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Assessment of
key risks and
processes for the
Energy Sector



Our experience in the Energy sector is presented into **6 categories** below. Each category has their unique challenges to the business and resulting risks.

The keys risks identified are from industry risk sensing and through interactions with our clients. To address the key risks, we recommend the processes to be audited to provide comfort over the key controls.



Renewables



Energy/
Commodity Trading



Oil, Gas Drilling,
Equipment



Pipeline, Refining
and Storage



Mining
Companies



Energy
Production

CATEGORY	CREDENTIALIALS
 <p>Renewables</p>	<ul style="list-style-type: none"> • Largest renewable Independent Power Producer in Asia Pacific region. • Largest and most established clean energy solutions provider in Singapore. • Leading waste-to-energy operator in China’s waste-to-energy industry. • A Singaporean food processing (including biodiesel) and investment holding company that provides management services to its 400+ subsidiary companies.
	<p> Auditable risks</p> <p>Selection and investing in high risk projects. Outcome: Poor financial returns from investments/projects.</p> <p>Inadequate forecasting/planning of resources. Outcome: Non-fulfilment of customer requirements.</p> <p>Operation disruptions and injury / fatality. Outcome: Loss of Revenue, Temporary or Long-term cessation of operations and/or Delay in business development projects.</p> <p> Processes to consider</p> <p>Investment Management: Controls over investment due diligence and monitoring of investment performance.</p> <p>Project Management (selected project(s)): Project governance and alignment with project requirements, including costing.</p> <p>Inventory Management: Planning/forecasting of inventory and inventory movement.</p> <p>Business Continuity Management: BCM framework and reporting.</p> <p>Environmental, Health and Safety: Crisis Management and monitoring against regulatory requirements.</p>

CATEGORY	CREDENTIALIALS
 <p>Energy/ Commodity Trading</p> 	<ul style="list-style-type: none"> • Power generation companies in Singapore. • A wholly owned subsidiary tasked with contributing to develop and enhance a Japanese MNC's LNG value chain, across upstream and downstream. <p> Auditable risks</p> <p>Trade orders placed not aligned with trade strategies / limits.</p> <p>Outcome: Financial impact.</p> <p>Inaccuracies over settlement amounts charged.</p> <p>Outcome: Reduction in profit margins.</p> <p>Insufficient monitoring of market risks arising from positions, risk parameters, volatility analysis and value at risk/expected shortfall model.</p> <p>Outcome: Untimely decision resulting in financial impact.</p> <p>Sub-par counterparties on-boarded and inappropriate credit limits assigned.</p> <p>Outcome: Market risk exposure and financial losses.</p> <p> Processes to consider</p> <p>Energy/ Commodity/ FX Trading: Counterparty due diligence, trade execution, settlement, risk reporting, compliance with risk management frameworks.</p> <p>IT General Controls: System user access rights and change management.</p> <p>Market Analysis: Timely identification of limit breaches/counterparties credit/profit or loss.</p> <p>Trading: Trades are executed to address electricity shortfalls or lock positions. • A global aluminium and renewable energy company.</p>
 <p>Mining Companies</p> 	<p> Auditable risks</p> <p>Non-compliance with tenement related regulations .</p> <p>Outcome: Fines/penalties imposed by regulators.</p> <p>Inaccuracies over pricing and order processing.</p> <p>Outcome: Financial losses and operational inefficiencies.</p> <p>Inadequate ESG consideration in business and operational processes.</p> <p>Outcome: Reputational loss and fines/penalties imposed by regulators.</p> <p> Processes to consider</p> <p>Tenement Management: License/permit registration and compliance monitoring.</p> <p>Revenue and Receivables Management: Product pricing, contract management and billing.</p> <p>Sustainability Reporting: ESG framework establishment, alignment of disclosures with sustainability standards and reporting of data</p> <p>Environmental, Health and Safety: Incident management and monitoring against regulatory requirements.</p>

CATEGORY	CREDENTIALS
<div> </div> <p>Oil, Gas Drilling, Equipment</p> <p>offshore/onshore and production, fleet management</p> <div> </div>	<ul style="list-style-type: none"> • A petrochemical logistics services provider, principally engaged in the storage and transportation of liquid petrochemical products. <div> <p> Auditable risks</p> </div> <p>Inability to build alternate infrastructure/capabilities to handle emergencies. Outcome: Disruption to business operations and fines/penalties imposed by regulators.</p> <p>Shortage of skilled workers. Outcome: Disruption to business operations and growth plans.</p> <p>Inappropriate project/investment/M&A financial strategy. Outcome: Poor financial returns from investments/projects.</p> <div> <p> Processes to consider</p> </div> <p>Business Continuity Management: Impact analysis and risk evaluation.</p> <p>Critical Asset Management: Maintenance programmes and insurance coverage.</p> <p>Human Capital Management: Succession planning and salary benchmarking.</p> <p>Investment Management: Controls over investment due diligence and monitoring of investment performance.</p> <p>Project Management (selected project(s)): Project governance and alignment with project requirements, including costing.</p> <p>Inventory Accountability (customer or internal): Measuring inventory level, reconciliation and billing.</p> <p>Gas up and cool down operations Administration of gas up and cool down operations for safety, quality and accurate in billings.</p>

CATEGORY	CREDENTIALIALS
 <p>Pipeline, Refining and Storage</p>	<ul style="list-style-type: none"> • A company which built, own and operate LNG Terminal. • Power generation companies in Singapore. • A Singapore based utility company established office in Myanmar. • A petrochemical logistics services provider, principally engaged in the storage and transportation of liquid petrochemical products in China.
	<p> Auditable risks</p> <p>Inability to build alternate infrastructure/capabilities to handle emergencies. Outcome: Disruption to business operations and fines/penalties imposed by regulators.</p> <p>Shortage of skilled workers. Outcome: Disruption to business operations and growth plans.</p> <p>Inappropriate project/investment/M&A financial strategy. Outcome: Poor financial returns from investments/projects.</p> <p> Processes to consider</p> <p>Business Continuity Management: Impact analysis and risk evaluation.</p> <p>Critical Asset Management: Maintenance programmes and insurance coverage.</p> <p>Human Capital Management: Succession planning and salary benchmarking.</p> <p>Investment Management: Controls over investment due diligence and monitoring of investment performance.</p> <p>Project Management (selected project(s)): Project governance and alignment with project requirements, including costing.</p> <p>Customer Inventory: Measuring inventory level, reconciliation and billing.</p>

CATEGORY	CREDENTIALIALS
 <p>Energy Production</p> 	<ul style="list-style-type: none"> • Largest renewable independent power producer in Asia Pacific region • Leading waste-to-energy operator in China’s waste-to-energy industry • Owner of the largest power station in Singapore. • Power generation companies in Singapore. • A Singapore based utility company with established office in Myanmar. The 1st Power generating plant in Myanmar. <p> Auditable risks</p> <p>Disruptions to power generation units (e.g. equipment failure, gas supply disruption, cybersecurity attacks etc). Outcome: Loss of revenue and increase in costs.</p> <p>Loss of customer personal data from cybersecurity attacks. Outcome: Reputational loss and fines/penalties imposed by regulators.</p> <p>Hedged fuel cost being higher than fuel price and forex rates secured from retail contracts. Outcome: Reduction in profit margins.</p> <p> Processes to consider</p> <p>Inventory Management: Critical spares planning and safety stock level.</p> <p>Business Continuity Management: BCM framework and reporting.</p> <p>External Vulnerability Assessment: Network/Application vulnerability assessment and penetration testing.</p> <p>Cybersecurity: Perimeter, network defence and cyber resiliency.</p> <p>Personal Data Protection Act: System controls over access, storage and usage of data.</p> <p>Fuel/Forex Management: Hedge monitoring and reconciliation.</p>

 Renewables (Hydropower, Biofuels, Wind, Solar)

 Non-renewables(Petroleum, natural gas, gasoline)

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