



EPConsult
Energies



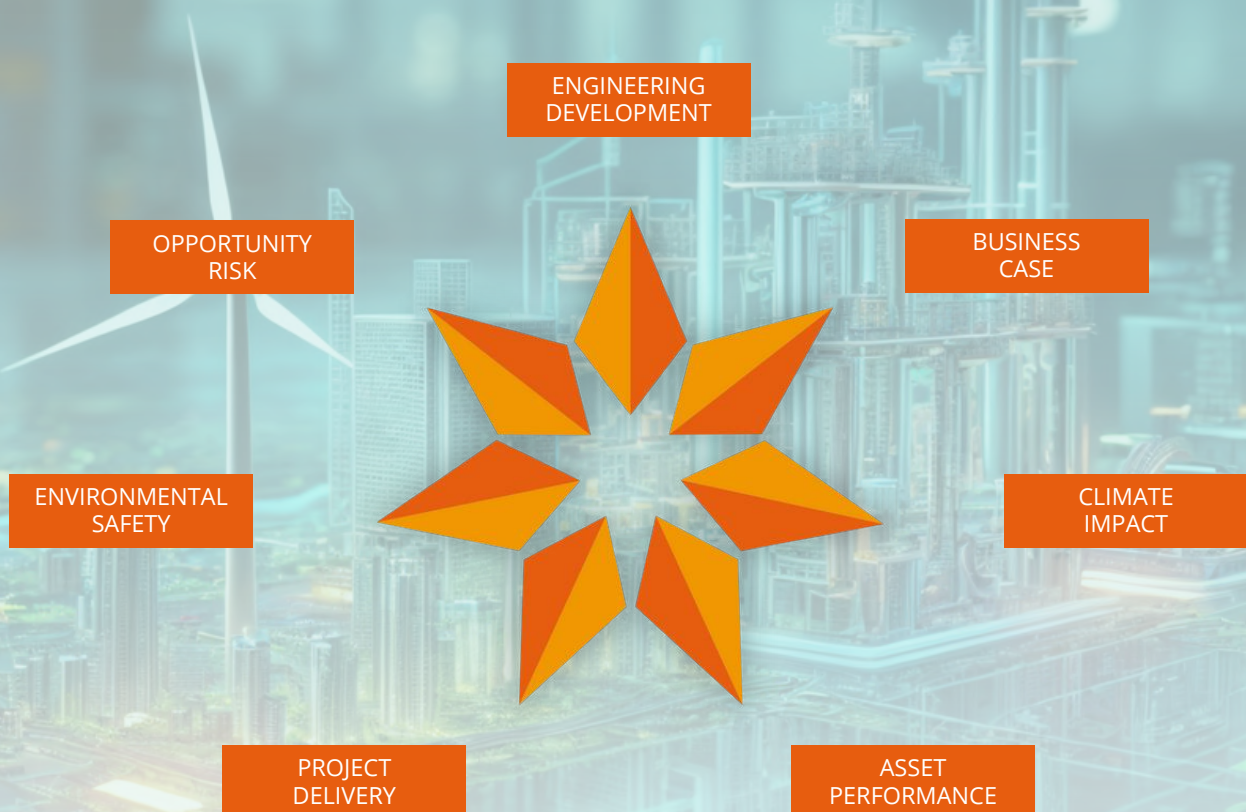
**INTELLIGENT
ENGINEERING**

**ENERGY
MANAGEMENT**

EPConsult Energies (EP) is a UK-Danish independent engineering and technical consultancy providing expert advisory for oil, gas and renewable energy companies, industry organisations and government agencies.

For more than 20 years, EP has been providing dependable engineering intelligence for a variety of projects. Our approach to providing services encompasses:

- Deep technical engineering expertise
- Broad commercial experience
- Agile and collaborative
- Innovative culture
- Strong core values
- ISO 9001:2015 Quality Management System





AVAILABILITY & RELIABILITY

- Failure Modes & Critical Analysis
- Fault Tree Analysis
- Reliability, Availability & Maintainability (RAM)
- Risk Based Inspection
- Reliability Centered Maintenance



HSE & RISK ASSESSMENT

- HSSES Seven/Seven
- Safety Case Development
- Hazard Identification Studies
- Quantitative Risk Assessments
- Emergency Reports
- Environmental and Social Assessments & Permitting



ASSET INTEGRITY & PERFORMANCE

- Energy Management
- OPEX Optimisation
- Asset Life Management Plan
- Integrity and Performance
- Life Extension Studies
- Abandonment & Decommissioning



BUSINESS ADVISORY

- Acquisition and Divestment
- Exploration and Appraisal
- Non Operated Ventures
- Lenders Decision Support
- Technical Due Diligence
- Expert Witness

WIDE RANGE OF SERVICES

Our top-tier analytical expertise aids clients in optimising development concepts, preventing crises, ensuring compliance and enhancing profitability.



OPPORTUNITY MANAGEMENT

- Business Risk & Opportunity
- Project Risk & Opportunity
- Risk Management Systems
- Crisis Management
- Enterprise Risk Management



PROJECT DELIVERY

- Project Management
- Quality Management
- Project Controls
- Project Auditing
- Delivery Management System



DEVELOPMENT PLANNING

- Field Development
- Feasibility Studies
- Conceptual Design
- Schedule, Cost Economics
- Value Engineering
- Opportunity Framing

Over the past 20 years, EP has conducted over a hundred comprehensive energy audits across a wide range of industries and energy systems.

Our deep-rooted expertise ensures that each audit delivers actionable insights, optimising energy efficiency, reducing operational costs, and enhancing sustainability for our clients.

"When it comes to energy audits, precision and impact are in our DNA."

Our team follows International standards such as ISO 50001 energy management systems and ISO 50002 energy audits.



GLOBAL CLIENTELE



COMPREHENSIVE APPROACH

Objective Setting: Defining clear goals and terms of reference to align the audit with your business objectives.

Documentation Review: Assessing existing records to understand current energy consumption patterns.

Facility Assessment: Conducting thorough evaluations of your facilities to identify inefficiencies through site visits.

Stakeholder Consultation: Engaging with key personnel to gather insights and ensure alignment.

Audit Levels:

- Preliminary Audits: Provides an initial overview of energy consumption.
- Complete Audits: Offers an in-depth analysis of energy usage.
- Investment Audits: Identifies cost-effective energy-saving opportunities.

Focus on Significant Energy Users (SEUs):

Optimising systems such as major rotating equipment, boilers, burners and heat exchangers.

OUR BESPOKE ENERGY AUDITS NOT ONLY HELP IN REDUCING OPERATING COSTS BUT ALSO MINIMISE ENVIRONMENTAL IMPACT, ENSURING YOUR BUSINESS OPERATES MORE SUSTAINABLY.

ESOS SUPPORT

The Energy Savings Opportunity Scheme (ESOS) is a mandatory energy assessment programme in the United Kingdom for large organisations. It requires regular, detailed energy audits to identify cost-effective energy-saving opportunities and reduce carbon footprints.

EPConsult Energies' support includes:

- Expert guidance to meet ESOS compliance requirements.
- Comprehensive energy audits tailored to uncover savings opportunities.
- Financial analysis of energy-saving measures for cost-effectiveness.
- Prioritisation and implementation support for sustainable, efficient operations.

WITH OUR EXPERTISE UK COMPANIES TRANSFORMING THEIR ESOS COMPLIANCE INTO A STRATEGIC OPPORTUNITY



Our expert team focuses on finding the best solutions for clients by efficiently integrating the specialist areas of engineering, operations, risk, economics and delivery.

EXPERT TEAM

Lyall Archer

Heat Decarbonisation Specialist

BEng Chemical Engineering, MSc in Chemical Engineering and Fuel Systems, with more than 25 years' experience in the energy sector worldwide which has covered many upstream and downstream situations. Has extensive experience in project management and delivery for a wide range of projects including training and coaching for a range of clients for renewables and traditional energy projects. Has extensive knowledge of the green heat landscape in Scotland and understands the relevant resources available and the networks in place. Worked in management consultancy for Shell for 16 years and has senior management level experience at other major oil and gas companies.

Satya K Ankani

Senior Asset Engineer

Senior Engineer with 12 years of experience in the Oil and Gas industry, Satya holds an MBA in Oil and Gas Management and a B.Tech in Electronics and Instrumentation Engineering. Born in Visakhapatnam, with his native village being East Godavari, he has extensive geographical knowledge of the ONGC clusters. Specializing in Reliability, Availability, and Maintainability (RAM) studies, he excels in asset and availability assessments, F&G mapping, and conceptual engineering for diverse projects. His expertise extends to safety studies across oil and gas, nuclear, and renewable energy sectors, with AvSim certification.

David Hart

Principal Energy Consultant

Senior engineer with a Masters Degree in Science and Chemical Engineering from Cambridge University including two Scholarships and is a Chartered Engineer and member of the Institution of Chemical Engineers, The Institute of Energy and the Institute of Refrigeration. Qualified Energy Expert and ESOS auditor with 40 years' experience in energy auditing with 100's of energy audits completed and extensive experience in oil and gas. Has authored guidance on energy management and MVP for the Canadian Government, UK Government and the Institute of Energy.



Martin H. Larsen

Managing Director EPConsult Energies

A leading international O&G and Renewables technical consultant and Managing Director of EPConsult Energies, with over 25 years of projects and consultancy experience.

Previously working for Shell, Saipem and Bureau Veritas and with significant experience in structural and marine engineering, conceptual engineering, energy management, asset integrity and performance, availability modelling, HSE and risk management. Lead Consultant on a range of energy management studies for Energinet, European Energy, Ineos, TotalEnergies, Exxon, Shell, ADNOC, Aramco and KJO amongst others

Peter Daniel

Principal Energy Consultant Study Manager

Process and chemical engineer with a 25-year track record in engineering design, construction, and site operations. He has worked on major projects in an engineering management capacity in Russia and Kazakhstan. Previously with Shell International Exploration and Production B.V., Peter has provided maintenance and operations consultancy and RAM studies for a number of clients, including Aramco, Bapetco, Shell, BP, ENPPI, Worley, WOOD, Technip Energies, and Adani Welspun. He is fully conversant with all major operator and international RAM standards and proficient in all commonly used RAM software packages. His expertise also extends to energy management optimisation and carbon footprint reduction.

David Price

Principal Consultant Asset Performance

Experienced consultant with more than 30 years' experience in the energy sector worldwide, including onshore and offshore projects in the Middle East, Kazakhstan, North Sea and the Philippines. His expertise covers asset management, integrity and performance management, energy audits, OPEX reviews and shut-down /turn-around projects. David comes from an engineering manager position at Shell International Exploration and Production. David is currently part of a team providing OPEX review for Danish Oil Pipe.

Silvia Chamosa

Mechanical Engineer

Specialised in Contingency and Risk Management, Emergency Response Plans and Reliability, Availability and Maintainability (RAM) Risk Studies, Silvia has several years of experience in both Engineering (project budget control, document review, progress reports) and Project Safety (Emergency Response Plans). She has completed the PHAPro course, and has experience as a Scribe in studies such as HAZIDs, FMECA's and others. She has worked on multiple projects with Pluspetrol and has carried out several field visits to both the Pisco Plant and Malvinas.

EP with Acciona Energia, was tasked to identify a single, feasible pathway for implementing an open loop ground source heat pump (GSHP) to the Stellantis site in Luton. The use of air source heat pumps (ASHP) in combination with the GSHP was investigated along with alternative waste heat recovery solutions. Energy requirements from the site were analysed to identify areas in which the use of low-carbon alternatives could reduce gas consumption.

The Feasibility Study included data gathering and assessment in these areas:

- Geothermal Research and Analysis
- Available Energy Assessment
- Basic Evaluation of Site Requirements
- Energy Model Construction and Reporting
- Air Source Heat Pump Evaluation
- Economic Evaluation



As part of the Dorra Field Development Programme, EPConsult Energies delivered an Energy Optimisation Study for the new KGOC Onshore Processing Facilities (OPF) at Al-Zour. The aim was to enhance energy efficiency, reduce emissions, and align the project with circular carbon economy principles. The study covered:

- Identification of Significant Energy Users
- Utility Demand Analysis (Heating, Cooling, Electrical)
- Process and Heat Recovery Optimisation
- Energy-Saving Initiatives with Estimated Power Reductions
- Feasibility of Automation and Energy Management Systems
- Benchmarking Against Industry Best Practices
- Integration with Net-Zero 2050 Objectives

The work supports KJO's goal of delivering 1 BSCFD of gas and 84 MBOPD of condensate through fully integrated, optimised facilities.



Tritax Big Box is one of the UK's leading investment companies focused on large-scale logistics real estate. Tritax is fully committed to continuous improvement in environmental performance through responsible business and property management practices. As part of this, the company is considering the application of increased power generation from onsite renewables and lower carbon energy sources.

EP provided a technical due diligence review of a major Tier 1 subcontractor with regard to their technical proposals for low-carbon energy, microgrids, small-scale renewables and heat integration projects for the whole of Tritax's UK portfolio of major logistics and fulfilment sites.

- Independent Technical Due Diligence
- Study of Multi-Hub-Energy Solution Provider





ENERGY AUDIT: SEMINAR, TRAINING AND AUDIT

CONFIDENTIAL CLIENT

EP delivered an Energy Audit for a major integrated gas company, involving upstream gas feed, gas production, gas processing facilities and gas export facilities, reviewing and assessing energy consumption, conservation assessment, production and operational procedures, transmission systems, and associated buildings and control modules. The audit followed the guidance of ISO 50002 to identify energy-saving opportunities and enhance efficiency.

Scope of work:

- Energy Audit Seminar
- Energy Audit Training
- Energy Audit
(Site visit - Data collection - Methodology - Analysis - Report)

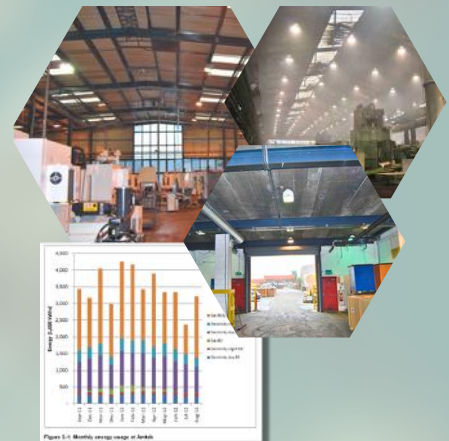


ENERGY EFFICIENCY STUDY

AMTEK

EP assessed the energy performance of the building complex at Amtek Aluminum and targeted areas that could potentially lead to a reduction in energy usage. The proposed saving measures include economic and environmental savings (carbon reduction) with the main aim of providing an overview of the benefits of each measure.

- The proposed measures in EP's report can lead to an overall reduction in energy usage by up to 32%, while the operational costs for Amtek Aluminium could drop by more than £600,000 per year.
- The revenue generated from the energy-saving measures could be £4.9m in 10 years.
- The environmental benefit could reach a 3,000tCO₂ reduction in emissions per annum.



ENERGY REVIEW WORKSHOP

WORLEYPARSONS | ADNOC

EP collaborated with WorleyParsons to conduct an Energy Review Workshop for the Habshan CO₂ Recovery and Injection Project. This initiative was aimed at optimising energy aspects, identifying significant energy users, and uncovering high-level energy-saving opportunities within the project design.

Key Deliverables:

- Developed Terms of Reference (ToR) and workshop presentations.
- Chaired a multi-disciplinary Energy Review Workshop.
- Identified and assessed energy optimisation opportunities within the project's SELECT phase.
- Delivered detailed notes and actionable recommendations post-workshop.

This collaboration contributed to enhancing project efficiency, reducing energy demands, and supporting ADNOC's sustainability objectives.





EPConsult
Energies

EPConsult Energies

info@ep-consult.co.uk
epconsultenergies.com

London

RIVERSIDE HOUSE
27-29 Vauxhall Grove
London, UK, SW81SY
+44 (0)20 7582 5555

To discuss your requirements
please contact our specialists.

Copenhagen

SOHO Flæsketorvet 68
1711 Copenhagen V
Denmark
+45 5359 3555