Scenario 2

Fully Costed Contract Bid Scenario: 25 MW Solar Power Purchase Agreement (PPA) in the UK

Overview

This contract bid scenario involves the design, build, and implementation of a 25 MW solar power project in the UK under a 15-year Power Purchase Agreement (PPA). The project will utilize an existing asset (e.g., brownfield site, industrial facility) 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 Description

        •       Project Name: 25 MW Solar Power Project
        •       Location: [Specify the location within the UK]
        •       Capacity: 25 MW
        •       Contract Duration: 15 years (PPA)
        •       Minimum Contracted Capacity: 95%
        •       Bid Submission Deadline: [Specify the date]
        •       Contact Information: [Contact details for bid submission and inquiries]

Scope of Work

        1.      Design Phase:
        •       Site assessment and solar resource analysis.
        •       Design of solar array layout and system specifications.
        •       Obtain necessary permits and approvals.
        •       Develop grid connection plans.
        2.      Build Phase:
        •       Procurement and installation of solar panels and associated infrastructure.
        •       Construction of inverters, transformers, and cabling.
        •       Establish grid interconnection.
        •       Conduct commissioning and testing.
        3.      Implementation Phase:
        •       Operate and maintain the solar farm to ensure minimum contracted capacity.
        •       Provide regular maintenance and monitoring.
        •       Comply with environmental and safety regulations.

Cost Breakdown

        1.      Design Phase Costs:
        •       Site Assessment and Solar Resource Analysis: £200,000
        •       Design and Engineering: £500,000
        •       Permitting and Legal Fees: £150,000
        •       Grid Connection Planning: £100,000
        •       Total Design Phase Costs: £950,000
        2.      Build Phase Costs:
        •       Solar Panels: £400,000 per MW x 25 MW = £10,000,000
        •       Inverters and Transformers: £2,500,000
        •       Cabling and Electrical Infrastructure: £1,500,000
        •       Mounting Structures and Civil Works: £3,000,000
        •       Grid Interconnection: £1,000,000
        •       Commissioning and Testing: £400,000
        •       Total Build Phase Costs: £18,400,000
        3.      Implementation Phase Costs (15 years):
        •       Operation and Maintenance (O&M) Annual Cost: £350,000
        •       Total O&M Cost for 15 Years: £350,000 x 15 = £5,250,000
        4.      Financing Costs:
        •       Interest During Construction: £1,200,000
        •       Debt Service Costs: £2,000,000
        •       Total Financing Costs: £3,200,000
        5.      Contingency:
        •       Design and Build Contingency (10%): £1,935,000
        6.      Total Project Cost:
        •       Sum of All Costs: £950,000 (Design) + £18,400,000 (Build) + £5,250,000 (O&M) + £3,200,000 (Financing) + £1,935,000 (Contingency)
        •       Total Project Cost: £29,735,000

Financial Proposal

        1.      Proposed PPA Price: £ XXXXX MWh, subject to CPI adjustment.
        2.      Annual Energy Production Estimate:
        •       Capacity: 25 MW
        •       Expected capacity factor: 15% (typical for the UK)
        •       Annual energy production: 25 MW x 24 hours/day x 365 days/year x 0.15 (capacity factor) = 32,850 MWh/year
        3.      Annual Revenue:
        •       Minimum contracted capacity (95%): 32,850 MWh/year x 95% = 31,208 MWh/year
        •       Annual revenue: 31,208 MWh/year x £55/MWh = £1,716,440/year
        4.      15-Year Revenue:
        •       Total 15-Year Revenue: £1,716,440/year x 15 years = £25,746,600, excluding CPI adjustments.
        5.      Return on Investment (ROI) and Payback Period:
        •       Detailed ROI and payback period calculations, considering CPI adjustments, will be included in the financial projections.

CPI Adjustment Mechanism

        •       The PPA price will be adjusted annually based on the Consumer Price Index (CPI) published by the UK Office for National Statistics (ONS).
        •       The adjusted PPA price for each year will be calculated as follows:
        •       Adjusted PPA Price = Base PPA Price (£55/MWh) x (CPI in the current year / CPI in the base year)

Bid Requirements

        1.      Technical Proposal:
        •       Detailed project plan and timeline.
        •       Solar resource assessment and expected energy yield.
        •       Design specifications and technology used.
        •       Engineering, procurement, and construction (EPC) plan.
        •       Operation and maintenance (O&M) strategy.
        2.      Financial Proposal:
        •       Total project cost breakdown (design, construction, operation).
        •       Proposed PPA price per MWh, including CPI adjustment mechanism.
        •       Financing plan and sources of funding.
        •       Expected return on investment (ROI) and payback period.
        3.      Experience and Qualifications:
        •       Company profile and relevant experience.
        •       Examples of similar completed projects.
        •       Resumes of key personnel.
        •       Partnerships with solar panel manufacturers and other subcontractors.
        4.      Compliance and Risk Management:
        •       Plan for obtaining permits and regulatory approvals.
        •       Environmental impact assessment and mitigation measures.
        •       Risk management strategy.
        •       Health and safety plan.

Evaluation Criteria

        •       Technical Feasibility: Quality and robustness of the technical proposal.
        •       Financial Viability: Cost-effectiveness and financial stability.
        •       Experience and Expertise: Proven track record in similar projects.
        •       Compliance and Risk Management: Adherence to regulations and risk mitigation.
        •       Innovative Solutions: Use of advanced technology and innovative approaches.

Submission Instructions

        •       Submit proposals electronically via [submission platform/email] by [deadline date].
        •       Include all required documents and supporting materials.
        •       Proposals must be in PDF format, clearly labeled with the bidder’s name and project title.

Contact for Questions

        •       Name: [Contact Person]
        •       Phone: [Contact Number]
        •       Email: [Contact Email]

Key Dates

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

This comprehensive, fully costed bid scenario provides bidders with the necessary information to prepare their proposals for a 25 MW solar power project under a 15-year PPA in the UK. The inclusion of a CPI-based price adjustment mechanism ensures that the PPA remains financially viable over the contract term.