TECHNICAL & FINANCIAL CONSULTING

Power System Projects

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Project Intro

This project demonstrates my ability to analyze electrical engineering projects from both technical and financial perspectives, supporting decision-making and project optimization.

Project Type:

Engineering Consulting

Focus:

Technical Evaluation & Cost Analysis

Project Objective

The objective of this project was to evaluate an electrical infrastructure project by combining technical analysis with financial assessment.

Key Objectives:

Assess technical feasibility

Analyze equipment and system requirements

Estimate project costs

Support decision-making with structured analysis

Technical Analysis

Key technical aspects evaluated:

Power system configuration

Selection of electrical equipment

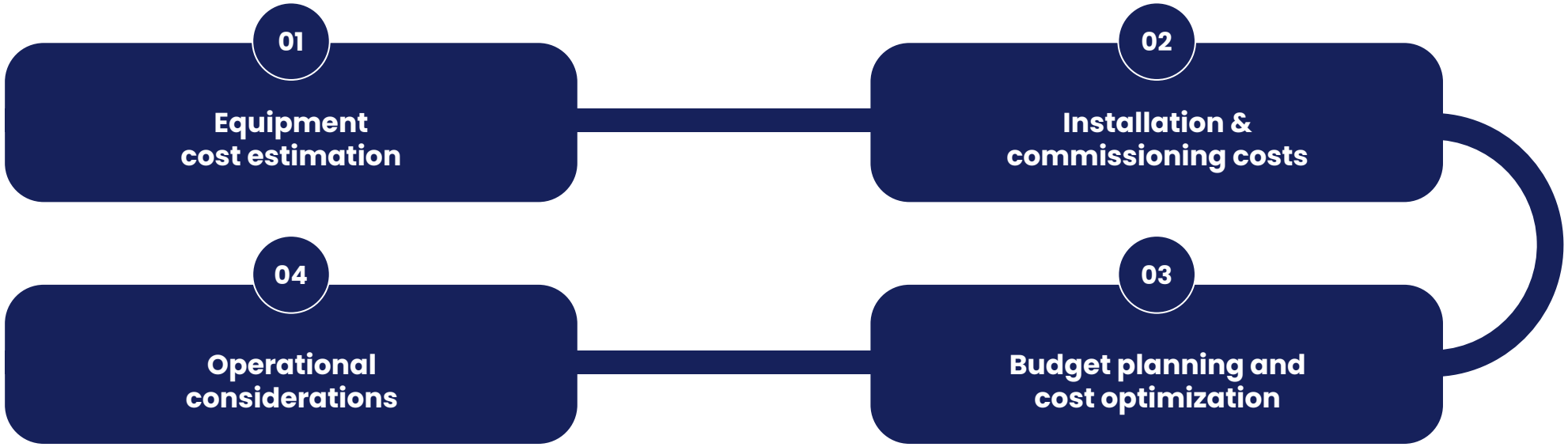
Protection systems and reliability

Compliance with engineering standards

System performance and efficiency

Financial Analysis

Evaluation of project costs and financial aspects:



Cost vs Technical Optimization

Analysis performed to balance technical performance and cost efficiency:

Selection of cost-effective equipment	Optimization of electrical schemes	Evaluation of alternative solutions	Risk Vs. Cost comparison

Benefits:

Achieve reliable system performance with optimized investment cost

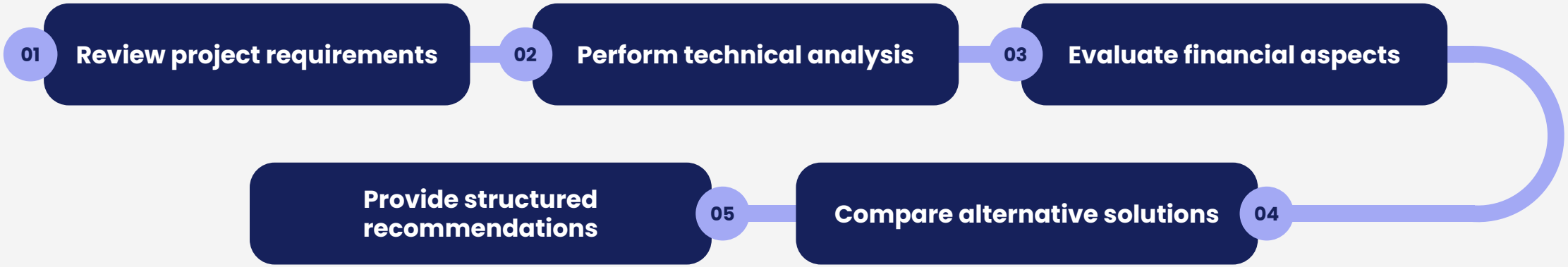
Project Evaluation Summary

Key findings:

- Technically feasible solution identified
- Optimized equipment selection
- Balanced cost vs performance
- Improved project efficiency

Consulting Approach

Steps followed:



Results

Results achieved:

Clear technical evaluation of the project

Structured financial cost analysis

Optimized engineering solutions

Support for informed decision-making

This type of consulting helps clients achieve efficient, cost-effective, and reliable electrical engineering solutions.

Technical & Cost Comparison

SS Skopje 1 110/35 kV substation project:

Case Study:

Substation Equipment Selection (110/35 kV)

Parameter	Option A (Standard)	Option B (Optimized)
Transformer	40 MVA	31.5 MVA
Protection Scheme	Basic (50/51)	Advanced (50/51 + 87T)
Switchgear	Conventional	Compact GIS
Estimated Cost	€280,000	€240,000
Reliability	Medium	High

Analysis:

- Option B provides **better protection and system reliability**
- Lower transformer rating optimized based on load analysis
- Reduced overall cost with improved performance

Decision:

Selected **Option B** for optimal balance between cost and reliability

Financial Breakdown & Optimization

SS Skopje 1 110/35 kV substation project

Estimated cost structure of substation project:

Cost Category	Estimated Cost	% of Total
Power Transformer	€120,000	40%
Switchgear	€80,000	27%
Protection System	€25,000	8%
Installation & Commissioning	€50,000	17%
Engineering & Documentation	€25,000	8%

Analysis:

- Reviewed equipment sizing based on real load requirements
- Optimized protection scheme to avoid overdesign
- Balanced installation costs with project timeline

Decision:

Reduced unnecessary investment costs
Maintained required technical performance
Improved cost efficiency of the project