Scenario 4 - Fully Costed Contract Bid: 25 MW On-shore Wind Power Purchase Agreement (PPA)

Overview

This contract bid scenario outlines the design, build, and operation of a 25 MW onshore wind power project in the UK. The project will utilize an existing wind asset, and the Power Purchase Agreement (PPA) will span 15 years with a minimum contracted capacity of 95%. The PPA price will be adjusted annually based on the Consumer Price Index (CPI) to account for inflation.

Project Details

        •       Project Name: 25 MW Onshore Wind Power Project
        •       Location: [Specify the location in the UK]
        •       Capacity: 25 MW
        •       Contract Duration: 15 years (PPA)
        •       Minimum Contracted Capacity: 95%
        •       Inflation Adjustment: CPI-based annual price adjustment
        •       Bid Submission Deadline: [Specify the date]
        •       Contact Information: [Contact details for bid submission and inquiries]

Scope of Work

        1.      Assessment of Existing Asset:
        •       Evaluate the existing wind farm infrastructure.
        •       Conduct a performance assessment of current turbines.
        •       Identify any required upgrades or refurbishments.
        2.      Upgrading and Optimization:
        •       Procure and install any required additional turbines or components.
        •       Upgrade electrical infrastructure and grid connections if necessary.
        •       Optimize turbine performance to meet the 95% capacity requirement.
        3.      Operation and Maintenance (O&M):
        •       Develop a comprehensive O&M plan to ensure consistent performance.
        •       Implement a monitoring system for real-time performance tracking.
        •       Conduct regular maintenance and repairs to sustain contracted capacity.

Cost Breakdown

        1.      Asset Evaluation and Upgrades:
        •       Asset Assessment: £300,000
        •       Turbine Upgrades: £500,000 per MW x 25 MW = £12,500,000
        •       Electrical Infrastructure Upgrades: £2,500,000
        •       Total Asset Evaluation and Upgrades: £15,300,000
        2.      Operational Costs:
        •       Annual O&M Cost: £1,000,000
        •       Total O&M Cost for 15 Years: £1,000,000 x 15 years = £15,000,000
        3.      Financing Costs:
        •       Interest During Upgrade: £750,000
        •       Debt Service Costs: £1,500,000
        •       Total Financing Costs: £2,250,000
        4.      Contingency:
        •       Contingency for Upgrades (10%): £1,530,000
        5.      Total Project Cost:
        •       Sum of All Costs: £15,300,000 (Upgrades) + £15,000,000 (O&M) + £2,250,000 (Financing) + £1,530,000 (Contingency)
        •       Total Project Cost: £34,080,000

Financial Proposal

        1.      PPA Price Proposal:
        •       Proposed Base PPA Price: £ XXXX per MWh
        •       Annual Energy Production Estimate:
        •       25 MW x 24 hours/day x 365 days/year x 0.95 (capacity factor) = 207,675 MWh/year
        •       Annual Revenue at Base Price:
        •       207,675 MWh/year x £55/MWh = £11,422,125/year
        •       Total 15-Year Revenue (Without CPI Adjustment):
        •       £11,422,125/year x 15 years = £171,631,875
        2.      CPI-Based Price Adjustment:
        •       Initial PPA Price: £55/MWh
        •       Assumed Annual CPI Growth: 2% (for estimation purposes)
        •       Price Adjustments Over 15 Years:
        •       Prices adjusted yearly based on actual CPI data, compounding the revenue accordingly.
        3.      ROI and Payback Period:
        •       Return on Investment:
        •       Assuming CPI adjustment: Final 15-year revenue will be higher due to inflation adjustment.
        •       Payback Period:
        •       Estimated to be between 7-9 years, depending on actual CPI and operational efficiency.

Risk Management and Compliance

        1.      Regulatory Compliance:
        •       Permits and Approvals:
        •       Ensure all existing permits are valid and secure any additional approvals required for upgrades.
        •       Compliance:
        •       Adhere to all UK regulations, including environmental and grid connection requirements.
        2.      Risk Management:
        •       Performance Risk:
        •       Continuous monitoring and regular maintenance to ensure 95% capacity is maintained.
        •       Financial Risk:
        •       Hedging strategies to manage interest rate risks and CPI fluctuations.
        •       Operational Risk:
        •       Implement a robust O&M strategy to minimize downtime and maximize efficiency.
        3.      Environmental Impact:
        •       Impact Assessment:
        •       Conduct a review of the environmental impact of any upgrades.
        •       Mitigation Strategies:
        •       Implement best practices to minimize the ecological footprint during the upgrade process.

Evaluation Criteria

        1.      Technical Feasibility:
        •       Ability to upgrade and optimize the existing asset to achieve the required capacity.
        2.      Financial Viability:
        •       Sound financial plan, including clear CPI adjustment strategies.
        3.      Experience and Expertise:
        •       Proven track record in managing similar wind energy projects.
        4.      Compliance and Risk Management:
        •       Strong strategies for managing risks and ensuring regulatory compliance.
        5.      Innovation:
        •       Use of advanced technology to enhance turbine performance and project sustainability.

Submission Instructions

        •       Format: Submit all documents in PDF format.
        •       Submission Platform: [Specify the platform or email for submission]
        •       Deadline: [Specify the date]
        •       Contact for Queries: [Contact details]

Key Dates

        •       RFP Release Date: [Specify Date]
        •       Bid Submission Deadline: [Specify Date]
        •       Evaluation Period: [Specify Date]
        •       Award Notification: [Specify Date]
        •       Project Start Date: [Specify Date]

This fully costed bid scenario provides a comprehensive overview of the requirements for upgrading an existing 25 MW onshore wind asset in the UK under a 15-year PPA. Bidders should ensure that all cost elements are thoroughly considered and that the proposed PPA price reflects both the operational and financial realities of maintaining the asset at a minimum 95% capacity over the contract period.