

White Hydrogen Appraisal Gate

Use this before funding the next well. The decision is whether to buy better information—not whether a prospective resource already deserves project finance.

**NO STABILIZED H₂ FLOW?
NO LCOH. NO RESERVE
STORY.**

THE TWO NUMBERS: H₂ purity at stabilized production × sustained total-gas flow = sustained H₂ flow

Correct for air and report pressure, decline, water and test conditions.

1 · PROVE DELIVERABILITY

- Independently witnessed stabilized production test; target 30–90 days where the reservoir warrants it.
- Report total gas rate, H₂ concentration and calculated H₂ rate—not a peak mud-gas sample.
- Show wellhead and downhole pressure, drawdown, decline and shut-in recovery.
- Disclose air correction, sampling location, lab method, water rate and all co-produced gases.

2 · PROVE THE RESERVOIR

- Map source, migration path, reservoir, trap and seal as one working system.
- Estimate connected volume, recoverable range, well spacing and downside decline cases.
- Separate evidence of accumulation from evidence of ongoing generation or recharge.
- Define the next test that could falsify the model before expanding the program.

3 · CLOSE THE LEDGER

- Model the full gas slate: H₂, helium, methane, nitrogen, water and contaminants.
- Include exploration success, well cost, separation, compression, disposal and sustaining wells.
- Secure a nearby offtaker sized to the field; show transport separately.
- Stress-test purity, flow, decline, success rate and cost of capital before quoting \$/kg.

4 · EARN THE CARBON CLAIM

- Build a site-specific well-to-gate lifecycle assessment.
- Count drilling, pumping, separation, compression, methane handling and vented gases.
- Define water sourcing/disposal and monitoring obligations.
- Treat 45V or any other policy pathway as a qualification process—not an assumed credit.

APPRAISE

High-purity, sustained H₂ flow; pressure supports a connected reservoir; processing is simple; demand is close. Fund the next information package.

COMBINE THE LEDGER

Mixed gas with helium, methane or another co-product. Advance only if the complete product slate pays for separation, handling and transport.

LOCAL NICHE

High purity but low flow—or credible recharge—beside small demand. Size the customer to the field instead of forcing a global commodity model.

STOP

Mud-gas anomaly without stable H₂ flow; water-dominated production; unsupported reservoir continuity; economics depend on a modeled resource or headline purity.

Minimum investment-committee pack: witnessed test report · gas/water composition · pressure/decline curves · reservoir model and recoverable range · development concept · local offtake evidence · sensitivity model · site-specific LCA · policy qualification memo.

BANKABLE

Physics → Project → Economics

Companion tool for “White Hydrogen: The Oil Rush for a Fuel Nobody Has Proved.”