



| IFS Copperleaf



Delivering Value in the Oil & Gas Sector

IFS Copperleaf AIP

Delivering Value in the Oil and Gas Sector



Mounting pressures from investors, customers, and environmental regulators are creating huge capital planning challenges for oil and gas companies globally. Volatile commodity prices, aging assets, decarbonization, Environmental, Social, and Governance (ESG) commitments, digitalization, and shifting regulations are forcing companies to rethink how they approach capital planning.

Every year, oil and gas companies spend billions of dollars and are challenged to create plans that ensure safe and reliable operations and deliver their energy transition goals, while investing in growth projects to fund the strategy, pay off debt, and reward shareholders.

Capital planners at a corporate level must strike the right balance between ensuring energy security, funding organizational growth, and meeting environmental targets. From an asset management perspective, decision makers must make different trade-offs, for example between refurbishing or upgrading aging equipment. Each investment delivers a unique set of benefits that are not necessarily mutually exclusive, such as safety remediation, production enhancement, risk mitigation, and fugitive emission reductions. However, an objective, quantitative, and rigorous approach has been elusive.

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The oil and gas industry perpetually seems rife with uncertainty and potential volatility. Between rising and diminishing consumer demand, price fluctuations, and of course, geopolitical issues where one global supplier or another threatens to cut off supplies, every day holds surprises and risks.”

KPMG

Drilling Down Oil & Gas Magazine

Typically, organizations create Excel spreadsheets to try to collect and normalize this data and prioritize these diverse investments. However, spreadsheets are incapable of managing the multi-dimensional complexity of these decisions, the scale of these investment portfolios, and how the value of a project changes with time. Critically, it can also be a challenge to audit the portfolio and investment history in Excel. Versioning of plans can quickly get out of control.

There is a better way, using decision analytics. This approach has been proven and adopted by midstream and downstream companies, as well as infrastructure industries such as electricity, natural gas, and water utilities, and rail and road networks. The IFS Copperleaf® AIP solution and value-based decision-making methodology provide a framework to manage the complexity of these investment portfolios. Investments are assessed based on the organization's agreed definition of value and strategic objectives, including financial, netzero, ESG, risk mitigation, safety, and other targets. This enables shareholders, executives, planners, and engineers to speak a common language—value—and quickly come to agreement on the best overall investment plan.

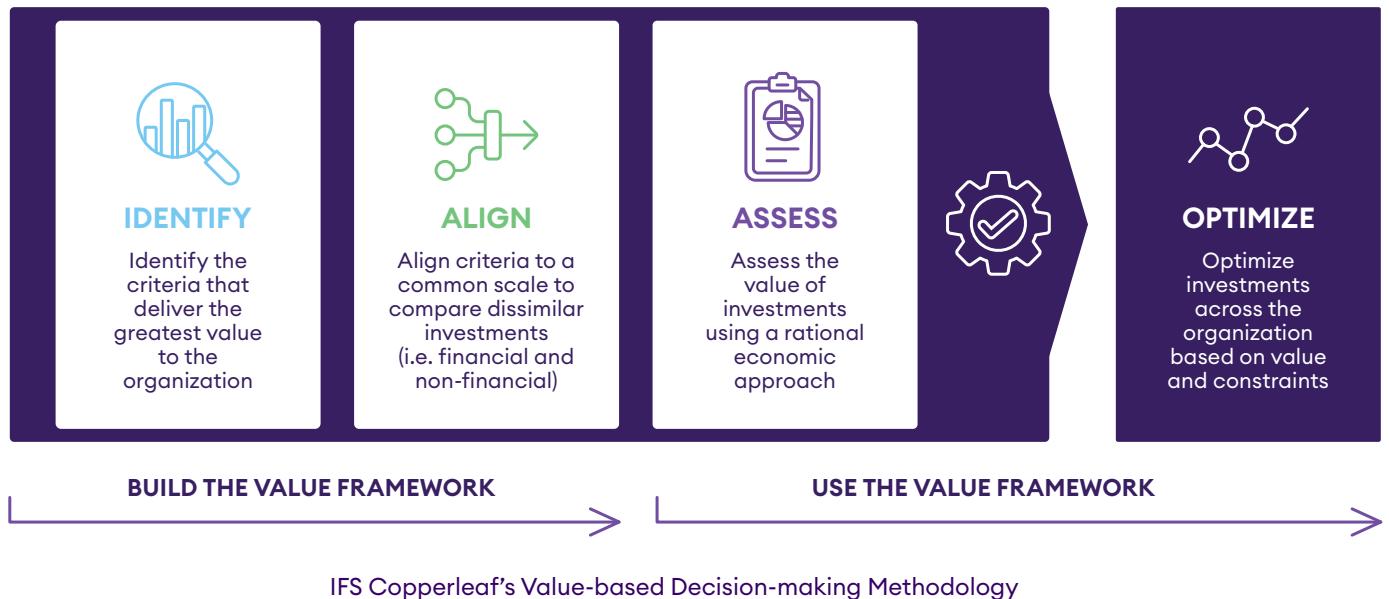
The rewards are measurable and substantial. You align spending to strategic goals and deliver greater value for the same capital spend. You make portfolio decisions quicker and with greater confidence, and when things change, you respond with agility. Finally, you build trust through a rigorous decision-making process that is objective, analytical, transparent, and defensible.



1. Value-based Decision Making

Value-based decision making is IFS Copperleaf's approach to making investment decisions that are focused on delivering the maximum value to an organization.

This approach involves first building a strategic decision-making framework based on value, then using that value framework to assess all proposed projects and investment requests on a common economic scale. AI-enabled optimization techniques are then used to determine the right set of investments to execute and their timing that will deliver the most value while respecting all constraints.



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This is a moment for oil and gas companies to make thoughtful choices: both to improve their economic and reputational resilience, and to consider whether and how to reposition themselves to take advantage of the accelerating low-carbon winds of change.”

McKinsey

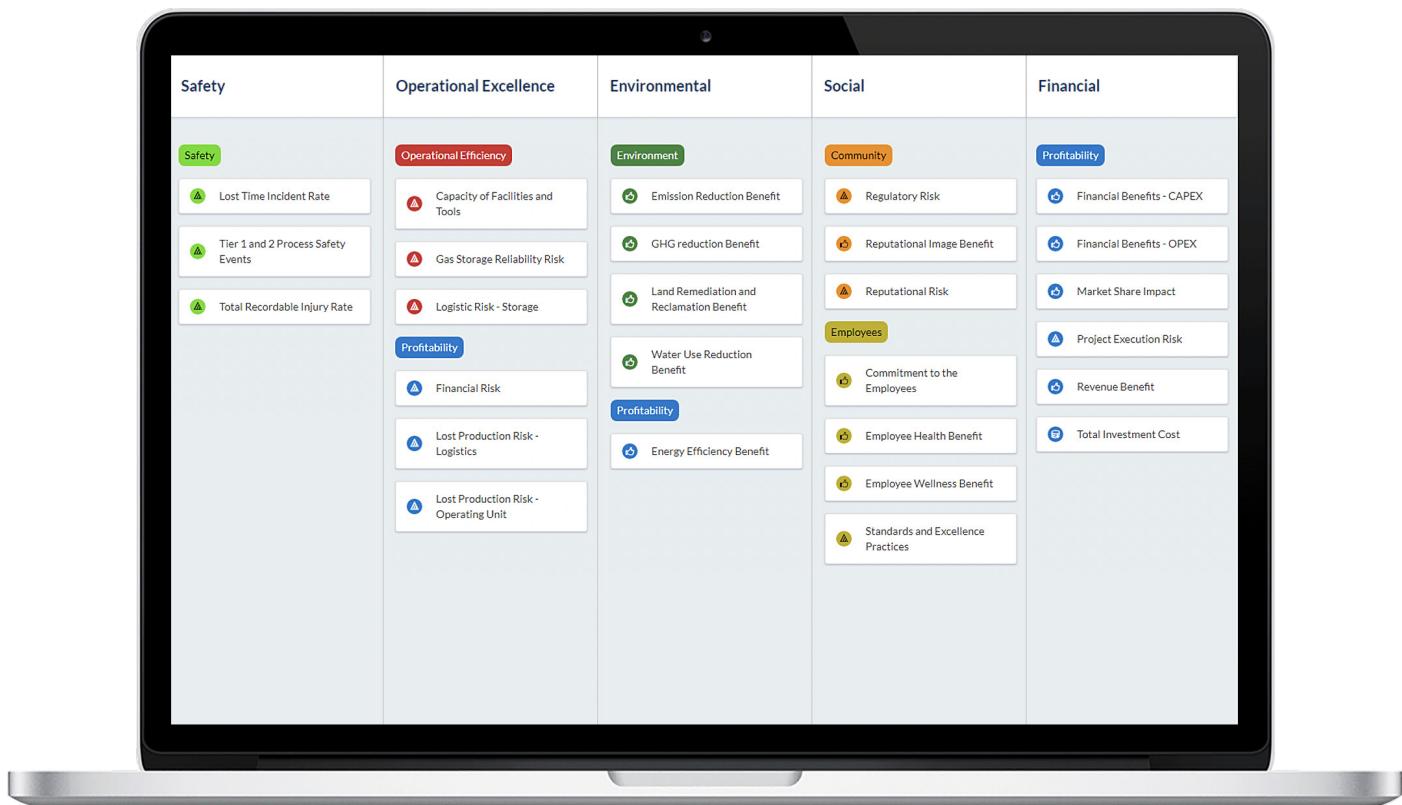
The Big Choices for Oil and Gas in
Navigating the Energy Transition

2. Create a Strategic Decision-making Framework

The first step in establishing a value-based decision-making process is to create a transparent, data-driven framework to assess the value delivered by each investment under consideration. Investments deliver benefits (value), however, these benefits can be quite wide-ranging. For example, the benefits of investments proposed solely to increase capacity will differ from investments that solely address greenhouse gas emissions. To perform the proverbial “apples to oranges” comparison, a framework is needed to assess value on a common economic scale. This allows organizations to objectively compare the benefits created by all different types of projects. This is the essential groundwork that allows all stakeholders to speak the same language and is key to unlock the ability to make value-based decisions.

A value framework provides an objective, consistent, and practical way to quantify the value delivered by any project or investment—based on economics and risk. It includes an enterprise-wide view of the value measures that support the organization’s strategic goals as well as the models used to calculate how projects affect those measures.

When a value framework is used to underpin decision making, all stakeholders can understand the benefits projects deliver, making the allocation of budget across departments much easier. Suddenly, the value of mitigating safety risk, reducing emissions, increasing throughput, etc. are comparable and transparent to all stakeholders.



The IFS Copperleaf Value Framework embodies a company’s strategic objectives and unique definition of value

3. Make Value-based Decisions

Develop Value-based Business Cases

Establishing a consistent process to intake project requests and develop complete and quantitative business cases is a prerequisite to value-based decision making. Every business case must illustrate how the project contributes value to the organization, and the extent of that value. Since there are many ways a project can deliver benefits, it's important that value be expressed on a common scale so that dissimilar projects can be compared and trade-off decisions can be made. The IFS Copperleaf Value Framework is used to assess all projects and uses an economic scale to ensure all projects are evaluated on equal footing.

Recently, IFS Copperleaf developed a value framework for an oil and gas company to enable the comparison of investments across business units. The framework considered the impact of projects on the company's strategic goals in several key areas, including safety, operational reliability, financial performance, environmental stewardship, shareholder return, and future growth.

Create a Value-based Culture

The key to planning is selecting the right projects to execute when there aren't enough resources to do them all. Dependencies between projects must be respected and portfolios must be optimized to deliver on strategic goals and targets. To add to the complexity, some projects may be mandatory while others may need to be carried out by a specific time.

Planners must consider all of these real-world constraints and targets to create plans that include the right projects to execute at the right time that deliver the most value to the organization. With hundreds or even thousands of projects to consider, this can be an impossible task using traditional methods, such as spreadsheets.

IFS Copperleaf's AI-enabled optimization gives organizations the ability to create optimal plans that deliver the most value and drive strategic outcomes—while meeting funding, resource, timing, and other real-world constraints.

Optimize Investment Portfolios to Targets

The key to creating consensus and working collaboratively across organizational boundaries is to establish a culture focused on delivering the greatest value overall to the organization. This means being able to communicate how value is measured and how specific investments contribute to increasing that value.

This transparency creates trust and enables a value-based culture where every employee can understand what really matters to the organization

and see how their projects and teams are contributing. This drives support for the initiatives that deliver the most benefit, regardless of where the project or initiative may have originated, allowing decisions to be made confidently within and across organizational boundaries. In a value-based culture, everyone becomes focused on creating value and achieving the organization's strategic goals.

4. Adapt to Change

The outcome of the planning process is an agreed budget and a list of projects to execute. These projects will be impacted by cost variances, delays, and unforeseen external factors that will inevitably occur. As the year unfolds, organizations respond as best they can, however, limited visibility of the impact of these changes on the overall plan makes it difficult to react effectively and decisively.

With decision analytics, information from project management systems can be used to compare planned versus actual performance and identify variances. Understanding these variances quickly allows organizations to reforecast and re-optimize portfolios to focus resources on the right projects given the new constraints. This "adaptive planning" delivers the business agility needed to react quickly to unforeseen events and refocus efforts on the opportunities that deliver the most value.

Perform Scenario Analysis

Your business environment is constantly changing. Things might look very different next year or 5 years into the future, so it's important to be able to create what-if scenarios to model your response to potential events. For example:

- What if budgets are reduced by 15%?
- What if exchange rates or commodity prices change significantly?
- What if the organization wants to accelerate greenhouse gas reduction targets?

In each of these scenarios, projects must be shifted to meet the constraints and targets. While the future is unclear, having the ability to simulate a variety of situations to understand the potential outcomes helps you be better prepared. For many companies, the COVID-19 pandemic highlighted the need to create multiple what-if scenarios to define the best operating path forward in the face of unprecedented uncertainty. The ability to model different scenarios for pandemic response planning proved critical for many organizations.

5. Governance

By adopting a formal value framework and a rigorous system to leverage it for all decision making, organizations can ensure that every decision will be made in accordance with internal governance processes and procedures. **IFS Copperleaf Value™** provides clear visibility and traceability across the organization for any changes to the value framework and their associated rationale. It also ensures that decisions are being made based on a broad consensus across stakeholder groups, both internal and external, as required by the growing need to adopt wider ESG targets in decision making.

IFS Copperleaf Portfolio™ assures that every investment request and associated business case is checked, processed, and evaluated using well-defined, repeatable, and transparent processes. This increases confidence in the quality of the investment data and the resulting decisions. With good data, stakeholders can confidently make critical trade-off decisions that are both optimal and defensible.

IFS Copperleaf Asset™ enables organizations to accurately predict and value asset risk—key factors in most asset-related decision making and important aspects of governance assurance for internal and external stakeholders.

Equally important: IFS Copperleaf AIP builds a full audit trail of all decisions, scenarios, and changes made over time, enabling organizations to justify and defend their actions with accurate and complete information.

6. Case Study

A multinational midstream company set a strategic goal to make asset management the cornerstone of its enterprise transformation and decision making. Our partnership helped the company apply consistent and transparent decision-making processes across all business units and implement industry best practices in capital planning.

The first step was to develop an enterprise value framework that could be used as the basis for all investment decisions. Several key business processes were re-engineered, from project entry to plan development and governance. Asset management, capital planning, and financial systems were integrated to streamline operations. Following the implementation of IFS Copperleaf AIP, several benefits were achieved, including:

- Consistent, higher-quality investment entry
- The ability to create and rapidly adapt multi-year investment plans
- Investment optimization across business units

IFS Copperleaf AIP

IFS Copperleaf has an important role to play in helping organizations in the oil and gas industry achieve their strategic goals and operate in the most efficient way possible. We have been working at the forefront of asset management best practices for more than 20 years, delivering best-in-class decision analytics solutions to asset-intensive organizations across the globe. Every IFS Copperleaf client to date has recovered their investment within their first planning cycle—and organizations that have implemented our solution continue to use it successfully today. Business benefits include:



IMPROVED RETURN ON INVESTED CAPITAL

5% increase in capital efficiency



IMPROVED PLANNING EFFICIENCY

50% reduction in planning time



IMPROVED PLAN EXECUTION

10% improvement in execution accuracy



ENHANCED RISK MANAGEMENT

30% reduction in risk exposure

About IFS

IFS is the world's leading provider of Industrial AI and enterprise software for hardcore businesses that service, power, and protect our planet. Our technology enables businesses which manufacture goods, maintain complex assets, and manage service-focused operations to unlock the transformative power of Industrial AI™ to enhance productivity, efficiency, and sustainability.

Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers—at the Moment of Service™.

The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector. Our global team of over 7,000 employees every day live our values of agility, trustworthiness, grit and collaboration in how we support thousands of customers.

Learn more about how our enterprise software solutions can help your business today at [ifs.com](https://www.ifs.com).

#MomentOfService

