

# IPANewsletter

IPA



## ALSO IN THIS ISSUE:

IBC 2024 Addresses Talent Management Challenges, New Technology Projects, Sustainability, and More	4-5
IPA Invites You to IBC EMEA 2024	5
Achieving Carbon Competitiveness Without Sacrificing Cost in Oil & Gas	6-8
Research Study: CCUS Project Performance Norms	9
Update to IPA's Project Data Portal Software Focuses on Improving User Experience	11
Case Study: Deep Dive to Find the Root of a High Cost Estimate	12-13
Cost Engineering Committee	13
UIBC EMEA 2024 Addresses Carbon Reduction, Contracting, and More	14
IPA Events and Presentations	15
2024 IPA Institute Course Schedule	16

## Early Uncertainty in Sustainability-Driven Projects

By Paul Barshop, IPA Global Director, Sustainability and Andras Marton, IPA Director, Integrated Energy

An unusually large percentage of the sustainability-driven projects that IPA assessed early in their lifecycles—before the scope is set—experienced extensive churn in their later phases, often not making it to full funds authorization. Many of these projects failed to properly recognize and address the early uncertainty and increased risks that sustainability-driven projects face in their lifecycles. Developing a clear business case, with an understanding of risks and uncertainties and their root causes, is critical to assess whether the project has a chance to maintain business value during its development in later phases. Although important for all projects, this is especially critical for sustainability-driven projects, which often have marginal business cases. Recognizing these risks and uncertainties early is also critical to establishing kill criteria and mitigation plans that often require venture shaping that is outside of the project team's typical work.

### Early Definition Uncertainty

The end of FEL 1 is a uniquely critical milestone for carbon removal, new energy, and circularity projects. The financial expected return of most of these projects just meets investment hurdle rates, even with government subsidies. Thus, any meaningful growth in estimated operating or capital costs or significant delays can make these projects uneconomical. These business cases also have a wider range of uncertainty than most ventures at the end of FEL 1.



# IPANewsletter

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IPA improves the competitiveness of our customers through enabling more effective use of capital in their businesses. It is our mission and unique competence to conduct research into the functioning of capital projects and project systems and to apply the results of that research to help our customers create and use capital assets more efficiently.



Independent Project Analysis, Inc. is the preeminent organization for quantitative analysis of capital project effectiveness worldwide. At IPA, we identify Best Practices to drive successful project outcomes.  
[www.ipaglobal.com](http://www.ipaglobal.com)

## Not Stopping Projects Creates a Bottleneck

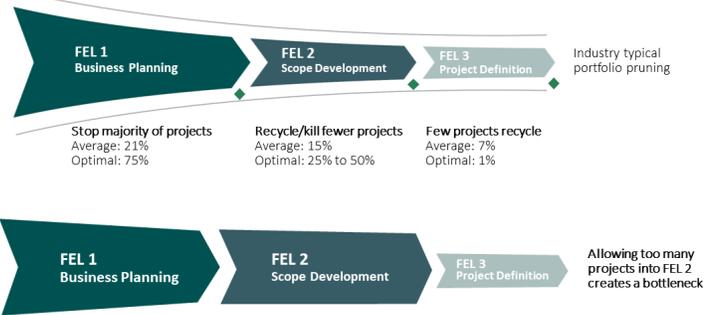


Figure 1

All projects face some risk of uncertainty at the start of FEL 1, the project initiation phase. However, projects in emerging industries face increased risk because of their characteristics, including early definition uncertainty from:

**Immature pricing markets and commercial models:** Some products—such as sequestered carbon, blue or green ammonia, and blue or green hydrogen—lack an established market and thus lack an established price. This makes determining a project’s viability difficult and much more dependent on business and venture development focused on customer and price certainty development.

**Untested requirements for government subsidies:** Government subsidies are often required to make sustainability-driven projects financially viable. These government subsidies, however, are often unclear and come with strings attached. Marginal projects need long-term certainty in product price and need enough time on the front end to properly develop. Schedule pressure to qualify for financial support often does not leave project teams with enough time to develop and deliver a project with a business model that is fundamentally focused on low cost.

**Evolving and lengthy regulatory and permitting processes:** Many sustainability-driven projects enter uncharted regulatory and permitting territories, where existing laws might be unclear, rules are undeveloped, and regulatory agencies are inexperienced. In addition, the regulatory framework can also be local and therefore variable across regions. One recent example is the Navigator CO<sub>2</sub> Pipeline Project, which was put on hold after South Dakota regulators denied a crucial permit. Another is a blue ammonia project planned for Mississippi, which ran into problems with uncertain permitting requirements. Failing to receive the required permits is truly a showstopper for these projects and is often hard to predict, even if the company is working closely with regulators.

**Fragile engineering services and equipment supply chains:** Not only do project teams need to find vendors who can meet their needs at a cost they can afford, but they also need to be concerned about whether those vendors will still be in business when upgrades or refurbishment is needed. Further, with a limited number of service and equipment suppliers, companies are competing with each other to lock in agreements to ensure

their availability. Balancing locking in agreements—when prices are still high—with waiting for the market to come down is a balancing act. Lastly, the sheer scale of many energy related sustainability projects is such that vendors, particularly of components with high intellectual property value, are often unable to scale up in a timely manner to provide the necessary supply of their product.

**Low technology readiness level:** Sustainability projects often require deployment of new technology. Commercializing these new technology projects presents a high risk of significant cost overruns, schedule slip, production shortfalls, or outright failure. These projects take longer to start up, require more contingency, and often take longer to reach steady operation than projects using proven technologies. A robust technology management plan is needed to ensure Basic Data are ready as process design starts and to prevent projects from moving forward with untested technology. Basic Data development often takes time, which collides with subsidy and business requirements.

### Ensuring Only Viable Projects Move Forward

Completing FEL 1 without a business case underpinned by robust analysis and detailed shaping and risk management strategies leads to significant churn and delays if the project enters later project development phases. These projects either do not progress out of FEL 1 or proceed to FEL 2 (and in some cases even FEL 3) only to languish and eventually be canceled, creating bottlenecks in the project pipeline (see **Figure 1**). Failure to complete FEL 1 business planning activities also leads to large sunk costs and wastes internal resources that could have been used to develop ventures with a higher probability of success. Thus, assessing a project's viability early is critical to developing and maintaining a successful project portfolio.

### How IPA Guides Companies Through Early Uncertainty

As sustainability is now an important part of decision-making for industrial capital projects, it is critical for companies to properly address uncertainty in the early definition stages. IPA brings decades of experience and a wealth of data-based knowledge to help companies make informed early decisions to drive success and avoid pursuing unprofitable ventures.

The business case is the single most important element in building an effective capital project. IPA research has shown that the quality, depth, and completeness of the business case governs virtually every aspect of project development and execution. A Project Viability Assessment (PVA) helps

you understand the strength of your project's business case, identifies gaps in practices, and highlights actions to minimize project risk in the remaining phases.

For new technology commercialization projects, it is imperative to understand how likely the project is to meet its cost and schedule targets, as well as the potential risks and how to reduce them. IPA can provide an unbiased picture of a project's cost, early operational performance, and schedule through a [New Technology Risk Analysis](#). This gives management the information and confidence needed to make informed early decisions.

To meet the needs of startup companies and less experienced project systems, IPA offers a comprehensive end-to-end advisory solution—the Project Delivery Guide (PDG)—to steer companies through all the critical tasks from FEL 0 through project execution.

These are just some examples of IPA's capabilities in addressing early uncertainty in capital projects.

Contact Paul Barshop at [pbarshop@ipaglobal.com](mailto:pbarshop@ipaglobal.com) or Andras Marton at [amarton@ipaglobal.com](mailto:amarton@ipaglobal.com) for more info.



## New Technology Risk Analysis

New technology commercialization projects take longer to start up, require more contingency, and often take longer to reach steady operation than projects using proven technologies. If your project involves a new technology step-out, you need to understand the risks before it's too late. Make the New Technology Risk Analysis a part of your plan.

Contact Michael McFadden at [mmcfadden@ipaglobal.com](mailto:mmcfadden@ipaglobal.com) to start a discussion!



## IBC 2024 Addresses **Talent Management Challenges, New Technology Projects, Sustainability,** and More

By Cheryl Burgess, IPA Senior Editor and Staff Writer

The 2024 annual meeting of the Industry Benchmarking Consortium (IBC 2024) was held at the Lansdowne Resort in Leesburg, Virginia, from March 18 to 20, 2024. The IBC's objective is to drive continuous capital project system improvement for the world's leading companies in the manufacturing, energy, and infrastructure industries. The IBC 2024 agenda featured a keynote speech by IPA President & CEO Ed Merrow, new industry research study presentations, industrial sector breakout sessions, and project performance competitiveness briefings for large and site and sustaining capital projects. Attendees had opportunities to network with and learn from their counterparts at other member companies.

Continue reading for summaries of some of the exclusive research studies and focused presentations delivered at IBC 2024.

### **The People Problem—Understanding Today's Talent Management Challenges and Opportunities**

In today's highly competitive job market, owners are facing significant talent management challenges (i.e., "The People Problem"). Chief among these are getting competent and experienced project personnel for their project portfolios and developing junior talent. This study identified the most

pressing people problems our clients are facing today—specifically around talent acquisition, talent development, and retention—and the strategies used to address those people problems.

### **Successful Commercialization of New Technology**

Sustainability has generated the need for new technology but are companies ready to manage the risks associated with new technology and do they have the discipline to make new technology projects successful? This study revisited old lessons about how to commercialize new technology successfully and found some new ones in the data as well.

### **Capturing Value—CCUS and Hydrogen Projects**

Carbon Capture, Utilization, and Storage (CCUS) and hydrogen manufacturing projects are becoming an important part of companies' low-carbon agendas. This IBC session highlighted trends in cost and schedule performance of CCUS and H<sub>2</sub> projects that IPA has evaluated recently, looking at how they vary by project characteristics and discussing key risks preventing more projects from reaching full funds authorization.

## How to Incorporate Sustainability Into Capital Projects

Sustainability has become a major input to capital investment decision making, with engineering and project organizations playing a key role in those processes. This study summarized what companies are doing to enable sound business sustainability decision making and to manage sustainability risk. We identified the practices for success and the pitfalls companies are encountering as they deploy sustainability processes. Individuals can use the results to diagnose the strengths and weaknesses of their company's effort and take steps for improvement.

## Owner Construction Manager

Today's changing contracting market, erosion of contractor capabilities, shifting demographics, and rebounding portfolios have forced owners to examine their construction management capabilities. This study examined the value of staffing the owner core team with an owner construction manager early in FEL and provides an industry perspective on the role of the owner construction manager as companies evaluate their capabilities in delivering effective capital projects.

## The Do's and Don'ts of Modularization

Modular projects don't always meet the expectation of better cost and schedule for capital projects compared to stick-built projects. This study covered the differences between modular projects that are successful and those that are unsuccessful to better understand what practices and characteristics set projects up to achieve the desired outcomes.

## Improvement in Site-Based Project Systems

This session focused on the factors that played a role in improving site-based project systems. We reviewed the practices used, lessons learned from prior Most Improved Sites at IBC, and existing IPA tools and their role in site-based project performance improvement. Live audience polling helped to bring participants' experiences into the discussion.

## Additional Topics

IBC 2024 also featured presentations on Project Governance, Undisciplined Authorization Practices, Minimizing Project Changes During Execution, and Maximizing Value From the Business and Engineering Alignment Meeting (BEAM).

## About the IBC

The IBC is a voluntary association of owner firms in the chemical, petroleum, minerals processing, food and consumer products, life sciences, pulp and paper, and power and infrastructure industries that employ IPA's quantitative benchmarking approach to improve the value from their capital project systems. Through benchmarkings of both large and site-based systems conducted by IPA, IBC member companies receive exclusive insights into how their capital project systems and project outcomes stack up against their industry peers with respect to safety, cost, schedule, and operational performance. Member companies agree to support the continuous improvement of their own capital processes through measuring and comparing performance metrics.



## IPA Invites You to the IBC EMEA Roadshow 2024!

The IBC EMEA Roadshow returns to The Hague, The Netherlands on 14-15 May 2024! IBC member companies operating in the EMEA region are invited to join us! In addition to performance metrics, attendees will also receive exclusive new research addressing key topics industry topics. The agenda also includes time for networking with other project professionals and discussions with IPA regarding your company's performance. Contact Andrew Griffith at [agriffith@ipaglobal.com](mailto:agriffith@ipaglobal.com) to request more information!



## Achieving Carbon Competitiveness Without Sacrificing Cost in Oil & Gas

By David Rosenberg, IPA Senior Consultant

For oil and gas exploration and production (E&P) projects, the path to achieving more competitive carbon emissions profiles is relatively easy—just add or change the scope of the facility. But there is a catch. While this may help secure some easy wins in the form of reduced emissions, this approach eventually leads to significantly increased costs and reduced cost competitiveness. The challenge for all companies moving forward is achieving carbon capital effectiveness (CCE)—that is, achieving carbon competitiveness without sacrificing cost competitiveness.

Of course, achieving carbon capital effectiveness is a difficult task and it will only keep getting more difficult as carbon goals become more demanding in the years to come. The good news is that IPA has identified a set of key practices that seem to drive this optimization of carbon and cost competitiveness, and we have started research looking for early indicators that we are on the right track. Spoiler alert: the answer is yes! Before we share our findings, it is important to first understand what CCE is and how IPA measures it.

### What Is Carbon Capital Effectiveness?

Carbon capital effectiveness is IPA's measure of how well cost and emissions competitiveness are balanced for a specific project scope. In IPA's observation, many companies are attempting to balance carbon performance and cost performance, but few are succeeding. By understanding the CCE of different projects in a portfolio, and different technologies for a particular project, decision-makers can select the right solution to meet the desired business objectives. Such clear Key Performance Indicator (KPI) balancing methodologies also enable the project teams to deliver improved project performance and competitiveness.

As shown in **Figure 2**, CCE comprises two components:

- Facility Cost Target: a measure of the cost to execute a specific scope relative to industry average
- GHG Intensity Target: a measure of GHG emissions during the life of field executed a given depletion plan

IPA's current research focuses on 56 projects of varying types (floaters, platforms, subsea tiebacks, onshore facilities, etc.) in all regions of the world. The average total asset cost is over US\$2 billion with an average annual emissions over the life of the project of 2.1 million tCO<sub>2</sub>e. As shown in **Figure 3**, 41 percent of these projects are in the optimal *low cost – low carbon* range. By understanding which projects are performing well in both dimensions, we can start to examine the practices used to get them there.

## Finding Early Indicators With the Carbon Optimization Readiness Assessment (CORA) Metric

IPA recently developed a new Carbon Optimization and Readiness Assessment (CORA) metric to identify and measure practices that help companies reduce emissions while still achieving cost competitive outcomes. CORA has its roots in the GHG Readiness Framework developed in conjunction with the Carbon Working Group (CWG), an IPA-led group of industry SMEs from more than 35 owner firms across industrial sectors. The CORA metric is constructed from five elements and reported on a single descriptive scale, as shown in **Figure 4**.

We put the CORA metric to the test by closely examining the practices used by the projects in the *low carbon – low cost* quadrant mentioned earlier. We discovered that 67 percent of those projects received a *Good* CORA rating, a strong indicator that CORA is measuring the right practices (see **Figure 5**).

## Key Practices Drive Better Carbon and Cost Optimization

Our research identified key practices that show strong indications of driving carbon capital effectiveness in IPA's research. These practices, outlined in **Figure 4**, include practices clearly established as important for all types of projects, such as clear objectives and an integrated team, and others that may be important specifically for GHG projects, like having a specialist on the team. Some practices seem to have an effect only when used rigorously and in conjunction with other practices.

## Conclusions

This study provides early indications that the practices associated with IPA's CORA metric are linked to optimized carbon/cost outcomes, with some elements showing strong links to CCE outcomes. These indicators reflect that a rigorous,

## Defining CCE and Its Components

Measuring How Well Project Teams Balance Cost and Emissions Competitiveness

- CCE is designed to understand the effectiveness of developing a particular asset from a cost and emissions perspective
- This is measured at Gate 2 or Gate 3
- Once we get a bigger sample of completed projects, we will only look at completed projects

CCE comprises two components:



Figure 2

## Carbon Capital Effectiveness (CCE)

Mathematical Implication: A CCE Greater Than 1.00 Cannot Exist in the Green

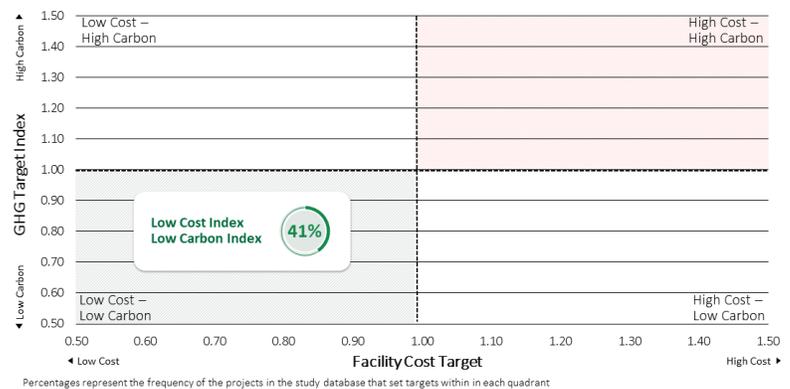


Figure 3

## Optimal Emissions Intensity: Carbon Optimization Readiness Visualized

Five Inputs to Effective Carbon-Cost Balancing

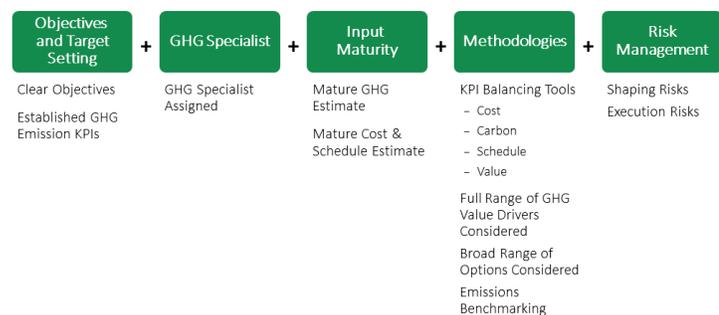


Figure 4

systematic approach to cost-effective carbon reduction is key. Not only does rigorously applying the practices outlined above enable effective target optimization, but there is also real value loss associated with not applying these processes—both through poor cost competitiveness and through less competitive emissions.

It should be noted that the sample size is not big enough to separate out all the different practices and accurately quantify cause and effect relationships. Hence, the results should be taken as *indicative* rather than *predictive*. However, IPA will continue to measure these practices for all projects in our quest to clarify core Best Practices.

Contact David Rosenberg at [drosenberg@ipaglobal.com](mailto:drosenberg@ipaglobal.com), for more info.

## Very Strong Indications That CORA Is Measuring the Right Thing

This Is Encouraging: Let's See What's Going on "Under the Hood"

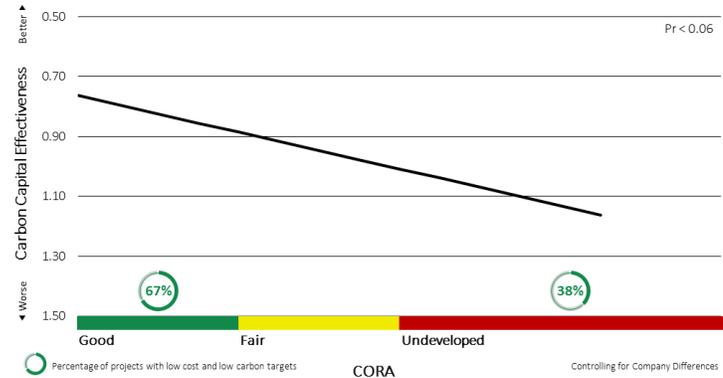


Figure 5

## Project Management Best Practices



Spend 2 fun and rewarding days with us in New Orleans this May! You'll learn data-driven practices to improve the cost, schedule, and operability performance of mid-size to large capital projects.

May 14-15, 2024  
Le Méridien Hotel  
New Orleans, LA

### Topics covered include:

- Risk management
- Business strategy and clear objectives
- FEL and the stage-gated process
- And more!

### Special Offers

Register by April 15 to save US\$150! Register 3 and bring a 4th person for free!

### Register

Visit [www.ipaglobal.com/events](http://www.ipaglobal.com/events) to register!

# Research Study: CCUS Project Performance Norms

## What Is the Total Lifetime Cost of a CCUS Project?

Independent Project Analysis (IPA) is launching a multi-client research study to help owner companies understand the real total lifetime cost of carbon capture, utilization, and storage (CCUS) projects in the industry today. This study will generate the industry-level metrics that owner companies need to improve decision making, understand feasibility, and ultimately drive better competitiveness and overall performance for CCUS projects. This effort will build on previous IPA research that established baseline cost and schedule metrics for CCUS projects. Decision-making for CCUS projects has become more complex since then and we can learn from the many CCUS projects that have recently progressed around the world. Several leading companies active in CCUS have requested IPA to lead this important initiative and we invite additional owner companies to join!

## Key Benefits

- Determine the feasibility of CCUS projects based on total lifetime costs
- Understand the cost implications of a given technology selection
- Improve CCUS opportunity screening
- Validate costs for each individual scope component: capture, compression, transport, and storage
- Validate schedule durations for each component (engineering, procurement, construction, execution and cycle time, drilling, completion, injection well program)
- Understand how project characteristics affect project performance

## The Need for CCUS Project Metrics

CCUS projects are increasing in frequency and global significance. Government agencies around the world have announced numerous funding mechanisms to accelerate the development of CCUS projects. As regulatory entities, investors, and shareholders further drive the need for greenhouse gas (GHG) emissions reduction, CCUS projects are poised to play an important role for decades to come. IPA sees the growth first-hand as our initial CCUS research study in 2022 was based on 26 projects and we expect to have more than 45 CCUS projects for analysis in this follow-up study.

This study pools industry learnings to address the gap in developer knowledge on cost and schedule assumptions, driven by the relatively few CCUS projects completed to date<sup>1</sup> and the lack of experience in complex engineering-heavy projects from several industries currently active in CCUS. Another factor adding complexity is the application of partially proven technology and scopes in new environments and at different capacity ranges. This lack of prior experience and added complexity due to first-of-a-kind elements hinders effective decision making.

## What Sets IPA's Study Apart?

**Wide Range of CCUS Projects Analyzed** We will examine real data from CCUS projects representing diverse value chain configurations, using various sources of CO<sub>2</sub>, executed under different business models, and with a wide range of design capacities.

**Comprehensive CAPEX Focus** This study seeks to understand the full CCUS value chain, including the Balance of Plant and OSBL components, which can significantly influence the feasibility of the entire project.



<sup>1</sup>According to the Global CCS Institute, 41 large-scale CCUS facilities were in operation as of November 2023.

**Focus on Total Lifetime Project Costs** CAPEX and OPEX metrics provided in this study will give a broader picture of the lifetime costs of the CCUS system.

**Data Sourced Directly From Project Teams** This study represents the only CCUS cost study executed to gather, organize, normalize, and present results from real project data.

**Comprehensive and Proven Normalization Methodology** Normalization of all data enables a direct comparison of costs and identification of drivers and OPEX metrics.

**Global Focus Area** The global nature of this analysis helps participants identify various implications for moving CCUS projects from one location to another.

**Secure, Accurate, and Transparent Data Collection** IPA has a 35+ year history of collecting and aggregating cost data securely and accurately using a standardized cost breakdown structure (CBS).

#### IPA's Proven Methodology

IPA will conduct the study by employing our proven methodology:

1. Establish the study steering committee
2. Develop the data collection strategy in collaboration with the steering committee
3. Collect CAPEX, OPEX, and technical data from participating companies securely and accurately
4. Aggregate, anonymize, and normalize all project data
5. Analyze the data and prepare the study report
6. Share the study report with all participants

#### Applicable Sectors

IPA seeks to have a balanced group of participating companies from sectors currently active in CCUS projects, including oil & gas production, power generation, chemicals, refining, cement, and iron & steel.

#### Join the Study

Owner companies that are currently active in CCUS and can contribute high-quality project data are invited to join the study. More details regarding eligibility are available upon request. Contact Adi Akheramka at [aakheramka@ipaglobal.com](mailto:aakheramka@ipaglobal.com) to request more information.

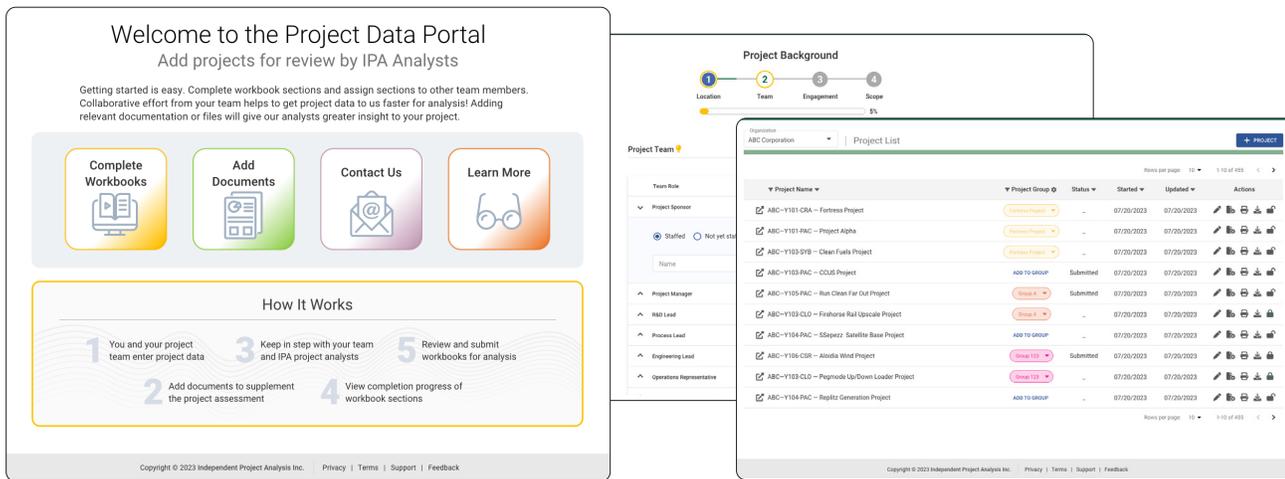


## Business Engineering Alignment Meeting (BEAM)

A Business Engineering Alignment Meeting (BEAM) is a meeting between all key project stakeholders during FEL 1 or early FEL 2. When applied effectively, a BEAM helps to achieve stakeholder alignment and prevent cost overruns, schedule overruns, and unrealized needs.

Contact Lara Keefer at [lkeefer@ipaglobal.com](mailto:lkeefer@ipaglobal.com) to learn more about IPA's BEAM solutions can help standardize stakeholder alignment and make it a repeatable process at your organization.

# Update to IPA's Project Data Portal Software Focuses on Improving User Experience



PDP is the online data capture tool that enables project teams to securely and easily submit project data to IPA for Project Evaluation System (PES®) assessments. The latest update provides an enhanced user experience, improved security, and further reduces the effort for clients when providing project-specific data.

## What's New?

- Greatly enhanced user experience featuring an easy-to-use and intuitive interface and faster load time
- Simplified navigation including smart-logic to reduce the number of questions asked
- Improved security, including two-factor authentication (2FA) log-ins
- Refined workbook organization for easier consumption
- Built-in frequent saving feature for user convenience
- Improved task delegation and secure file transmission

## When to Expect PDP v2

PDP v2 launches in March 2024 for all new Project Evaluation System (PES®) assessments!

## What is the PDP?

PDP is a secure web application that allows project

teams to easily submit data to IPA for project risk analysis and benchmarking. The data feed directly into IPA's PES® to generate insights on project risks, readiness, and performance.

## How PDP Helps Project Teams

Industry-leading owner companies have relied on IPA for decades to better understand their projects' risks, readiness, and performance. The PDP has proven to be an essential tool for our clients over the last several years by maximizing efficiency during the data gathering phase.

- Reduces effort to provide project-specific data to IPA
- Minimizes potential defects and facilitates accurate data provision
- Captures project information in all development phases for use throughout the lifecycle
- Enables users to transmit data and supporting documentation files to IPA with the push of a button
- Empowers project leaders to delegate tasks to team members for form completion efficiency
- Capability to automatically push project data to PDP via application program interface (API)

Contact René Klerian-Ramírez, [rklerian@ipaglobal.com](mailto:rklerian@ipaglobal.com) for more information.

# Deep Dive to Find the Root of a High Cost Estimate

By Emily Nott, IPA Advanced Associate Project Analyst and David Gottschlich, IPA Consultant

## The Problem

A long-time IPA client was embarking on a program of projects that involved a new business venture and ran into a problem. The cost estimate at the end of Select (FEL 2) was nearly double the earlier estimate and about 40 percent higher than industry average, putting the project's viability in doubt, even for a strategic project like this one. Although the initial cost estimate analysis identified the high-level areas that were higher than average (i.e., bulk materials), it was unclear what was driving these high costs and—more importantly—whether and where the cost could be reduced without cutting critical scope..

## What IPA Did

After conducting a cost reduction exercise of its own, the client turned to IPA to find out why the cost estimate was still

high and what could be done to make it more competitive. To address this problem, IPA did a deep dive into the cost estimate, working closely with the team members over a series of meetings to zero in on what was driving the higher than average cost.

IPA started with the company's own closer look at the cost estimate and subsequent cost cutting efforts. After the company's evaluation, the team cut scope to bring the cost down. IPA looked at how modifications to scope items affected the project's overall cost effectiveness. We found that the client's own efforts did reduce costs somewhat, but they were still very high.

Working closely with the client, we were able to find other sources of high costs and get the estimate closer to industry average. Some scope was counted twice and included in



both the contractor's estimated costs and the owner's. In other places, the cost estimates were conservative because they were based on assumptions or incorrect scope information. The tank costs also included tank farm costs, so the individual tank costs looked very expensive. As another example, some assumptions were made for this project based on other projects in the program, even though the other projects were planned for different sites and in different countries. The characteristics of the specific project site and, in some cases, location factors need to be taken into account to develop an accurate cost estimate.

As part of the more detailed cost analysis, we used [Cost Engineering Committee](#) data to look at specific cost sub-categories. For example, if bulk materials costs are high overall, we can look at different categories of bulk materials, such as steel and concrete, to zero in on the exact source of the high costs. Comparing a project's cost ratios with the respective industry average and normal range helps us to find project costs that are out of synch with typical industry experience and modify them, if necessary, to bring the cost estimate in line with historical expectations. For this project, the concrete costs were double the average for a similar project. Having this information allowed the team to challenge the contractor's estimated costs.

### How It Turned Out

The project team members found this approach to be very helpful because it allowed them to understand how IPA evaluates costs and what effect various scope items have on the overall project cost. The deeper understanding gained from the detailed look at the cost estimate also gave team members the knowledge to ask contractors the right questions and better evaluate their quotes.

Going forward, the company plans to use this IPA service for its larger projects and for projects that are first of a kind for the company. Any company that needs support for its estimating services or that is venturing into a new business area, especially those areas with already low margins like new energy projects, can benefit from the support provided by a detailed and interactive cost estimate review.

For more information, contact Emily Nott at [enott@ipaglobal.com](mailto:enott@ipaglobal.com).



## Cost Engineering Committee (CEC)

Exclusive metrics and tools for unbiased conceptual cost and schedule estimating and validation!

### Benefits of CEC Metrics

- Conceptual Estimating and Schedule Development
- Estimate Validation and Review
- Comparisons Against Industry Norms
- Calibration of Owner Tools

### Join the CEC

The next annual CEC members meeting takes place in September. Contact Shubham Galav at [sgalav@ipaglobal.com](mailto:sgalav@ipaglobal.com) to request more information about joining the CEC!

# UIBC EMEA 2024 Addresses Carbon Reduction, Contracting, and More

The inaugural Upstream Industry Benchmarking Consortium (UIBC) EMEA Roadshow took place on 9 January 2024 in Stavanger, Norway. Organized by Independent Project Analysis (IPA) and held at Equinor's Business Center, the meeting provided a unique opportunity for nearly 200 energy project professionals—from both UIBC member companies and non-member companies—to explore the latest E&P market trends, discover practical research findings, and network with peers. Continue reading below for summaries of the plenary sessions led by IPA leaders and subject matter experts.

## Keynote Speech

IPA President & CEO Ed Merrow's keynote presentation addressed trends and challenges in upstream megaprojects, the worrisome trend trajectory of recent key leading indicators, and the implications of today's market on future megaproject delivery.

## Market Trends in Capital Projects

Synthesizing various sources of IPA data and market survey data, IPA Director of Research Luke Wallace shared learnings on the state of the capital projects market, including in engineering, procurement, and construction. The session also reviewed industry perceptions on supply chain and escalation trends.

## The Efficacy of Unusual Contracting Choices

Contracting is subject to very strong opinions that are often based on project outcomes attributed incorrectly to the contracting approach. In this session, Ed Merrow shared research on the effectiveness of contracting forms—such as functional specification and design competitions—from a statistical perspective, and the various trade-offs associated with each contracting approach.

## A Hunt for Early Indicators

Optimization Readiness Assessment (CORA) measures the completeness of the processes and practices—as identified through research—used to balance carbon targets against cost KPIs. In this session, IPA Manager of Carbon Management & Sustainability Adi Akheramka discussed how CORA and its component practices influence the setting of competitive carbon and cost targets in projects.

## Long-Term Production Performance

Although industry routinely underproduces in the early phases of production relative to investment promises at sanction, the perception is that projects recover from early shortfalls as production performance improves over time. In this session, IPA E&P Manager Matthew Ingham presented quantitative analysis of subsurface production performance that proves this perception wrong and highlights the implications for our project delivery framework.

## Evaluating the Maturity of E&P Cost Estimates

In-house cost estimating competency in the E&P industry has been declining for years. In this session, Luke Wallace shared research on the state of cost estimating in the industry, the leading indicators of estimate maturity, and areas for cost estimating improvement. Additionally, the study introduced an estimate maturity index to help project teams in evaluating estimates and identifying risks.

## Latest Megaproject Findings

Ed Merrow presented findings from the 2nd edition of his *Industrial Megaprojects: Concepts, Strategies, and Practices for Success* book, due to be published in early 2024. This included a review of megaproject performance, key mistakes that cause megaproject failure, key practices needed for megaproject success, and what owners should do in today's market to avoid megaproject failures like we have seen in times past.

## What Is the UIBC?

The UIBC is a voluntary association of owner oil and gas exploration and production (E&P) firms that exchange data, information, and metrics, and support research, to improve the effectiveness of their capital project systems. Member representatives attend annual meetings to understand how well their capital efficiency improvement efforts compare to their peers. The members-only UIBC 2024 annual meeting will take place November 18 to 20 in McLean, VA.

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## IPA Events and Presentations

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### Industry Benchmarking Consortium (IBC) EMEA 2024

May 14-15, 2024

The Hague, The Netherlands

IBC member company representatives are invited to attend an exclusive IBC meeting specifically for companies operating in the Europe, Middle East, and Africa (EMEA) region! In addition to performance metrics, attendees will also receive exclusive new research addressing key industry topics. The agenda also includes time for networking with other project professionals and discussions with IPA regarding your company's performance. Contact Andrew Griffith at [agriffith@ipaglobal.com](mailto:agriffith@ipaglobal.com) to request more information.

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### Upstream Cost Engineering Committee (UCEC)

June 13, 2024

Houston, TX

UCEC members receive exclusive access to cost and schedule metrics and tools, which aid in unbiased conceptual cost and schedule estimating and validation for upstream oil and gas projects. The annual meeting is an opportunity for member representatives to hear the latest IPA research and industry trends, while also sharing insights and networking with other members. Contact Shubham Galav at [sgalav@ipaglobal.com](mailto:sgalav@ipaglobal.com) to request more information.

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### Critical Minerals Conference 2024

August 26-28, 2024

Brisbane, Australia

IPA Asia-Pacific Director Sally Glen will serve as a keynote presenter at the Critical Minerals Conference 2024. At this event, Sally and several other industry leaders and global experts will lead discussions on the mining industry's significant role as the world moves toward a more sustainable future. Visit [www.ausimm.com](http://www.ausimm.com) for more event details.

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### Cost Engineering Committee (CEC)

September 17-18, 2024

McLean, VA

The CEC focuses on advancing the cost engineering and project controls capabilities of the world's leading industrial companies to drive improved business results for capital projects. CEC members get exclusive access to cost and schedule metrics and tools, in addition to cutting-edge IPA research and industry trends—all of which aid in unbiased conceptual cost and schedule estimating and validation. Contact Shubham Galav at [sgalav@ipaglobal.com](mailto:sgalav@ipaglobal.com) to request more information.

# 2024 IPA Institute Course Schedule

In-Person Courses	Dates	Language	Click to Register
Complex Projects: Concepts, Strategies, and Practices for Success* <b>London, UK</b>	April 16–18	English	<a href="#">REGISTER</a>
Project Management Best Practices* <b>New Orleans, LA, USA</b>	May 14–15	English	<a href="#">REGISTER</a>
Project Management Best Practices* <b>Curitiba, Brazil</b>	May 15–16	Portuguese	<a href="#">REGISTER</a>
Megaprojects: Concepts, Strategies, and Practices for Success* <b>Perth, Australia</b>	July 23–25	English	<a href="#">REGISTER</a>
Megaprojects: Concepts, Strategies, and Practices for Success* <b>The Hague, The Netherlands</b>	September 24–26	English	<a href="#">REGISTER</a>
Best Practices for Site-Based Projects* <b>Houston, TX, USA</b>	October 9–10	English	<a href="#">REGISTER</a>
Contract Strategies for Major Projects* <b>Perth, Australia</b>	November 12–13	English	<a href="#">REGISTER</a>
Megaprojects: Concepts, Strategies, and Practices for Success* <b>Houston, TX, USA</b>	December 10–12	English	<a href="#">REGISTER</a>
Virtual Courses	Dates	Language	Click to Register
Best Practices for Site-Based Projects*	April 8–12	English	<a href="#">REGISTER</a>
Successful BEAM Implementation	May 2	English	<a href="#">REGISTER</a>
Capital Project Execution Excellence and Project Controls	May 7–8	English	<a href="#">REGISTER</a>
Front-End Loading and the Stage-Gated Process	May 27 & 29	Portuguese	<a href="#">REGISTER</a>
Front-End Loading and the Stage-Gated Process	June 4–5	Spanish	<a href="#">REGISTER</a>
Front-End Loading and the Stage-Gated Process	June 11–12	English	<a href="#">REGISTER</a>
Front-End Loading and the Stage-Gated Process	October 28 & 30	Portuguese	<a href="#">REGISTER</a>

**\*Group Discount Available:** Register 3 and send a 4th for free!

## About the IPA Institute

The IPA Institute is the training and education division of Independent Project Analysis (IPA), the world's leading advisory firm on capital projects. Our courses equip industry leaders and capital project practitioners with Best Practices for projects, portfolio, and project system management/delivery. All course instruction, presentations, and supplementary course materials are rooted in IPA's unparalleled capital project knowledge and research, and based on data from IPA's proprietary project database.