higher.

El Furrial – Eastern Venezuela – Medium crude

Payback: 0.65 year | Total CapEx: $1378 M | Peak: 61.3 kbpd | Historical peak:L 156 kbpd

The following charts show, for each priority field, the expected production trajectory from current levels to risk-adjusted peak, overlaid with the pre-production phase timeline, the annual investment split (infrastructure vs. direct), and the revenue and government royalty profile. These represent the most granular view of the investment.





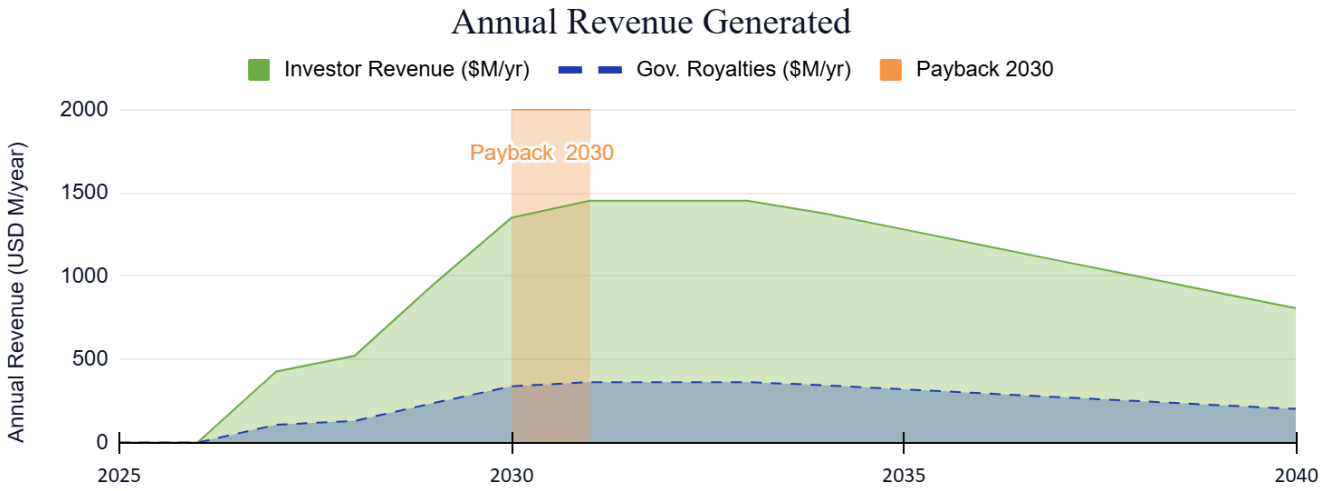


Figure 7: El Furrial (Eastern Venezuela) — Production ramp, investment profile, and revenue projection.

These LHF fields should anchor the first investment tranche and provide the cash flow base for later phases of rehabilitation. They validate the JV structure, de-risk the institutional environment, and provide the confidence, the "staircase," required to commit capital to the next tier of fields in Maracaibo and, ultimately, the Orinoco Belt.

— SECTION 06

JV Structure

> *"The so-called brand names will stay in the background. Then they will form JVs at a different scale. This is how the money flows without the political risk."*
>
> — Dr. Gregory Mwenketishi CEng MEI

International oil companies face a familiar dilemma in Venezuela: the geology is compelling, but the institutional risk profile has historically deterred commitment.

The JV model described in this analysis addresses this through structural protections that decouple operational control from sovereign exposure.

Under the model's JV framework, a **non-Venezuelan special purpose vehicle (SPV)** holds the operating interest. PDVSA participates through a **carried interest** (Base Case: 15%), receiving a share of production revenue without contributing capital during the development phase. The IOC recovers its investment from the first production. Royalty payment structures (20% Base Case) are set at the field level rather than the portfolio level, reducing cross-subsidy risk.

The **staircase entry model** allows IOCs to begin with a single field commitment — minimizing initial exposure — and scale up as the first field proves the institutional and operational environment. This mirrors the approach taken successfully in Iraq post-2009, where service contracts evolved into meaningful equity positions as operator confidence grew.

> *"The cost is quite low. The key is how soon you can put the investment there."*
>
> — Dr. Fanhua Zeng, Professor of Petroleum Engineering, University of Regina

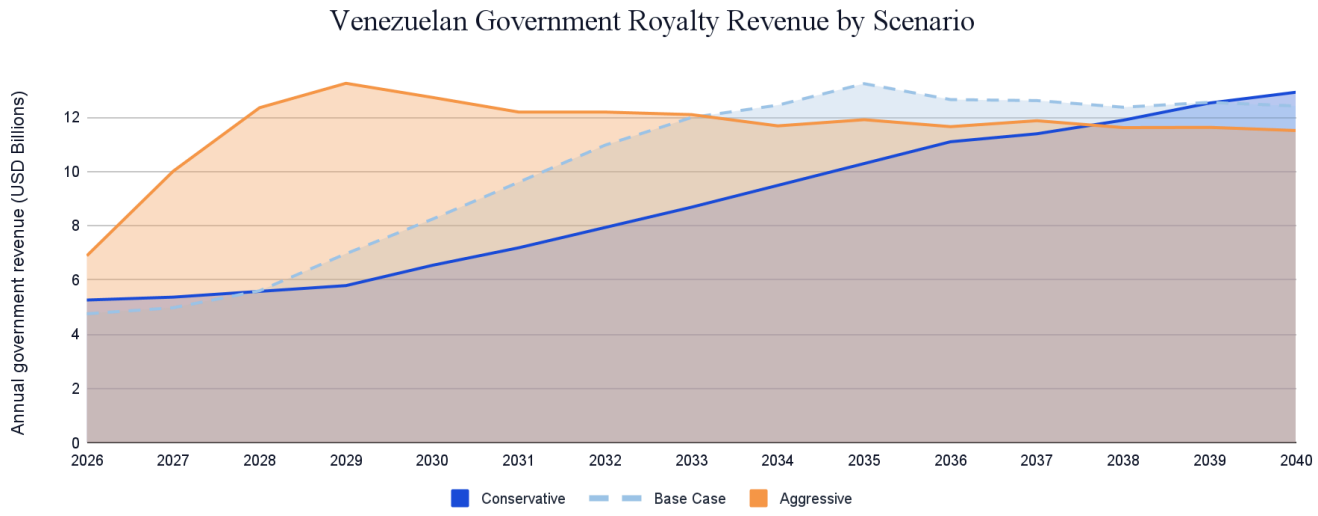


Figure 7. Government revenue and investor returns by scenario from 2025 to 2040. Under the Base Case, cumulative government revenue reaches $82Bn by 2040.

In practical terms, the JV framework aligns incentives across the state and the investor. PDVSA participates in upside without requiring immediate capital outlay, while the investor retains a credible path to capital recovery and operational scale. Political exposure is contained through structure, sequencing, and field-level discipline.

— SECTION 07

Sustainable Growth

The model's Venezuela Benefit module quantifies the broader economic impact of the investment program on the Venezuelan economy, tracking direct employment, supply chain activity, infrastructure value, and government fiscal capacity.

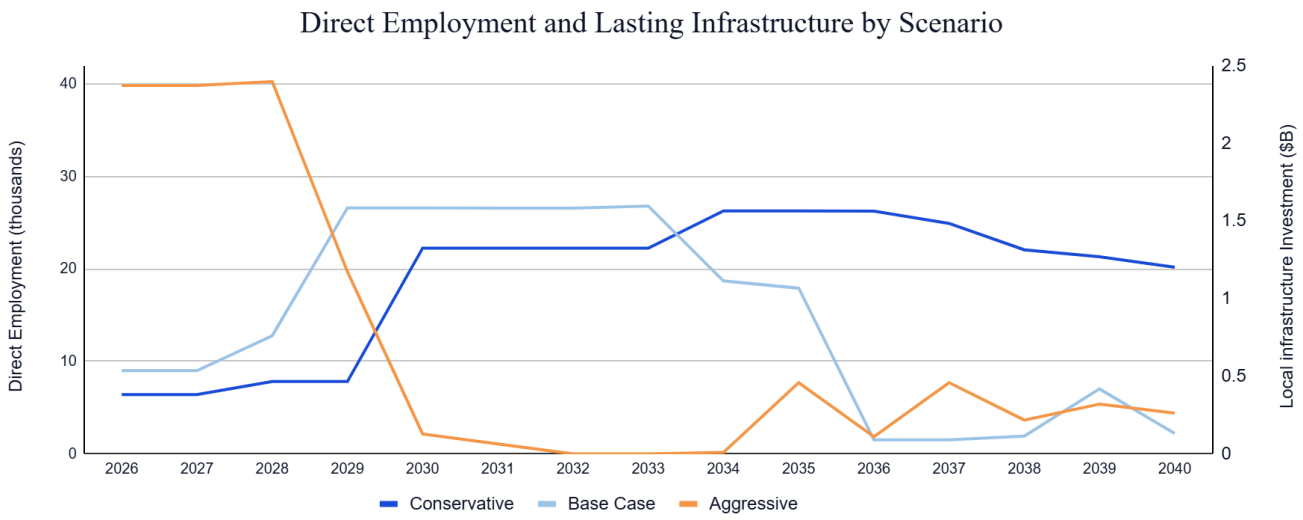


Figure 8. Employment and retained infrastructure value by scenario from 2025 to 2040. The Base Case supports more than 500,000 direct and indirect jobs.

Benefit Category	Base Case (2040)	Aggressive (2040)
Cumulative Government oil revenue	$82B	$138B
Direct + indirect employment	500,000+ jobs	750,000+ jobs
Retained infrastructure value	$15B	$25B

The infrastructure investment embedded in the model creates lasting value that extends beyond oil production. Road networks, power generation, water treatment facilities, and gas processing plants built for field development remain as productive assets for Venezuelan communities. The model quantifies this at $15Bn under Base Case, an often overlooked component of the social contract that makes long-term IOC presence sustainable.

— SECTION 08

Basin Breakdown

The model classifies all 134 fields across three basin groups and three field tiers. **Tier 1** fields combine higher confidence scores, documented production history, and stronger infrastructure access. **Tier 2** fields remain investable but require greater infrastructure support or carry lower operational confidence. **Tier 3** fields are longer-dated opportunities that remain more sensitive to execution conditions and scenario assumptions.

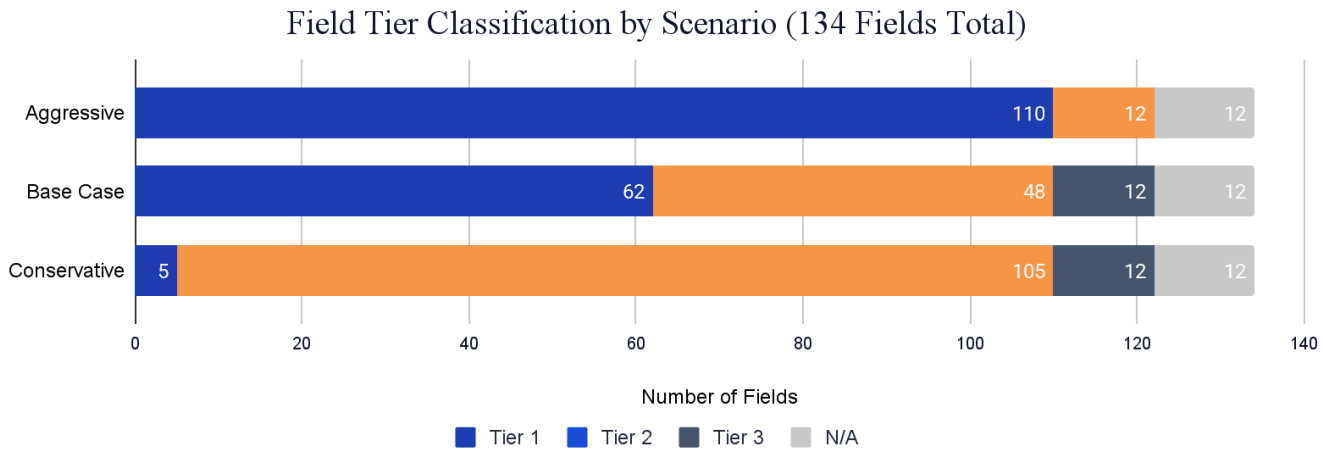


Figure 9. Field distribution by tier across scenarios. Tier 1 fields account for most near-term production potential under the Base Case and Aggressive scenarios.

> *"The Orinoco Belt is the long game. The Eastern Venezuela fields are the quick win. Any serious investor should sequence them in exactly that order."*
>
> — Dr. Gregory Mwenketishi CEng MEI

The Orinoco Belt's super-heavy crudes require upgrading investment (syncrude projects) that demand 5–7 year lead times and $10–15Bn in infrastructure. While these projects define Venezuela's long-term production ceiling, they are correctly positioned as **Phase 2** in the investment sequence, funded by cash flows from Phase 1 LHF fields in Eastern Venezuela and Maracaibo.

— SECTION 09

Risk Framework

The model's risk adjustments operate at three levels. First, **field-level confidence factors** (60–95%) reflect uncertainty in reservoir characterization, production history quality, and infrastructure condition. Second, **scenario-level timeline adjustments** stress the pre-production schedule (from 20 to 36 months). Third, **price sensitivity analysis** covers Brent from $55 to $100/bbl, with $55/bbl remaining FCF-positive for Tier 1 LHF fields at Base Case cost assumptions.

Risk Category	Key Concern	Model Mitigation
Geopolitical and Sanctions	Renewed sanctions regime	Scenario analysis tests downside exposure, with Tier 1 LHF fields remaining viable at $55/bbl
Institutional	Slow government negotiation	The conservative case adds 10 months to the timeline and reflects modeled execution friction
Reservoir	Overstated reserves or recoverability	Confidence discounts of 15 to 35% applied by basin and profile
Operational	Infrastructure deterioration	The infrastructure multiplier increased up to 1.3x for affected fields
Oil Price	Sustained price weakness	Break-even analysis shows the Top 5 LHF fields remain positive at $42/bbl

— SECTION 10

The Investment Case in Three Sentences

> *"Venezuela's oil potential is not a question of geology — it is a question of sequencing, structure, and the courage to go first."*
>
> — Christian Salles, PreScouter

The reserves are real.

Venezuela's 300+ billion barrels of proven reserves are among the best-characterized in the world. The production collapse was institutional, not geological — and every international analog, from Iraq to Libya, shows that institutional collapses can be reversed with the right investment structure.

The entry point exists.

The Low Hanging Fruit methodology identifies five fields where the combination of reservoir quality, production history, and infrastructure proximity creates payback periods under two years and investor returns competitive with any frontier basin globally. These assets provide a credible first step for investors seeking early cash flow with lower execution risk.

The structure is workable

The JV framework described in this analysis — staircase entry, SPV protection, carried interest for PDVSA, field-level royalties — provides a replicable template for deployment. The first deal is the hardest. The model exists. The data exists. The opportunity exists.

> *"Every great oil investment story started with someone being willing to go first. Venezuela is waiting for that someone."*
>
> — Christian Salles, PreScouter

— ABOUT THE AUTHORS

The Team Behind This Analysis

Christian Salles

Technical Director, Natural Resources & Energy | PreScouter

Christian Salles is Technical Director for Natural Resources and Advanced Energy at PreScouter, where he leads strategic energy engagements for Global 1000 clients across mining, oil and gas, heavy industry, and energy transition. With a background in materials engineering and specialization in techno-economic modelling, he developed the production and financial model underpinning this white paper, integrating field-level reservoir data, capital expenditure structures, and scenario analysis. He has authored more than 20 publications on energy economics and resource strategy, including a peer-reviewed presentation at GHGT-17.

Dr. Gregory Mwenketishi CEng MEI

Chartered Engineer | Member, Energy Institute | Senior Petroleum Engineer

Gregory Mwenketishi is a Chartered Petroleum Engineer with a PhD in Petroleum Engineering and extensive global experience across petroleum basins in South America, the Caribbean, the USA, Asia, Europe, and over 15 countries in Africa. He brings over 15 years of upstream oil and gas experience spanning field development planning, production optimization, and investment appraisal. His contribution to this model focuses on the reservoir confidence framework, ramp-up sequencing logic, and the LHF field identification methodology.

Markos Armanious, P. Geo.

Senior Geologist | Senior Investment Analyst

Markos Armanious brings over 40 years of international exploration and production experience, including more than a decade of investment analysis and M&A advisory with a specialized focus on energy sector transactions and capital allocation strategy. His contribution to this analysis centers on the capital deployment profile, the infrastructure-versus-direct-investment split methodology, and the investor return scenarios across oil price ranges.

Dr. Fanhua Zeng

Professor of Petroleum Engineering, University of Regina | P.Eng.

Dr. Fanhua Zeng leads research in reservoir simulation, production optimization, and enhanced oil recovery at the University of Regina. With a PhD in Petroleum Engineering and over 20 years of academic and applied research experience, Dr. Zeng provides the rigorous technical foundation for the model's reservoir behavior assumptions, decline curve methodologies, and recovery factor estimates. His peer-reviewed research on heavy oil recovery directly informs the treatment of Orinoco Belt fields.

Methodology & Data Sources. The Venezuela Oil Investment Model (v9) is a proprietary field-level model developed by PreScouter. Field production data is sourced from published PDVSA records, OPEC secondary sources, and IHS Markit historical field data. Financial assumptions (royalty rates, capex benchmarks, oil price) are derived from comparable field rehabilitation programs in Iraq, Libya, and Kazakhstan. All production projections are risk-adjusted using basin-specific confidence and uptime factors. Three scenarios (Conservative, Base Case, Aggressive) represent a bounded range of institutional outcomes, not a single-point forecast. This document is intended for informational purposes and strategic discussion only. It does not constitute investment advice.