

# Effective energy management in the oil and gas sector



Thought leadership: Oil & Gas

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# Thought leadership

## Energy Management

### Oil & Gas



Energy management is steadily becoming a strategic element on the agenda of operators within the oil and gas industry. After decades of relatively cheap and abundant energy, the sector is now facing disruption from stringent environmental legislation and net-zero targets, as well as an urgency to reduce operational costs. As the global investment climate continues to encourage lower emissions, companies are directing their focus on reducing energy costs and optimising their energy consumption for lower emissions.

Accelerating energy efficiency is critical, but whilst the industry is no stranger to technical advancements and improvements, energy management has long taken a back seat. Recently, it has become imperative that the oil and gas industry makes operational decisions and cultural transformations to achieve sustainable and competitive operations. So, what are the considerations for driving forward operational excellence through energy management?

#### **Operational excellence considerations for energy management**

- Identify priority improvement themes and define a clear energy transition roadmap
- Channel efforts towards addressing energy gaps and driving energy efficiency
- Invest in capability building to improve energy awareness and management skills in the organisation

#### **Defining the roadmap and priority improvement themes**

Recognising that effective energy management cannot be achieved as an isolated programme is the first step in the process. It requires a comprehensive assessment of the entire operation, as well as the buy-in of employees within the organisation. A good starting point is understanding the baseline and establishing reasonable goals to work towards. It is also important to recognise that making current practices more efficient is the most logical and economical approach.

**Elevating energy as a core business discussion, reporting on it, understanding the consumption and carrying out daily actions means that it is built into the fabric of the everyday plant management.**

Balancing technological innovations that are essential to the progression of the sector with efficiency in existing and older assets is important. Effective energy management should not be seen as an objective, but as an operational imperative for oil and gas operations. It doesn't need to be complicated; it's more a case of implementing intuitive mechanisms and platforms embedded into existing plant management systems. Elevating energy as a core business discussion, reporting on it, understanding the consumption and carrying out daily actions means that it is built into the fabric of the everyday plant management. Identifying appropriate KPIs to measure and manage energy consumption and efficiency is a critical aspect.



### **Channelling efforts towards energy efficiency and energy gaps through the right funding models**

A hurdle that can often come with energy projects is that of funding. Energy projects compete for budget alongside other projects that may have a more attractive return on investment. However, implementing effective energy management systems can mitigate the large CAPEX requirements for the energy transition and decarbonisation, decreasing the total CAPEX budget of these projects dramatically.

By working with the departments responsible for CAPEX management, specific processes to enable energy projects to go through an expedited process can be created. This could be as simple as labelling an 'energy efficiency project' so that it could then move from gate one to gate three, shortening the stage gating process. Another incentive could be to dedicate a proportion of funds, equivalent to a pre-determined percentage of CAPEX costs, to energy reduction projects so that organisations have a secure funding pool. This ensures that people do not lose motivation from projects getting stuck in pipeline, are held accountable through KPIs, remain motivated by bonuses, and see their ideas progress through the gating process, whilst also keeping commitment in core day-to-day operations.

### **Improving energy management and energy awareness in organisations**

It is not uncommon for organisations to lack a dedicated energy team, or even a single energy lead, to drive concerted efforts. Without one or more dedicated people, it becomes very difficult to set up the necessary data infrastructure, monitoring systems, and workflows for managing information and initiatives. As such, improving energy management should begin with establishing an energy lead role.

The role of a technical energy lead involves data, workflows, discussions, and awareness. The priority for the role should be to understand how much of which type of energy is used where, preferably not just primary energies, like imported natural gas or grid power, but also secondary energies, like steam, hot oil, or fuel gas. The energy lead plays an important liaison role by interacting with operations, maintenance, process control, and production planning, to overcome any obstacles to good energy performance.

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Establishing dedicated energy management roles can yield significant results. For example, at one downstream oil & gas client, installing an energy lead yielded a significant improvement pipeline focused on no- and low-cost opportunities that reduced energy expenditure by 5% within 12 months of the role being fully established. This emphasises the importance of continuous improvement, communication, and systems-based thinking as pillars of good energy management and as essential activities of an energy lead.

Another enabler of effective energy management is a culture of continuous improvement (CI). Energy management should be embedded within such a culture, working with operational excellence teams to ensure that there is a continuous improvement mindset and that there is a mechanism to generate and track new ideas. A CI culture will enable efficiencies and innovation to be embedded into operational management.

Ensuring that companies are energy-aware is a further lever to successful energy management. Younger workforces have different priorities, and those that join the oil & gas sector are conscious of its environmental footprint. For cultural change, the vision of energy efficiency must be communicated with the whole organisation: identifying critical roles, reporting processes, and setting specific measurable targets for individuals and the company. By triggering personal values, employees feel empowered to make their work more sustainable.

### **Conclusion**

The increasing social, economic, and legislative pressures on the oil and gas industry mean that companies are having to change their practices and priorities in an ever-evolving transparent and accountable environment. Ultimately it is important that energy intensity is at its lowest level to stay competitive, and to stay in business. In order to optimise energy efficiency, companies need to set out clear goals and prioritise their paths forward, start with hard-hitting interventions that close energy gaps and improve energy use, and build internal management systems and capabilities that enable sustainable energy improvements.

## **3 Tips to progress energy management:**

# 1.

**Energy Management must be in the roadmap for future operational improvements. Organisations need to consider it as a strategic objective for the next 5-10 years. Leadership buy-in is crucial.**

# 2.

**Start by taking pragmatic and reasonable steps that stabilise operations and show immediate returns. Look at losses and opportunities that require no or low operational investments.**

# 3.

**Set up the right systems, competencies, and performance management framework to create governance, ownership and accountability towards energy performance within the organisation.**

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