

东方日升实质性议题分析报告

Materiality Analysis Report

■ 实质性议题分析

■ Material Analysis

东方日升每年定期开展实质性议题分析，构建重大性议题矩阵（实质性矩阵结果详见《东方日升 2023 年可持续发展报告》），应用“双重实质性”原则，从财务实质性（议题对公司财务影响的重要程度）和影响实质性（公司对环境、社会和经济影响的重要程度）两个维度评价，对标一系列国际报告披露标准，结合利益相关方群体的诉求，辅以第三方专业机构的意见，经过最后董事会最终审核，识别出具有显著性冲击、对东方日升运营高度影响，以及利益相关方关注度高的议题，确保议题具有实质性，符合公司战略方向、可持续发展趋势以及利益相关方期望。持续识别潜在风险并对各级风险制定管理对策来减缓事件所造成的影响，为我们落实企业风险管理（ERM）的努力方向，持续提升可持续发展管理水平。

Risen Energy conducts annual materiality analyses and establish a material topic analysis matrix (refer to our 2023 Sustainability Report). Adopting the principle of "double materiality," we assess topics from two perspectives: financial materiality (impact on Risen Energy's finances) and impact materiality (Risen Energy's impact on the environment, society, and the economy). We benchmark against various international reporting and disclosure standards and consider stakeholder feedback and opinions from external professional organizations. Following a final audit and approval by the board of directors, we identify issues with significant impacts on our operations and topics highly valued by stakeholders to ensure alignment with the company's ESG strategy and stakeholder expectations. We continuously identify potential risks and develop management strategies to mitigate impacts as part of our Enterprise Risk Management (ERM), enhancing our sustainability management level.

■ 实质性议题确认流程

■ Material Topic Identification Process

对标分析→议题筛选→利益相关方沟通→董事会审核→确认优先级和议题矩阵

Benchmark and analysis → topic screening → stakeholder communication → audit from the board of directors → confirmation of prioritization and topic matrix

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Materiality Analysis Report

与公司业绩影响相关的议题 Material Issues for Company Value Creation			
议题 Material Issue	供应链管理 Supply Chain Management	公司治理和商业道德 Governance and Business Ethic	可持续产品服务 Sustainable Product Service
重大影响性描述 Business Case	<p>1、原材料价格波动直接影响光伏产品的生产成本，进而影响公司的盈利能力。 Fluctuations in raw material prices directly impact the cost of PV solar products, which in turn influences profitability.</p> <p>2、原材料质量不达标，影响产品质量，进而造成市场竞争力不足，品牌价值受损。 Substandard raw materials hurt product quality, reduce competitiveness, and damage brand value</p> <p>3、供应商不能及时满足行社会责任尽职要求，不符合准入条件，增加了供应链风险；同时影响公司 ESG 绩效，对吸引投资和开拓全球市场产生阻力。 Supplier failures in social responsibility and qualification requirements heighten supply chain risks, impacting our ESG performance and hindering investment attraction and global market growth.</p>	<p>1、相关员工的“非国家工作人员受贿”等行为，可能会导致公司采购的原材料价格虚增，生产过程中的损耗增加，相关设备、材料等人为损坏等情况，进而增加公司成本； The unethical behavior of "non-state staff bribery" among relevant employees may lead to inflated prices of purchased raw materials for the company, increased losses during production processes, and artificial damages to related equipment and materials. As a result, this behavior could escalate company costs.</p> <p>2、相关员工的职务侵占行为，可能会导致在销售环节产生时，相关员工通过降低售价等行为让渡公司利润并进行侵占，进而导致公司收入降低；持续的员工道德问题会影响公司在市场和客户群体中名誉受损，可能会导致订单减少，致使公司收入降低；</p>	<p>1、市场份额：清洁能源技术的普及和应用，为公司提供了更多的市场需求；同时，更多的也面临着来自同行更大的竞争压力。 Market share: The growth and widespread adoption of green energy technology increased demand, but also intensify competitive pressures from peers in the market.</p> <p>2、品牌影响力：清洁能源技术的使用将减少环境污染，符合全球可持续发展的要求，公司作为清洁能源技术的代表，将因参与全球清洁能源转型而获得更高的社会认可。 Adopting clean energy technology mitigates environmental pollution, aligning with global sustainable development goals. As a leading company, we have earned significant recognition.</p>



东方日升实质性议题分析报告

Materiality Analysis Report

		<p>Employee misappropriation can lead to profit transfer through actions like lowering selling prices, damaging the company's market reputation, and reducing orders and revenue.</p> <p>3、员工的商业道德会导致公司的运营环境遭到破坏, 内部增加成本降低收入, 外部可能产生名誉受损、履约风险增大, 同时增加法律诉讼等风险</p> <p>Employee ethical lapses can disrupt the company's operational environment, internally raising costs and lowering revenues. Externally, this can trigger reputational crises, heightened performance risks, and increased legal liabilities..</p>	
影响类型 Business Impact	<input checked="" type="checkbox"/> 成本 Cost <input type="checkbox"/> 收入 Revenue <input type="checkbox"/> 风险 Risk	<input type="checkbox"/> 成本 Cost <input checked="" type="checkbox"/> 收入 Revenue <input checked="" type="checkbox"/> 风险 Risk	<input type="checkbox"/> 成本 Cost <input checked="" type="checkbox"/> 收入 Revenue <input type="checkbox"/> 风险 Risk
应对战略 Business Strategies	<p>1、建立原材料价格监测机制, 及时调整采购策略, 降低成本风险。</p> <p>Establish a raw material price monitoring mechanism to adjust the procurement strategy in a timely manner and reduce cost risks.</p>	<p>1、制定明确的商业道德准则: 明确告知员工和商业伙伴企业所遵循的商业道德标准, 确保各方行为符合道德要求。要求内部关键岗位人员填写《个人廉洁承诺》, 供应商签署《廉洁协议书》。</p> <p>Formulate code of business</p>	<p>1、技术创新战略: 持续加大投入研发, 推动清洁能源技术的创新和进步, 提高公司产品的技术含量和竞争力。</p> <p>Technology innovation strategy: Continuously increase investment in R&D to advance clean</p>

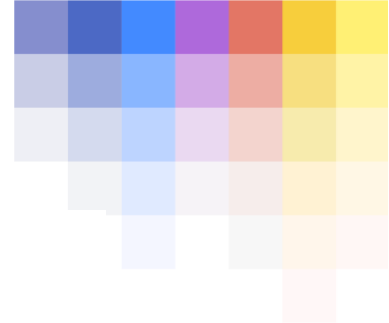


东方日升实质性议题分析报告

Materiality Analysis Report

	<p>2、优化供应商特别是核心（主材）供应商结构，降低供应链风险。</p> <p>Optimize the structure of suppliers, especially core (primary material) suppliers, to reduce supply chain risks</p> <p>3、建立严格的供应商准入及审核机制，并定期复查，确保供应商提供稳定、一致的原材料质量。</p> <p>Establish strict supplier qualification and audit mechanism, and regular review to ensure that the quality of raw materials is stable and consistent</p> <p>4、完善供应链追溯机制，采用先进的数字管理系统，对来料质量以及供应商运营状况进行实时监控、数据分析，及时发现、处理异常。</p> <p>Improve the supply chain tracking mechanism and adopt advanced digital management system to conduct real-time monitoring and data analysis on the quality of raw materials and the operation status of suppliers, so as to detect and deal with abnormalities</p>	<p>ethics: Communicate Risen Energy' s business ethics standards clearly to employees and partners, ensuring all stakeholders uphold ethical behavior. Key personnel must complete the "Personal Integrity Commitment," and suppliers must sign the "Anti-Bribery and Anti-Fraud Commitment." .</p> <p>2、加强员工道德教育和培训：提高员工的道德意识和道德素养，增强员工对企业商业道德准则的认同感和执行力。</p> <p>Enhance ethics education and training: Enhance employees' ethical awareness and deepen their understanding and application of the company's business ethics code.</p> <p>3、建立健全的内部监督机制：加强对企业运营各环节的监督管理，确保企业行为符合商业道德和法律要求。</p> <p>Establish a sound internal supervisory mechanism: Enhance supervision and management of operations to ensure compliance with</p>	<p>energy technology innovation, enhance Risen Energy's technological competitiveness, and drive progress in our products.</p> <p>2、市场拓展战略：把握全球清洁能源市场的机遇，积极开拓国内外市场，扩大公司的市场份额。</p> <p>Market expansion strategy: Seize global clean energy market opportunities, expand domestic and international markets, and grow the company's market share.</p> <p>3、可持续发展战略：打造全生命周期绿色低碳产品和绿色工厂；将清洁能源技术纳入公司的长期发展规划，致力于实现公司和社会的可持续发展。</p> <p>Sustainable development strategy: Create green, low-carbon products and implement green manufacturing practices throughout the entire lifecycle. Integrate clean energy technology into Risen Energy' s long-term development strategy to achieve sustainable growth for both the company and</p>
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Materiality Analysis Report

	<p>in a timely manner.</p> <p>5、要求所用供应商签署《供应商行为准则》、质量保证协议》、《社会责任承诺书》等相关承诺、协议文件，确保供应商尽职履责。</p> <p>Require suppliers to sign the Supplier Code of Conduct, Quality Warranty Agreement, Social Responsibility Commitment and other relevant documents to ensure that suppliers fulfill their responsibilities.</p> <p>6、根据就近原则，建立以国内供应商为主的多元化原材料供应渠道，提高容错率，降低供应端风险。</p> <p>Suppliers are selected based on proximity and diversification principles, focusing on domestic sources to mitigate supply chain risks associated with raw materials.</p> <p>7、加强沟通与合作：与供应商建立密切的沟通合作机制，及时了解供应商生产过程中出现的问题，并与供应商共同解决，确保原材料质量的稳定性。</p> <p>Strengthen communication</p>	<p>both business ethics and legal requirements within the company.</p> <p>4、加强与客户的沟通和合作：建立长期稳定的客户关系，增强客户对企业的信任度和忠诚度。</p> <p>Enhance communication and collaboration with clients to establish long-term, stable relationships, and foster trust and loyalty towards the company.</p>	<p>society.</p>
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东方日升实质性议题分析报告

Materiality Analysis Report

	and cooperation by establishing a mechanism to promptly address production issues with suppliers, ensuring stable raw material quality.		
目标/指标 Target/Metric	<p>1、原材料供应商质量审核覆盖率 100%</p> <p>100% coverage of quality audits of raw material suppliers</p> <p>2、100%不采购冲突矿产</p> <p>100% no purchase of conflict minerals</p> <p>3、对所有主材供应商开展 ESG 培训</p> <p>Conduct ESG training for all primary material suppliers</p> <p>4、始终保持适用环境标准筛选的供应商比例 100%</p> <p>100% of suppliers are selected by ESG standards</p> <p><u>(上述 1~4 目标的目标年均为 2023 年)</u> <u>(the target year for the above goals from 1 to 4 is 2023)</u></p> <p>5、到 2025 年实现核心供应商 ESG 尽职调查全覆盖</p> <p>By 2025, conduct ESG due diligence on all critical suppliers</p>	<p>1、始终保持：商业道德员工培训覆盖率 100%</p> <p>100% coverage of business ethics employee training</p> <p>2、贪污腐败、受贿收贿事件为 0</p> <p>0 incidents of corruption and bribery</p> <p>3、侵犯客户隐私的信息安全事故发生数为 0</p> <p>0 incidents of information security violations of client privacy</p> <p>4、发生关于不正当竞争、反垄断的法律诉讼为 0</p> <p>0 lawsuits on unfair competition and anti-monopoly</p> <p>5、定期开展商业道德标准审计 (每年 4 次对敏感部门进行抽检审计)</p> <p>Audits of business ethics standards (4 sample audits of sensitive departments per year)</p> <p><u>(上述 1~5 目标的目标年均为 2023 年)</u> <u>(the target year for the above goals</u></p>	<p>1、技术研发目标：在未来 5 年内，实现电池光电转化效率提升 6%，材料成本降低 15%。</p> <p>Technology research and development goal: In the next 5 years, realize the battery conversion efficiency increased by 6%, material cost reduced by 15%.</p> <p>2、市场拓展目标：在未来 5 年内，清洁能源产品市场份额提高 15%，并在欧美市场建立稳定的销售渠道。</p> <p>Marketing expansion goal: In the next 5 years, increase the market share of clean energy products by 15%, and establish stable sales channels in the European and US markets.</p> <p>3、可持续发展目标：通过研发低碳工艺、节能技术等手段，2030 年，自身运营温室气体排放 (范围 1、范围 2) 下降 50%；到 2050 年，实现全价值链净零排放</p> <p>Sustainable development</p>



东方日升实质性议题分析报告

Materiality Analysis Report

	<p>6、到 2035 年实现供应商 ESG 尽职调查全覆盖。 By 2035, conduct ESG due diligence on all suppliers</p>	<p>from 1 to 5 is 2023)</p>	<p>goal: Through research and development of low-carbon techniques, and energy-saving technologies, reduce GHG emission from Scope 1 and Scope 2 by 50% by 2030; and achieve net-zero emissions across the entire value chain by 2050</p>
<p>目标进展 Progress</p>	<p>1、原材料供应商质量审核覆盖率连续三年 100% 100% coverage of quality audits of raw material suppliers for three consecutive years</p> <p>2、已对所有主材供应商开展了 CSR 评估 CSR assessment has been conducted for all primary material suppliers.</p> <p>3、适用社会环境标准筛选的新供应商百分比 100% 100% of new suppliers are selected by ESG standards</p> <p>4、供应链 ESG 通识培训覆盖率 100% 100% coverage of ESG training for suppliers</p> <p>5、2023 年对 68 家供应商开展 ESG 尽职调查 Conducted ESG due diligence on 68 suppliers in</p>	<p>1、反腐败与反贿赂员工培训覆盖率当年度 100%; 100% employee coverage of anti-corruption and anti-bribery training</p> <p>2、经证实的贪污腐败事件当年度为 0; 0 proven incidents of corruption</p> <p>3、关于不正当竞争、反垄断实践的法律诉讼当年度为 0; 0 lawsuits on unfair competition and anti-Monopoly</p> <p>4、市场营销违规事件当年度为 0; 0 marketing violations</p> <p>5、累计识别风险点 26 个, 整改率 100% Identified a total of 26 risks with a rectification rate 100% achieved</p>	<p>1、技术研发进展: 截至 2023 年底, 异质结伏曦组件最高功率达 741.456Wp, 组件转换率达 23.89%。 Progress in technology R&D: The highest power output of heterojunction modules has reached 741.456Wp, with and impressive conversion efficiency of 23.89% by the end of 2023.</p> <p>2、市场拓展进展: 伏曦自推出以来, 已覆盖应用至近 50 个国家和地区的客户, 累计出货量超 4GW, 帮助东方日升成为全球领先的异质结组件供应商。 Progress in market expansion: Since its launch, our heterojunction modules have been deployed in nearly 50 countries and regions, resulting in cumulative</p>



东方日升实质性议题分析报告

Materiality Analysis Report

	2023		shipments exceeding 4GW. 3、可持续管理进展：已完成了碳排放量的初步评估，并开始实施节能减排措施。 Progress in sustainability management: We have completed preliminary verification of our carbon footprint and implemented energy-saving and emission-reduction measures.
高管绩效挂钩 Executive Compensation	相关目标、计划列入高管年度考核责任书，设置相应权重比，作为管理绩效和个人绩效考核内容的一部分。 The annual performance appraisal of executives includes specific objectives and plans, with corresponding weightings assigned to evaluate both overall performance and individual achievements.		

外部利益相关者关注的议题		
Material Issues for External Stakeholders		
议题 Material Issue	气候转型和物理风险 Climate Transition & Physical Risks	产品质量 Product / Service Quality
影响原因 Cause of the Impact	<input checked="" type="checkbox"/> 自身营运 Operations <input type="checkbox"/> 产品/服务质量 Products/Services <input checked="" type="checkbox"/> 供应链 Supply chain 影响评估范围覆盖所有运营活动 Business activity coverage is 100%	<input type="checkbox"/> 自身营运 Operations <input checked="" type="checkbox"/> 产品/服务质量 Products/Services <input type="checkbox"/> 供应链 Supply chain 影响评估范围覆盖所有运营活动 Business activity coverage is 100%
影响范围 External Stakeholders /Impact	环境、客户、供应商 Environment, consumers/end-users and suppliers	环境、供应商、客户 Environment, consumers/end-users and suppliers

东方日升实质性议题分析报告

Materiality Analysis Report

Area Evaluated		
相关性分析 Topic Relevance on External Stakeholders	<p>1、环境：积极应对气候变化，有助于减少温室气体排放，改善生存环境。 Environmental: Addressing climate change helps to reduce greenhouse gas emissions and improve the living environment</p> <p>2、客户：积极应对气候变化，帮助客户实现整体降碳目标，并保障客户订单按时完成； Consumers/end-users: Addressing climate change helps clients achieve their carbon emission reduction goals and also ensures that their orders are completed on time</p> <p>3、供应商：积极应对气候变化，有助于推动供应商降碳目标实现；并通过自身产量的稳定拉动上游经济增长。 Suppliers: Addressing climate change helps suppliers achieve their carbon emission reduction goals and also stimulates upstream economic growth through the stabilization of production</p>	<p>1、环境：通过科技创新，降低光伏设施成本，推广新能源使用，促进世界向可持续世界转变。 Environmental: Lower the cost of PV facilities through technological innovation, thereby promoting the widespread adoption of new energy and facilitating the world's sustainable transition.</p> <p>2、供应商：通过降本增效拉动上下游向可回收、可追溯的产品模式转变，并拉动经济增长。 Suppliers: Drive towards a recyclable and traceable product model throughout the upstream and downstream processes by focusing on cost reduction, efficiency improvement, and fostering economic growth.</p> <p>3、客户：降低新能源设备使用门槛，推动更多的人可以负担的起绿色能源。 Consumers/end-users: Reduce the barriers to adopting new energy equipment, making green energy accessible and affordable to a broader population.</p>
直接影响指标 Output Metric	二氧化碳排放量 Carbon dioxide emissions	设备单瓦成本降低百分比 Percentage reduction in equipment cost per watt
影响评估 Impact Valuation	类别：环境价值影响（正向） Type of impact: Environmental Valuation (positive) 通过节能减排措施，公司约减排 27,694 吨二氧化碳。以 IEA 估计的中国碳成本，公司	类别：人均可支配收入增加（正向） Type of impact: Increase in disposable income per capita (positive) 使用 Impact Beacon 对东方日升科技创新成果对社区及当地经济产生影响作量化展现，结

东方日升实质性议题分析报告

Materiality Analysis Report

	<p>产生正向的社会效益约 565 万元。</p> <p>Through energy-saving and emission-reduction measures, the company successfully reduced carbon dioxide emissions by approximately 27,694 tons. Based on the IEA's estimated carbon cost in China, these efforts generated positive social benefits totaling approximately \$778,210.</p>	<p>果显示：未来 5 年，每千瓦时成本下降 1%将增加用电家庭\$4.07 的可支配收入。</p> <p>Using Impact Beacon to quantify the impact of the company's technological innovations on the community and local economy reveals that a 1% reduction in the cost of every kWh of electricity over the next 5 years will increase disposable income by \$4.07 for households using electricity.</p>
<p>间接影响指标 Impact Metric</p>	<p>碳的社会成本 Social cost of carbon</p>	<p>家庭可支配收入 Household disposable income</p>

签名 (President Signature) : _____

日期 (Date) : July 2024