

ESR Technology

Managing Risk in Energy Transition

The energy transition is naturally leading to the development of a range of new technologies and applications within the energy sector, including; transport and use of hydrogen, carbon capture usage and storage, increasing use of biofuels, wind and wave power generation, and fuel cells and advanced battery technologies.

These newer technologies and approaches can present significant opportunities but also present potential safety, environmental and reputational risks which need to be identified, understood and managed.

ESR Technology, building on our 30 year heritage of major hazards risk assessment for the offshore and onshore energy sector, can help you to identify and manage your risks associated with these new technologies and ensure that your operations continue to remain ALARP.

We are increasingly carrying out studies relevant to emerging technologies, **leveraging tried and tested techniques**, including;

- Process Hazard Analysis and Quantified risk assessments for CO₂ sequestration projects
- Consequence assessments for hydrogen releases
- Syngas production facilities risk assessments
- COMAH Safety Reports for gas storage installations
- Risk assessments for biofuel facilities
- Safety assessments for Lithium Ion battery systems
- Waste to power plant assessments

Our wider engineering capability also carries out bearing studies for Wind Turbines, support to nuclear power plant operators and tribology support to fusion research facilities.

As one of the UK's leading engineering, safety and risk consultancies, ESR Technology provides essential advice to operators, designers and contractors to ensure safety and reliability in high hazard industries.

Serving the Energy Sector for over 30 years, we have provided specialist services to most of the world's major energy companies. We have undertaken hundreds of safety studies involving manned and unmanned offshore production installations, sub-sea installations, pipelines, LNG and LPG facilities, refineries and also FPSO's and FSU's, drilling rigs and work-over vessels/barges.

Working in partnership with clients, we deliver a specialist consultancy service employing state-of-the-art tools, techniques and software, many developed in-house by our internationally recognised experts.

Our core services include:

- Process Hazard Analysis
- Major hazard quantified risk assessment
- Consequence Modelling including Computational Fluid Dynamics
- Technical safety assessment
- Fire Engineering, including 3D fire and gas detector mapping
- Ageing plant management
- Offshore non-destructive testing
- Forensic engineering of failed mechanical assets
- Expert witness