

Capital expenditures look tidy on paper. They come with spreadsheets, stage gates, and named deliverables. In uncertain times, though, capex stops being a clean financial exercise and becomes a daily test of judgment: what you build, when you build it, and what you are willing to be wrong about.

I have sat through enough investment committee meetings to recognize the moment when assumptions stop sounding like inputs and start sounding like wishful thinking. The question is rarely whether a project could work. The question is whether the company can afford to be wrong, and whether the organization can adapt if conditions change faster than the project does.

Capex is not just spending, it is commitment

People often talk about capex as “spend,” but the better mental model is commitment. Once you sign equipment orders, lock in construction schedules, and hire specialized labor, you are not just allocating budget. You are changing your future flexibility.

That is why uncertain times make capex uniquely hard. Operating expenses generally scale with volume. Capex creates capacity and infrastructure that may not match demand for years. Even when you design for flexibility, the first version of a facility usually reflects the assumptions you made at approval time.

I learned this the hard way early in my career, when a plant expansion was sold internally on a market forecast that turned out optimistic. The project team did everything “right” on the engineering side, but the demand ramp lagged. The company ended up carrying a full asset base before it had the cash flows to support it. Nobody could point to a single bad decision after the fact. The project was defensible under the original plan. The real failure was treating a forecast as certainty.

The hidden risk in optimistic cash flow models

Discounted cash flow (DCF) can be helpful, but it also has a talent for making shaky assumptions feel mathematical. In uncertain times, the model’s sensitivity often tells a story that the narrative misses.

Two areas tend to move together in ways that basic models struggle to reflect:

1. Demand and pricing behavior

If sales volume changes, pricing rarely stays put. Competitive pressure can force price concessions, and price concessions can reduce margin just when the business needs it most.

2. Timing and execution

Supply chain disruptions, permit delays, and contractor availability can shift timelines. A three month slip can become a six month slip if upstream decisions change. Cash flow timing is one of the biggest drivers in net present value, even when total outcomes look similar.

When I review models, I look for whether the team has stress-tested both the magnitude and the timing. Many forecasts assume a smooth ramp. Real ramps are lumpy. If your ramp is wrong in both direction and schedule, you can end up with capacity you cannot monetize when you need to.

Start with strategy, then ask what capex can and cannot do

A common trap in investment committees is treating capex as a way to **Additional hints** “buy certainty.” Companies request projects to protect market share, secure supply, or unlock new revenue. Those aims are legitimate, but capex is not a guarantee. It is a bet with long exposure.

Before diving into numbers, I find it useful to translate project intent into capabilities. For example:

- Does the project reduce unit costs sustainably, or does it mainly reduce temporary constraints?
- Does it expand capacity, or does it improve throughput in a constrained process?
- Does it enable a new product line, or does it serve an existing one with uncertain demand?

Once you frame the objective as a capability, you can better judge whether capex is the right tool. Sometimes the right tool is staged, sometimes it is leasing, sometimes it is contract-based capacity rather than owning it outright. In other words, uncertainty does not automatically mean “do less.” It means “structure the commitment differently.”

Scenario thinking that actually helps

In uncertain periods, the best boards and executive teams are rarely the ones that “predict” the future. They are the ones that can plan for multiple futures without freezing the organization.

However, scenario analysis can become theatrical. You do five scenarios, assign probabilities nobody believes, and then vote based on the most comforting one. The result is a deck that looks serious but changes nothing operationally.

A more practical approach is to build scenarios around decision triggers. Instead of asking, “What if demand drops?” ask, “At what demand or margin level would we slow down, pause, or redesign?” That question forces the project team to define what “change” means in measurable terms.

When you do this well, you convert uncertainty into a management system. You also reduce the chance that the organization will defend the original plan long after the evidence has changed.

Portfolio view: not every project faces the same risk

One of the most effective improvements I have seen in capex governance is treating the company’s capital plan as a portfolio, not a set of independent projects.

Projects differ in their risk profile:

- **Maintenance capex** keeps assets operating.
- **Growth capex** expands capacity or capability.
- **Strategic capex** creates optionality or moves the company toward a new business model.

If you fund all categories aggressively in uncertain times, you can overcommit cash and crowd out the ability to respond. If you cut everything, you might protect near-term cash at the cost of future competitiveness.

A portfolio mindset asks: how much risk are we carrying at the corporate level, and how correlated is that risk? For instance, if multiple projects depend on the same scarce vendor, your risk is correlated even if each project looks distinct. If several rely on the same permitting environment, regulatory risk is also correlated.

This is where finance and operations need to talk more than they do. Finance might see net present value. Operations sees constraints, lead times, and bottlenecks. Combined, they can identify whether the entire plan is vulnerable to the same disruptions.

The governance question: who owns the decision over time?

Capex decisions should not end at approval. Execution is a long chain of micro-decisions: change orders, design adjustments, staffing plans, commissioning scope, and vendor substitutions. Each decision can either increase resilience or silently weaken it.

In my experience, the best organizations make sure accountability persists through the asset lifecycle. That means defining who will own:

- the business case assumptions,
- the performance targets once the asset is live,
- and the decision rights to modify scope or timing when conditions shift.

If there is no accountable owner after approval, the default behavior is usually defense. The project team protects what they committed to. The business unit protects the budget it sold internally. Finance protects the plan it presented. The result is slow learning.

A practical safeguard is to schedule structured “re-commitment” checkpoints. Instead of only going back for approval when a budget overrun is already painful, you review again when evidence changes. This is not bureaucracy for its own sake. It is a way to keep decisions alive while they are still reversible.

Building resilience with staged capex and optionality

When uncertainty is high, you do not have to choose between “build everything now” and “do nothing.” Many companies can design capex plans to be staged, modular, or performance-based.

That does not mean every project can be modular. Steel and concrete do not rearrange themselves easily. But even in fixed assets, there may be opportunities to separate scope into phases that reduce exposure.

One project example from practice involved a facility expansion where the company separated the work into two stages. Stage one created operational capacity for the current product mix and installed enough infrastructure to accommodate future variants. Stage two added additional processing capability once customer demand for the new variant met a threshold.

The project did not eliminate uncertainty. It reduced the cost of being wrong about timing and demand mix. When market signals improved slower than expected, the company had a smaller sunk-cost profile than if it had built the full facility upfront.

A simple way to think about staging

If you can only remember one guideline, it is this: staging should create real decision points where the next step depends on evidence, not habit.

A project that “stages” by splitting a design into smaller work packages without changing decision criteria is still locked in emotionally. Staging that ties the next phase to measurable operational or market triggers gives the organization a chance to learn.

Funding capex without breaking the rest of the business

Capex decisions are inseparable from financing and liquidity. In uncertain times, liquidity is not just a finance metric. It affects procurement timelines, vendor confidence, and hiring decisions. It also affects whether you can weather delays without triggering covenant stress or forced asset sales.

I have seen companies approve large capex programs only to discover that their cash flow timing did not align with debt servicing and working capital swings. The project looked fine on annual net income, but liquidity tightened during construction because outflows concentrated earlier than expected.

This is why robust capex planning considers working capital interactions, not only project cash flows. For example:

- If expanding capacity requires higher inventories during commissioning, near-term cash can drain even when long-term economics are attractive.
- If a project depends on new supplier terms, payment schedules can shift.
- If customers renegotiate pricing or acceptance criteria, revenue timing can compress.

Strong capex reviews connect the business case to a liquidity plan that reflects these mechanics.

The role of risk-adjusted returns, and where they fall short

Risk-adjusted metrics can improve discipline, but they are not a universal solution. Adjusting discount rates or applying risk premiums helps incorporate uncertainty, yet it can hide the details of which risk you are actually pricing.

Sometimes you see the model adjust a discount rate upward because “uncertainty is high,” while the team does not address the concrete risks such as vendor lead times, permitting risk, or execution capacity. The discount rate becomes a substitute for risk management.

A better approach is to separate:

- **financial risk** (how cash flows could change),
- **execution risk** (whether the project can deliver on schedule and scope),
- **strategic risk** (whether the capability built will still be valuable).

Then you decide what responses match each category. Insurance and contingencies might cover some execution exposures. Contract structure can mitigate certain supplier risks. Phased scope and design choices can reduce strategic drift.

Risk-adjusted returns are a tool. The real work is aligning your mitigation actions to the specific uncertainties that could harm you.

Guardrails that prevent “scope creep by optimism”

Uncertainty often leads to changes, and changes are not inherently bad. Scope creep becomes dangerous when it is driven by optimism rather than evidence.

A mature project governance process uses guardrails that keep decision-making crisp:

- Define the baseline scope and success criteria clearly.
- Track change requests with financial and schedule impact visible.
- Require a business case update when assumptions materially change.

This sounds procedural, but it becomes practical quickly. I remember a project where early design changes were justified as “small optimizations.” Over time, these optimizations expanded the scope beyond what the business unit had agreed to. The NPV was still positive, but the internal hurdle had shifted because costs rose faster than benefits. If the team had enforced a tighter link between change requests and updated benefit tracking, they would have surfaced the mismatch earlier and negotiated trade-offs sooner.

A concise checklist for uncertain capex decisions

When I am helping teams prepare for an investment committee, I encourage them to answer a handful of questions in plain language before the model is final. These are not academic prompts. They are the questions that determine whether the project will survive contact with reality.

- What assumptions are most fragile, and what evidence would confirm or challenge them?
- How sensitive is the outcome to timing, not just eventual demand or price?
- What is the maximum “irreversible” cost if conditions worsen?
- What flexibility exists after approval, and who has the authority to use it?
- How will performance be measured once the asset is live, not only during construction?

If you can answer these clearly, you usually uncover gaps early. If you cannot, you often end up voting with confidence rather than understanding.

Trade-offs are inevitable, and that is the point

In uncertain times, you will face trade-offs, and the healthiest discussions acknowledge them openly.

One trade-off that comes up often is between speed and robustness. Building faster can protect early market positioning, but it can also increase engineering rework and compress procurement quality checks. Waiting for more certainty can reduce rework, but it can also miss the window when customers are ready or when competition is distracted.

Another trade-off is between asset ownership and contract-based flexibility. Owning assets can reduce unit cost long-term, but it also increases exposure to demand risk and technology risk. Contracts can shift some risk to suppliers, but they might cost more per unit and create dependency.

There is no universally correct answer. The right choice depends on the company’s cash position, competitive dynamics, and ability to execute under pressure.

Technology and “future proofing” without pretending certainty

Many capex conversations now include technology upgrades, automation, and energy efficiency. These investments can be excellent. They can also become speculative, because the technology might mature, standards might change, and the workforce capability might lag.

“Future proofing” can turn into vague language that hides real decision risk. The practical question is not whether the technology will be perfect later. The practical question is whether the project is designed so that upgrades are possible without a costly rebuild.

For example, teams can reduce technology risk by:

- building in interfaces that allow equipment swaps,
- keeping scope focused on capability outcomes rather than specific vendor choices,
- and validating commissioning complexity early, not after construction is underway.

This is where collaboration between engineering, procurement, and finance matters. Procurement can tell you how binding long-term vendor commitments are. Engineering can tell you whether the design has modularity. Finance can tell you whether the contingency strategy is credible.

What changes at the asset lifecycle stage

Uncertainty does not end at commissioning. In fact, execution and performance uncertainties often shift rather than disappear.

During commissioning and ramp-up, the risks become operational:

- yield and throughput may vary more than expected,
- maintenance requirements can be higher in the early period,
- and training can affect quality acceptance.

A well-prepared capex plan treats ramp-up as part of the business case, not as a side story. If the business case assumes stable performance quickly, the project needs either design choices that support that or operating plans that can reach it.

One internal tension I have seen is that commercial teams prefer softer ramp assumptions because it makes capacity feel attainable, while operational teams prefer conservative assumptions because they do not want to overcommit to performance targets. The investment committee needs a reconciliation that results in realistic acceptance criteria and a credible path to performance.

The committee moment: how to challenge without destroying trust

Investment committees are supposed to be rigorous, but rigor can either build quality or break momentum. The best committees ask hard questions and also listen for whether the team has considered reality.

A productive style of challenge focuses on evidence and decision logic:

- “What would make us stop?”
- “Where is the plan most likely to fail?”
- “What do we learn during construction that we are not currently factoring?”

What is less helpful is attacking the personal credibility of the project owners or treating dissent as disloyalty. In uncertain times, you want people to bring discomfort early. That means the environment should reward honesty about risk, not silence.

When committees create psychological safety while maintaining financial discipline, projects tend to surface issues earlier and adjust faster. That is the difference between a project that drifts and one that evolves.

Bringing it together: capex discipline is an operating capability

Corporate investment in uncertain times is not just “capital budgeting.” It is an operating capability that blends finance, operations, engineering, procurement, and governance.

The strongest capex decisions share a few characteristics: they respect irreversibility, they build staged optionality where possible, they stress-test timing and execution, and they keep ownership and decision rights alive after approval.

The weakest decisions tend to hide behind a single optimistic narrative and an elegant model. They treat uncertainty as a discount rate adjustment rather than a management problem. They lock in scope without defining what evidence would justify change.

If you are steering capex during volatility, the goal is not to eliminate risk. The goal is to shape commitments so the company learns quickly, adapts responsibly, and preserves the liquidity and credibility it needs for the next decision.

Capex always has a future cost. In uncertain times, the companies that win are the ones that make that future cost measurable, controllable, and, when necessary, reversible.