

ECON 651 — Case Handout: Next Class Assignment

Using Scenarios of the Future to Do Longer-Term Planning in the Present

Distributed: Week of April 15, 2026 Due: Next class session

The Assignment

The case analysis you completed this week focused on the near-term economics of the 2026 Hormuz closure — price elasticity, joint production dynamics, revenue and profit math, and the immediate impact on your sector. That is necessary analytical work. But it is not sufficient for strategic planning.

Strategic leaders do not plan for the crisis they are in. They plan for the world that the crisis is creating. That requires scenario thinking — the discipline of holding multiple plausible futures simultaneously and making decisions that are robust across them.

For next class, each group will develop a scenario outlook for their sector across a 10 to 15 year horizon: 2035 to 2040. You are not predicting the future. You are mapping the plausible range of futures your sector could inhabit — and identifying the early signals that would tell you, well before 2035, which future is becoming the dominant storyline.

The 2026 Hormuz closure is your trigger event. The three scenarios below represent three distinct answers to the question: what does the world look like in 2035 to 2040, and which path did this crisis lock in?

One critical framing note before you read the scenarios: one of these futures will become dominant — but it will not announce itself in 2035. It will be readable in the data by 2028 or earlier, based on capital commitment decisions made in the 2026 to 2028 window. Your job as a strategic planner is not to wait for the future to reveal itself. It is to watch for the early signals that tell you which scenario is locking in — and adjust your sector's strategy before the window closes. The future is determined earlier than it reveals itself.

The Three Scenarios

Scenario 1 — The Reversion: Oil Reasserts

The strait reopens. Prices normalize. The political and investor will for structural transition dissipates as energy affordability returns. Extraction economies restabilize their revenue base and reassert geopolitical leverage. Capital commitments made during the crisis get quietly unwound as urgency fades. SAF procurement agreements get renegotiated. Green

ammonia remains a pilot program. EV adoption growth resumes its pre-crisis trajectory rather than the accelerated one the shock briefly produced.

By 2035 to 2040: oil demand is lower than 2026 but higher than transition models projected before the crisis. The Strait of Hormuz remains the world's most strategically significant 21 miles of water. The next closure — whenever it comes — finds the global economy structurally similar to where it was in early 2026. The addiction persists. The leverage persists with it. The revenue formula for the next supply shock looks almost identical to this one.

Scenario 2 — The Acceleration: Transition Locks In

The closure is long enough and painful enough that capital allocation shifts do not fully reverse when prices normalize. Airlines complete SAF supply agreements that survive price normalization because energy security now carries a boardroom premium that outlasts the crisis. Auto manufacturers accelerate EV platform investment beyond what demand alone justified. Agricultural equipment manufacturers fast-track electric and hydrogen platforms. Green ammonia attracts serious capital as fertilizer security becomes a national strategic priority in grain-exporting nations.

The extraction economy retains leverage in the near term but faces a steepening demand decline curve from 2028 onward as crisis-era capital commitments reach commercial scale simultaneously. Petrostates that diversified during the windfall period navigate the transition with varying success. Those that did not face structural revenue decline without the institutional capacity to respond.

By 2035 to 2040: oil remains significant but is no longer the organizing principle of global geopolitics. The inelasticity trap has been partially resolved by genuine substitution at scale. The Strait of Hormuz still matters — but its closure would produce a more manageable and shorter shock than 2026 did.

Scenario 3 — The Structural Break: Molecular Independence

The transition reaches a self-reinforcing inflection point where the economics of alternatives are superior to fossil fuels on a fully loaded basis — no subsidy, no carbon price, no policy preference required. Green hydrogen reaches cost parity for industrial applications. Green ammonia displaces natural gas-based fertilizer on economics alone. SAF achieves 15 to 20% market penetration driven by procurement logic, not mandate. EV total cost of ownership is unambiguously lower than ICE across all major vehicle segments including heavy trucks.

The geopolitical consequence follows directly from the revenue formula: if oil price falls 40% and quantity demanded falls a further 20% by 2038, petrostate state revenue collapses by more than half with almost no offsetting quantity recovery. The foreign policy architecture that required consumer democracies to accommodate petrostate authoritarianism loses its economic foundation. The Strait of Hormuz becomes a regional waterway, not a civilizational chokepoint.

By 2035 to 2040: the peace dividend is not a post-crisis calculation. It is a compounding structural reality. The conflicts that oil dependency made strategically necessary — or politically tolerable — become increasingly difficult to sustain against populations that no longer bear the cost of the addiction.

Group Assignments

Each group will prepare a two to three page scenario outlook for next class covering the following four questions:

1. Your sector's position in each scenario

For each of the three scenarios, briefly describe what your sector looks like in 2035 to 2040. What is the revenue and competitive structure? Who are the winners and losers within your sector across each future? Apply the revenue formula — $\% \Delta P + \% \Delta Q = \% \Delta \text{Revenue}$ — to each scenario. The math does not need to be precise. It needs to be directionally honest.

2. Your sector's lock-in triggers

Identify three to five specific, observable signals that would tell you — by 2028 at the latest — which scenario is becoming dominant for your sector. Triggers should be measurable, not vague. "Energy prices stay high" is not a trigger. "SAF contracts covering more than 5% of global jet fuel supply are signed by major carriers before the strait reopens" is a trigger.

3. Your sector's robust strategy

What is the one strategic move that makes sense across all three scenarios — the decision that does not require you to know which future is coming? And what is the one high-conviction bet you would make if you were confident Scenario 2 or Scenario 3 is locking in?

4. Your peace dividend calculation

Regardless of your sector, every group should include one estimate: what is the measurable peace dividend to your sector if Scenario 3 fully materializes by 2038? Price it in dollars, jobs, supply chain resilience, or geopolitical risk reduction — whichever metric is

most meaningful for your sector. Then ask the harder question: what would it have taken to arrive at Scenario 3 without the crisis?

Group-Specific Guidance

Group 1 — Macroeconomics

Your scenario analysis should address the fiscal arithmetic of each future. In Scenario 1, how does the persistence of oil dependency affect U.S. debt service, defense spending, and inflation risk over 15 years — and what does the revenue formula look like for the U.S. economy as a net energy producer in each scenario? In Scenario 3, what happens to petrostate geopolitical leverage as oil revenue collapses — and what are the second-order security implications of destabilized extraction economies losing their revenue base faster than their institutions can adapt? The macro peace dividend is not just lower fuel costs. It is the reallocation of defense spending, the reduction of inflation volatility, and the foreign policy freedom that comes from genuine energy independence.

Group 2 — Agriculture

Your sector sits at the most complex intersection of all three scenarios. In Scenario 1, what is the 15-year cost of continued diesel and nitrogen fertilizer dependency — priced across three or four more supply shocks of varying severity, using the revenue formula to calculate input cost exposure each time? In Scenario 2, at what point does the green ammonia investment case become self-sustaining without subsidy — and what does that crossover look like in the revenue math for a mid-size grain operation? In Scenario 3, what does a fully regenerative agricultural system look like economically — and is it more or less productive per acre than the petrochemical model it replaces? Your peace dividend calculation should include food security as a national security metric, not just a commodity price metric.

Groups 3 & 4 — Airlines and Auto

Airlines: your trigger-watching assignment is the SAF market. Track contracted SAF volume as a percentage of global jet fuel demand quarterly from now through 2028. That single number will tell you more about which scenario is locking in than any policy announcement. Apply the revenue formula to SAF producers in each scenario — in Scenario 3, SAF price premiums compress as scale is reached, but volume surges; what does that revenue trajectory look like compared to conventional jet fuel refining? Auto: your trigger is EV total cost of ownership crossover by vehicle segment. Map the crossover timeline against each scenario and identify which scenario requires the earliest crossover

to be internally consistent. In Scenario 3, apply the revenue formula to used ICE vehicles — if $\% \Delta P$ is negative and $\% \Delta Q$ is also negative as the fleet electrifies, what does the used ICE market look like in 2038?

Group 5 — The Peace Dividend

Your assignment is the most analytically open-ended and the most important. Begin with the revenue formula applied to extraction economies across all three scenarios. In Scenario 1: $\% \Delta P$ normalizes, $\% \Delta Q$ recovers, revenue restores, leverage restores. In Scenario 2: $\% \Delta P$ moderates over time, $\% \Delta Q$ declines gradually, revenue compresses slowly — which states survive and which don't? In Scenario 3: $\% \Delta P$ falls 40%, $\% \Delta Q$ falls 20%, state revenue collapses by more than half for states with high fiscal breakeven prices. Model it separately for Russia, Iran, Saudi Arabia, and Venezuela — their fiscal breakeven prices differ significantly and their institutional resilience differs even more. Then ask the geopolitical question the math sets up: at what revenue level does each state's ability to project force, fund proxies, and sustain internal legitimacy begin to degrade? That is where the peace dividend becomes a foreign policy instrument — and where the argument that oil addiction funds the wars that protect the addiction comes full circle.

The Question That Connects All Five Groups

Before next class, every student — regardless of group — should be able to answer this question in one paragraph:

If the capital allocation decisions made between now and the end of 2027 largely determine which scenario dominates in 2035, what is the single most important decision being made right now in your sector — and is it pointing toward Scenario 1, Scenario 2, or Scenario 3?

Bring your answer. We will use it to open next class.

This handout is part of the ECON 651 Applied Case Series. The 2026 Hormuz closure case is a naturally occurring case study developed for pedagogical use under the Pi-Econ™ framework. Additional reading: [The Peace Dividend](#) and [Molecular Transition to Regenerative Economy](#) — PerpetualInnovation.org.

Possible SEO from Gemini.

I understand. We need to strip away the clutter and pivot fully to the **Lamb, Mutton, and Wool** analogy to clearly illustrate the joint production trap.

Here is the revised conceptual framework for a cleaner, more targeted feature graphic, followed by the SEO metadata for your article.

Revised Feature Graphic Concept: The "Refinery Sheep"

1. The Central Metaphor: The Bi-Product Imbalance

- **The "Input":** A single, large sheep labeled "**The 42-Gallon Barrel**" entering a stylized distillation gate.
- **The "Locked" Outputs:**
 - **The Mutton (Diesel & Jet Fuel):** Represented as the "premium cut". Use a thick, rising arrow to show that because this is essential for the "must-run" economy and military, its price has exploded (+49% to +107%).
 - **The Wool (Gasoline):** Represented as a pile of excess fleece. Use a smaller or downward-angled arrow to show that as demand for "wool" softens (due to EVs), it becomes an oversupplied byproduct that the "farmer" (refiner) is forced to produce just to get the mutton.

2. The Mathematical Proof (Clean Sidebar)

- A simple, high-contrast box showing the **Capture Market Formula**:
 - .
 - Underneath, a brief comparison:
 - **Mutton (Jet/Diesel):** .
 - **Wool (Gasoline):** .

3. The Strategic Takeaway (Footer)

- A single, bold line: "**Perpetual Innovation means learning to grow the Mutton without the Sheep.**"
- Icons for **Green Hydrogen** and **SAF** as the "Molecular Independence" solution to break the 150-year-old joint production tether.