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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 its 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	CREDENTIALS
 <p>Renewables</p>	<ul style="list-style-type: none"> • Largest renewable Independent Power Producer in Asia Pacific region. • A Singaporean food processing (including biodiesel) and investment holding company that provides management services to its 400+ subsidiary companies. • Leading operator in waste-to-energy in China. • First Singapore-based Solar Independent Power Producer that builds, owns and operates solar photovoltaic systems in the Asia Pacific region. • Singapore-based company specialising in turn-key solar energy solutions. • Company involved in the development, designing, building, owning, financing and operating renewable energy power infrastructure. • A developer that finances, constructs, owns and operates solar photovoltaic projects. Headquartered in Singapore.
	<p> Auditable risks</p> <hr/> <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> <hr/> <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"> • Owner of the largest power station in Singapore. • A Singapore-based power generator and electricity retailer. • One of the key energy players in Singapore. <p>⚠ Auditable risks</p> <p>Trade orders placed not aligned with trade strategies / limits.</p> <p>Outcome: Financial losses incurred.</p> <p>Inaccuracies over settlement amounts charged.</p> <p>Outcome: Reduction in profit margins.</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:</p> <p>Counterparty due diligence, trade execution, settlement, risk reporting, compliance with risk management frameworks.</p> <p>IT General Controls:</p> <p>System user access rights and change management.</p>
 <p>Mining Companies</p> 	<ul style="list-style-type: none"> • A global aluminium and renewable energy company. • A multinational engaged in the in the trading of alumina and thermal coal as well as the mining and sale of gypsum. <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> <div> <p>Tenement Management:</p> <p>License/permit registration and compliance monitoring.</p> </div> <div> <p>Revenue and Receivables Management:</p> <p>Product pricing, contract management and billing.</p> </div> <div> <p>Sustainability Reporting:</p> <p>ESG framework establishment, alignment of disclosures with sustainability standards and reporting of data</p> </div> <div> <p>Environmental, Health and Safety:</p> <p>Incident management and monitoring against regulatory requirements.</p> </div>

CATEGORY	CREDENTIALIALS
<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> <div> <p>Non-competitive/fraudulent purchases.</p> </div> <div> <p>Outcome: Financial losses and operational inefficiencies.</p> </div> <div> <p>Delays over ESG transition (e.g. business model, supply chain) and inability to meet ESG/green funding criteria by financial institutions.</p> </div> <div> <p>Outcome: Cash-flow disruptions and company growth impact.</p> </div> <div> <p>Operation disruptions and injury / fatality.</p> </div> <div> <p>Outcome: Loss of Revenue, Temporary or Long-term cessation of operations and/or Delay in business development projects.</p> </div> <div> <p> Processes to consider</p> </div> <div> <p>Anti-fraud compliance audit: Anti-fraud framework establishment and monitoring of fraudulent activities.</p> </div> <div> <p>Procurement to Payment (including spend risk analysis): Tender management, vendor evaluation, payables management and data analytical review of exceptional spend.</p> </div> <div> <p>Sustainability Reporting: ESG framework establishment, alignment of disclosures with sustainability standards and reporting of data.</p> </div> <div> <p>Project Management (selected project(s)): Project governance and alignment with project requirements, including costing.</p> </div> <div> <p>Scheduling: Vessels scheduling and maintenance plan of fleet.</p> </div> <div> <p>Cargo Discharge: Quality and quantity of cargo discharged.</p> </div> <div> <p>Environmental, Health and Safety: Incident management and monitoring against regulatory requirements.</p> </div> <div> <p>Regulatory Compliance management : Monitoring and tracking against regulatory requirements.</p> </div>

CATEGORY	CREDENTIALS
<div> </div> <p>Pipeline, Refining and Storage</p> <div> </div>	<ul style="list-style-type: none"> • A company which built, own and operate the country's first open-access, multi-user LNG Terminal. <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>Customer Inventory: Measuring inventory level, reconciliation and billing.</p>

CATEGORY	CREDENTIALIALS
 <p>Energy Production</p> 	<ul style="list-style-type: none"> • Owner of the largest power station in Singapore. • A Singapore-based power generator and electricity retailer. • One of the key energy players in Singapore. • Oil and gas infrastructure engineering and construction company. • A Singapore based utility company 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).</p> <p>Outcome: Loss of revenue and increase in costs.</p> <p>Loss of customer personal data from cybersecurity attacks.</p> <p>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.</p> <p>Outcome: Reduction in profit margins.</p> <p>💬 Processes to consider</p> <div> <p>Inventory Management: Critical spares planning and safety stock level.</p> </div> <div> <p>Business Continuity Management: BCM framework and reporting.</p> </div> <div> <p>External Vulnerability Assessment: Network/Application vulnerability assessment and penetration testing.</p> </div> <div> <p>Cybersecurity: Perimeter, network defence and cyber resiliency.</p> </div> <div> <p>Personal Data Protection Act: System controls over access, storage and usage of data.</p> </div> <div> <p>Fuel/Forex Management: Hedge monitoring and reconciliation.</p> </div>

 Renewables (Hydropower, Biofuels, Wind, Solar)

 Non-renewables(Petroleum, natural gas, gasoline)

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