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Rethinking Management Systems in Energy and Resources

“Management systems are not for management”

Operational Management Systems (OMS) are a fundamental component of good governance-and have been a-staple in leading energy and resource organisations for the last 30 years. They are there to both protect the organisation and create a platform for value delivery and productivity improvement.

In today's volatile market environment, value chain optimisation through an OMS stands as a pivotal strategy for energy and resource organisations aiming to enhance efficiency, reduce costs and sustain organisational stability.

In this whitepaper, we will explore:

The problem:
Given available digital tools, how would we build a management system today?

The benefits:
What are the tangible benefits of a well-designed management system?

The brief:
What are the key elements of a well-designed management system?

US$1.88 trillion *of market capitalisation between the top 10 non-state-owned energy companies[1] and* ***US$0.69 trillion*** *of market capitalisation between the top 10-non-state-owned resource companies[2]*

Long-term price of crude oil is forecasted to remain at ***US$66*** *per barrel in 2025 and in the long term and iron ore fines is forecasted to drop from* ***US$99*** *per tonne in 2025 to* ***US$83*** *per tonne in the long term[3]*

[1] Companies include Exxon Mobil, Chevron, Shell, GE Vernova, Nextera Energy, TotalEnergies, Iberdrola, ConocoPhillips, Southern Energy and Enbridge (as of 12/8/25).

[2] Companies include BHP Group, Rio Tinto, Southern Copper, Newmont, Agnico Eagle Mines, Freeport-McMoran, Grupo Mexico, Glencore, Wheaton Precious Metals and Barrick Gold (as of 12/8/25).

[3] Taken from an average of forecasts from the CIBC Global Mining Group Analyst Consensus Commodity Price Forecast report (July 2025).

The problem

As organisations enter into new markets and facilities become more complex, it becomes even more important to structurally build agility and a focus on risk into the management systems. However, management systems have traditionally reinforced functional domains/silos and not enabled value delivery or capture.

Our objective in writing this paper was simple: **If we were to start again, without preconceptions or the vestiges of legacy systems, and with AI and other digital tools available to us, what would a management system look like in 2025?**

Case Studies

The Case for OMS Change

1. A **merger between two large energy organisations**. Updating the OMS was critical to realise the integration benefits. The OMS provides a single source of truth and unified ways of working for the combined organisation.

2. A **global energy investment group was moving from being a non-operator to an operator for the first time**. The OMS was vital in establishing control over operational processes, complying with regulation and implementing best practices and industry standards.

3. A **global energy organisation was diversifying into decarbonisation assets** include a large-scale revegetation program. This program needed to work as an agile agriculture start-up to get to value faster under a different appetite for risk.

4. A **global energy organisation was looking to optimise its operation** and improve performance across several key areas. Their current OMS was aligned to functional areas which created silos and inefficiencies in satisfying OMS requirements.
They decided to implement a process-based OMS which was structured to its value chain and was supported by governing and enabling processes which allowed them to satisfy external and internal requirements through the natural execution of work.

The brief

What is an OMS – the basics

An OMS can be simply described as an 'organisation's memory' as it is meant to document the systems, processes, and controls that an organisation deploys to help it achieve its goals, objectives, and targets and ultimately deliver value to its stakeholders. An OMS is a critical enabler of operational excellence and continual improvement.

Traditionally, element-based management systems were structured to represent discrete functions where departmental boundaries are well defined and represent expectations of regulators and adherence to industry standards (e.g., API, ISO, etc.). This commonly took the form of 'elements' or 'programs' such as asset integrity, environmental stewardship, emergency management, safety, etc.

A process-based management system (as seen in Figure 1) views organisations as systems of interrelated processes that involve the consumption and transformation of inputs and resources (e.g., money, people resources, materials, management, etc.) into outputs for internal or external customers.

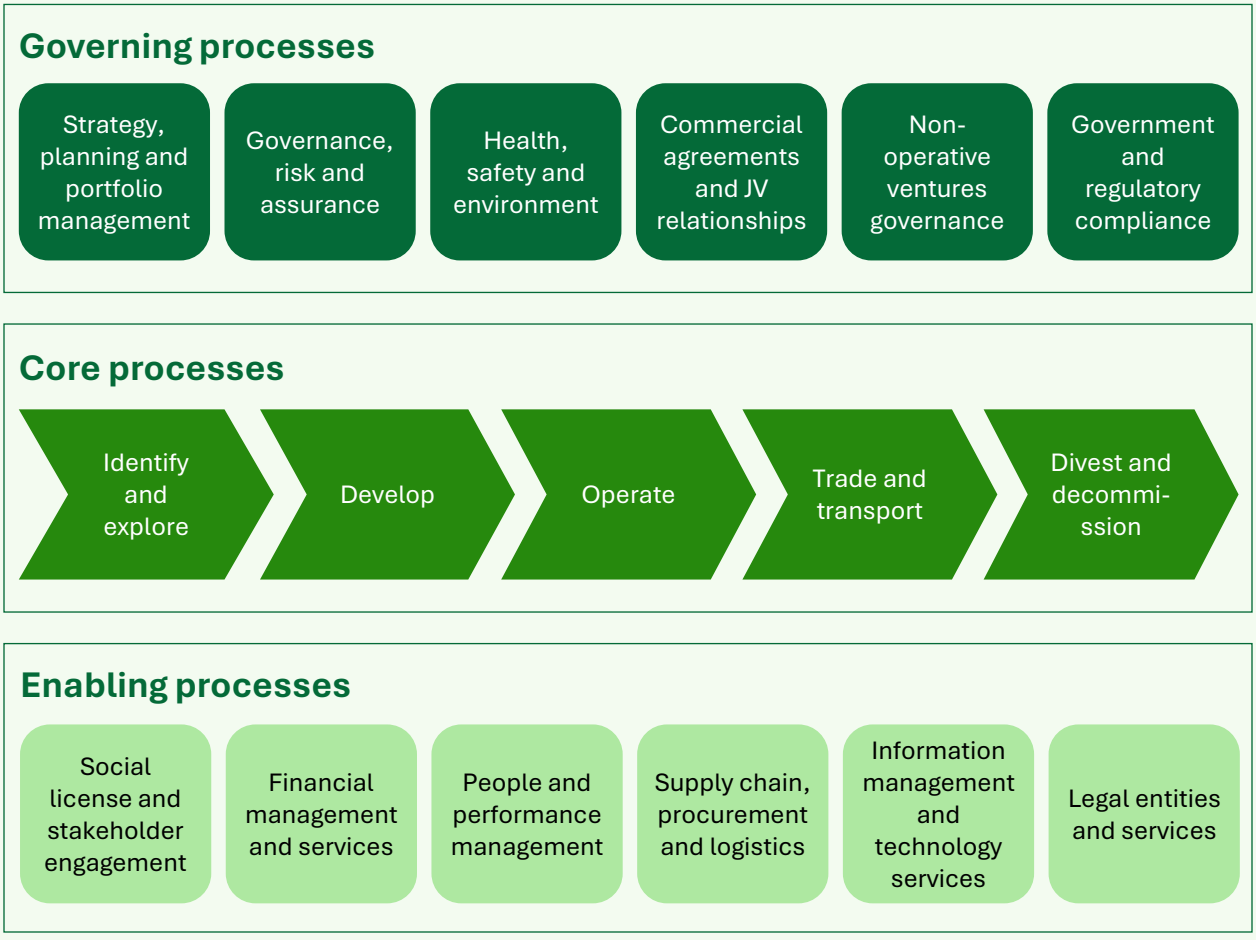

Figure 1: Illustrative Example of a Process-Based Management System

The brief (Cont.)

What is an OMS – the basics

The key components found in an OMS include:

Process hierarchy
Provides a framework for organising processes, understanding relationships and enabling benchmarking and best practices.

Document hierarchy
Outlines clear business rules that help drive consistency, maintain focus and enable ongoing sustainability.

Document management
The management system efficiently organises, accesses and controls critical information to enable effective collaboration, regulatory compliance and informed decision-making.

Process governance
Clearly defined governance enables quick and effective decision making and avoids organisational bureaucracy.

Digital access
Streamlines storage, retrieval and sharing of information, allowing for increased efficiency, accessibility, security and collaboration within an organisation.

Quality management
Enables consistent delivery of high-quality products or services, enhances customer satisfaction and drives continuous process and performance improvement.

Reporting
Provides insights, data-driven analysis, and transparent communication, enabling informed decision-making and accountability.

Action management
Timely execution, tracking and accountability, aiding problem-solving, decision-making and goal progress.

Continual improvement
A culture of continuous improvement should be fostered, with the management system incorporating corrective actions, management reviews, audits and feedback loops to drive ongoing improvements.

Change management
Enables smooth transitions and effective implementation of changes, minimising resistance and risks while promoting employee engagement, stakeholder alignment and successful outcomes.

The benefits

Importance and benefits of an OMS

The importance of an OMS cannot be overstated. When all employees follow the same documented processes, it leads to uniformity in output and quality. In industries that demand high-reliability or operate in a context with low tolerance for uncertainty, consistency is paramount. An OMS improves efficiency by streamlining operations and eliminating redundant or unnecessary steps, in the process, saving time and resources.

Moreover, an OMS serves as a critical enabler for cost efficiency by optimising resource utilisation and reducing operational waste. By implementing data-driven decision-making processes and leveraging predictive analytics, organisations can identify areas for potential savings, streamline maintenance strategies and ultimately achieve operational cost reductions.

Clearly defined roles and responsibilities within an organisation help track progress and hold individuals accountable. They also provide a hub for the company as they go through either reorganisations or the transfer of personnel into and out of roles, which ensures that responsibilities are not lost in the process of changes.

An OMS integrates best practices and continual feedback to streamline processes across the value chain, enhancing efficiency, reducing waste and improving resource allocation, leading to reduced costs, faster project delivery and a stronger competitive position.

Why should an organisation implement or optimise their OMS

There are several compelling reasons for an organisation to implement or optimise their OMS:

1. Achieving higher levels of efficiency, quality, productivity, and optimisation.
2. Reducing operational costs through efficient resource utilisation and waste minimisation.
3. Proactive management of risks enables safe and reliable operations.
4. Implementing scalable systems to facilitate growth and expansion.
5. Meeting legal/regulatory obligations and industry standards is crucial for regulatory compliance as well as the avoidance of penalties and reputational damage.
6. Enabling the continuity of ownership and accountability as organisational changes are assimilated within a company.
7. Providing a structured and supportive work environment to enhance employee satisfaction and retention.

From anecdotal information received from organisations successfully implementing and embedding OMS's, we can estimate an expected opex savings of 5-15%. Automation and process optimisation can then reduce labour costs by 10-30%.

The idea

How we see OMS evolving in 2025 and beyond

The OMS landscape is continually evolving. Major digital transformation, including the integration of technologies like generative artificial intelligence (Gen AI) and big data analytics, enhances operational efficiency and saves on costs long-term.

Documents → Statements

Modern OMS transition from traditional document-centric systems to statement-based systems, simplifying information dissemination, enhancing compatibility with Gen AI chatbots and facilitating better understanding and compliance.

Generic → Customised

Transitioning to statement-based systems enables management systems to present highly personalised content, enhancing user experience by displaying role-specific information and improving productivity.

Disjointed → Integrated and Governed

Multiple systems are consolidated into a cohesive framework integrated with other systems, enhancing governance, standardisation, and adherence to regulatory requirements.

Limited → Accessible and Available

Modern OMS are designed to be mobile-friendly and intuitive, providing access regardless of connectivity status, device, or location.

Underpowered → AI Driven

AI chatbots enhance OMS by providing instant support, handling routine inquiries, and transforming organisational operations while agentic AI can support or automate the execution of common processes and eliminate burdensome manual tasks.

Vulnerable → Secure and reliable

Modern OMS use advanced cybersecurity protocols and provide system availability and performance, adhering to industry standards to maintain trust and integrity.

Disruptive → Effective change management

Effective change management in OMS promotes smooth transitions, minimises resistance and risks, and ensures successful outcomes through employee engagement and stakeholder alignment.

4 key takeaways and next steps

1

Conduct a thorough review of your existing management system.

Focus on assessing the effectiveness of current processes, identifying areas of redundancy and understanding the first line of defence in your governance structure. This will provide a clear baseline for improvements and help uncover inefficiencies that could be addressed with a modernised OMS solution.

2

Integrate AI into your OMS strategy.

Evaluate your organisation's AI roadmap to understand how AI tools can enhance your management system. Consider implementing AI-driven analytics, predictive modelling, accelerator tools and chatbots to streamline operations, improve decision-making and free up resourcing for more strategic tasks.

3

Monitor the regulatory landscape and any potential changes that could impact your industry.

Understanding these dynamics in your OMS design will maintain a compliant and adaptable OMS. Proactively anticipating regulatory updates will help you anticipate and integrate necessary changes smoothly, maintaining the and trustworthiness of your system.

4

Measure the opportunity for improvement within your OMS.

Establish key performance indicators and benchmarks to quantify the benefits of proposed changes. Evaluate the potential for cost savings, efficiency gains and risk mitigation. A data-driven approach will provide compelling evidence for stakeholders and guide prioritisation of initiatives.

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