



A Yokogawa Company

## Energy Optimisation

Deliver, sustain and continuously  
improve energy performance  
through KBC's ENgage programme.

**SUPERIOR RESULTS. SUSTAINED.**

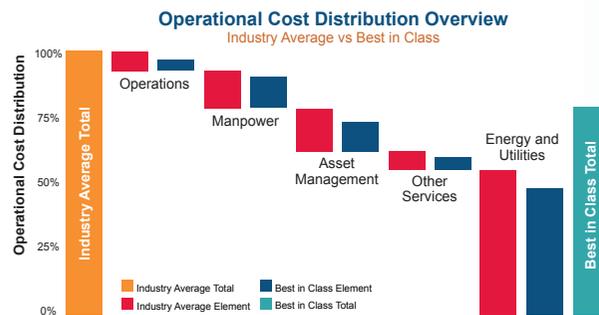
# The CHALLENGE

“Energy is your largest controllable operating cost. How do you make energy savings and boost margin whilst maintaining or exceeding all production targets?”

Saving energy is the most reliable way to reduce operating costs and improve margins in a volatile market – it always saves money and will:

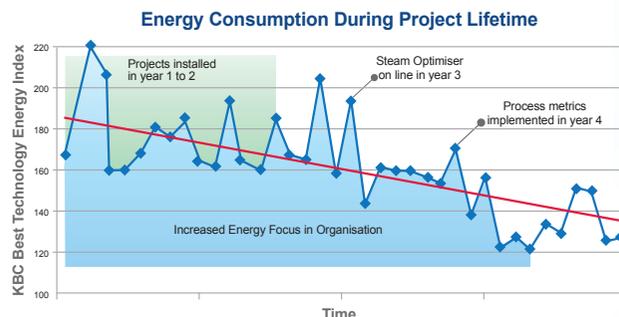
- Maximise returns on investment and continually drive down operating costs throughout the plant life cycle from new designs through revamps and into best operating practices.
- Reduce emissions and improve public profile and also minimise the risk associated with stricter governmental and environmental legislation.

Leading performers demonstrate that between 10-15% can be saved on energy costs which can improve your margin by up to 20%.



So how do you close that gap and improve your energy performance? With a combination of experience and skills and supported by superior tools.

Our client saw a 20% reduction in energy index over 4 years, resulting in them becoming a top quartile performer.



## Enabled through highly skilled professionals and

### Best Technology

#### Energy Benchmarking

A new Best Technology Index utility integrated into Petro-SIM for readily analysing energy performance in process units and across complete facilities. The latest BT correlations allows comparison of energy consumption with best technology designs and calculates the benefits that can be achieved from closing the gaps.

### Petro-SIM™

#### For Integrated Utility and Process Modelling

The process simulation platform for driving excellence in facility performance and organisational productivity in hydrocarbon industries. Unique features for integrated utility and process modelling for optimising design and operation are now fully embedded in Petro-SIM. Petro-SIM ensures process utility demands are met and supports operational decisions when analysing that all important energy versus yield trade-off.

### Visual Mesa

#### For Real Time Optimisation

The combination of Visual Mesa real time optimisation and monitoring with process energy metrics (EnPI's) developed in Petro-SIM are used to support operations in making decisions that simultaneously improves the performance of both the energy supply and demand side. Closed loop optimisation is used for automated control and multi-period optimisation for future scenario planning.





**90%** of the world's leading O&G companies have used KBC as their Trusted Advisor.

**KBC's proprietary leading IP and technology.**

**HX-Monitor™**  
 Maximise Heat Recovery  
 Maximise heat recovery and minimise exchanger maintenance cost by optimising cleaning in preheat trains. SuperTarget™ optimises heat integration using the latest Pinch techniques in process units or across a Total-Site™.

**Co-Pilot Program™**  
 For Remote Monitoring  
 Remotely supporting the plant with expertise and insight supplementing the plant's own capabilities and resources ensures energy efficiency is optimised at all times. Use of Data-as-a-Service (DaaS) and Software-as-a-Service (SaaS) for proactive diagnosis ensure real time optimisers are up to date and that corrective actions are implemented in a reduced time frame.

**ACT**  
 Accelerated Capability Transfer  
 Activities designed and developed based on leading blended learning concepts and practices. A methodology which encourages self discovery and reaching the individual's potential and promotes taking ownership in real-world situations. Support and mentoring through Co-Pilot is also provided.

# The SOLUTION

The KBC ENgage programme is proven to close the gaps, using both our skills and technology to identify and validate improvement opportunities and our organisational and behavioural change methodologies to deliver and sustain the benefits.

We ensure that all the required elements of the energy management system (EMS) are working and contributing to maximise energy efficiency and your profitability.

*ENgage provides the tools and support to ensure that ISO50001 delivers results.*



ENgage includes everything you need to become a leading energy performer:

- Proprietary Best Technology benchmarking methodology to understand the gaps and establish targets.
- An integrated suite of tools incorporating process simulation, utility system modelling and pinch technology to define and validate opportunities.
- RoadMaps for planning non-investment operational improvements and required capital expenditure.
- Organisational and behavioural competencies to establish effective procedures to sustain the benefits.
- Superior energy management systems embedded in your operation.
- World leading energy management information systems operating in real-time and remotely supported by subject matter experts
- A self service configurable reporting and dashboarding system including an easily digestible interface for quick understanding of performance and actionable information

# Your PARTNER FOR SUCCESS

KBC is a global technology provider and consultancy focused on the hydrocarbon processing industry. With over 35 years' experience in upstream, midstream, downstream, and petrochemicals, we are ready to serve you anywhere and anytime you need help with meeting your business challenges.

## THINK LIKE AN OPERATOR APPROACH

Our experience shows that sustainable improvement is only possible if accompanied by a change in behaviours in day-to-day operations. KBC's track record is second to none in achieving long term results.

KBC uses the most effective combination of business analysis, technical and operational expertise, workforce capability and applied simulation technology to meet your objectives. Building on profit improvement, we have helped clients to achieve and then sustain improvements in business performance since 1979.

Finding the right, fit-for-purpose solution for our clients is our area of expertise and we back up our solutions with methodical diagnostics, the deep industry knowledge of our consultants and leading technologies. Many of these solutions require no investment so can be implemented to deliver returns quickly.

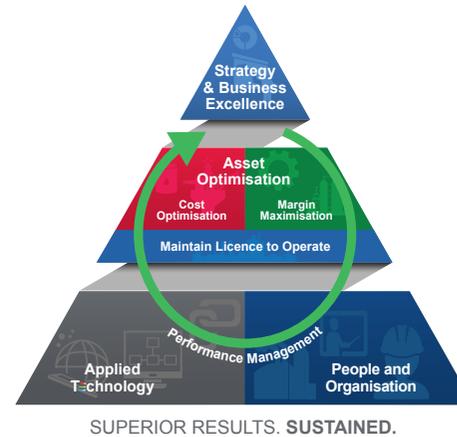
## KBC IS FOCUSED ON SAFETY

At KBC, we believe that there is no task so important or so urgent either in our business, or our customers' businesses, that it overrides the need to work safely.



## DELIVERY APPROACH

The KBC approach across all elements of the business ensures alignment and maximises synergies.



Our approach lays out a clear direction with defined processes and measured outcomes.

## DELIVERY FRAMEWORK

As part of the KBC Delivery Framework, key strategic, organisational and technology elements are embedded in our Project Management Office (PMO). Every project is planned in appropriate phases to ensure proper definition of the issue, discover the business background and develop detailed solutions that deliver the desired results, as well as ensuring that they can be sustained in the long term.



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