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# Value for Money

- Life cycle cost
- Merit point scoring

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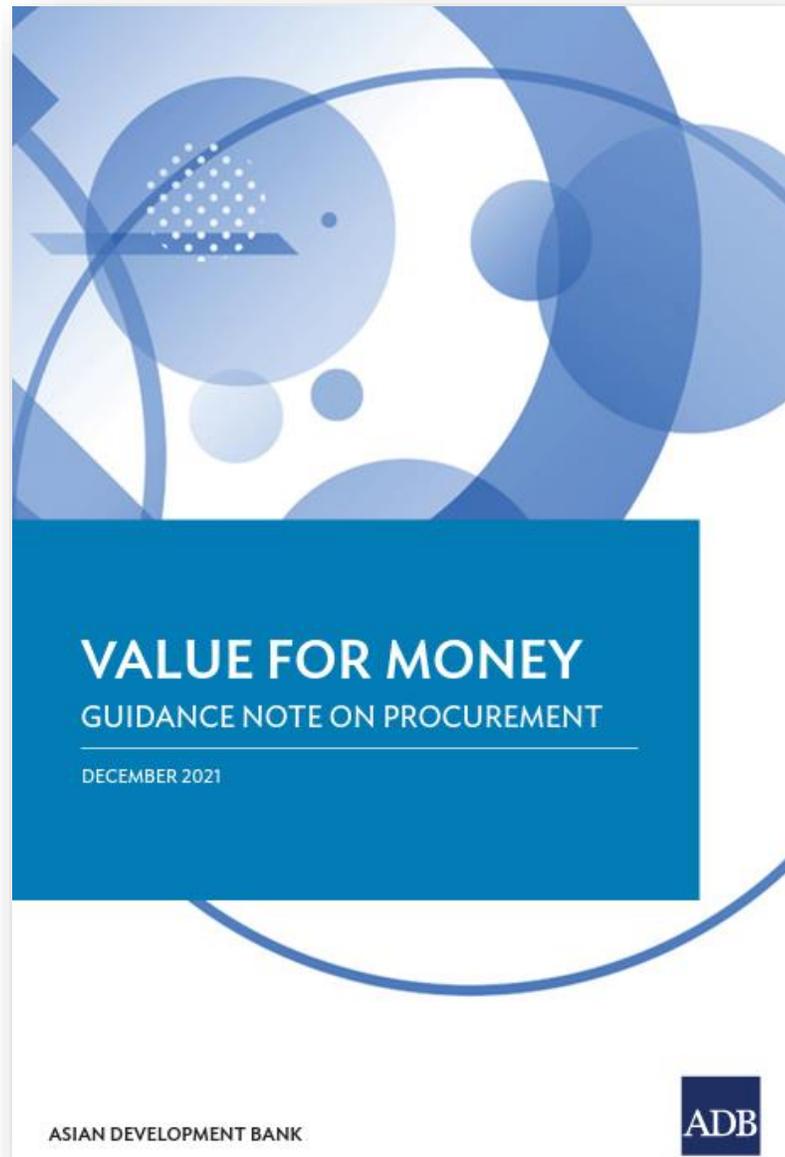
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# Contributing to Value for Money through procurement



- Achieving VFM ... requires the evaluation of relevant costs, and price and nonprice benefits ..., along with an assessment of risks, nonprice attributes, and/or total costs of ownership (TCO), as appropriate.

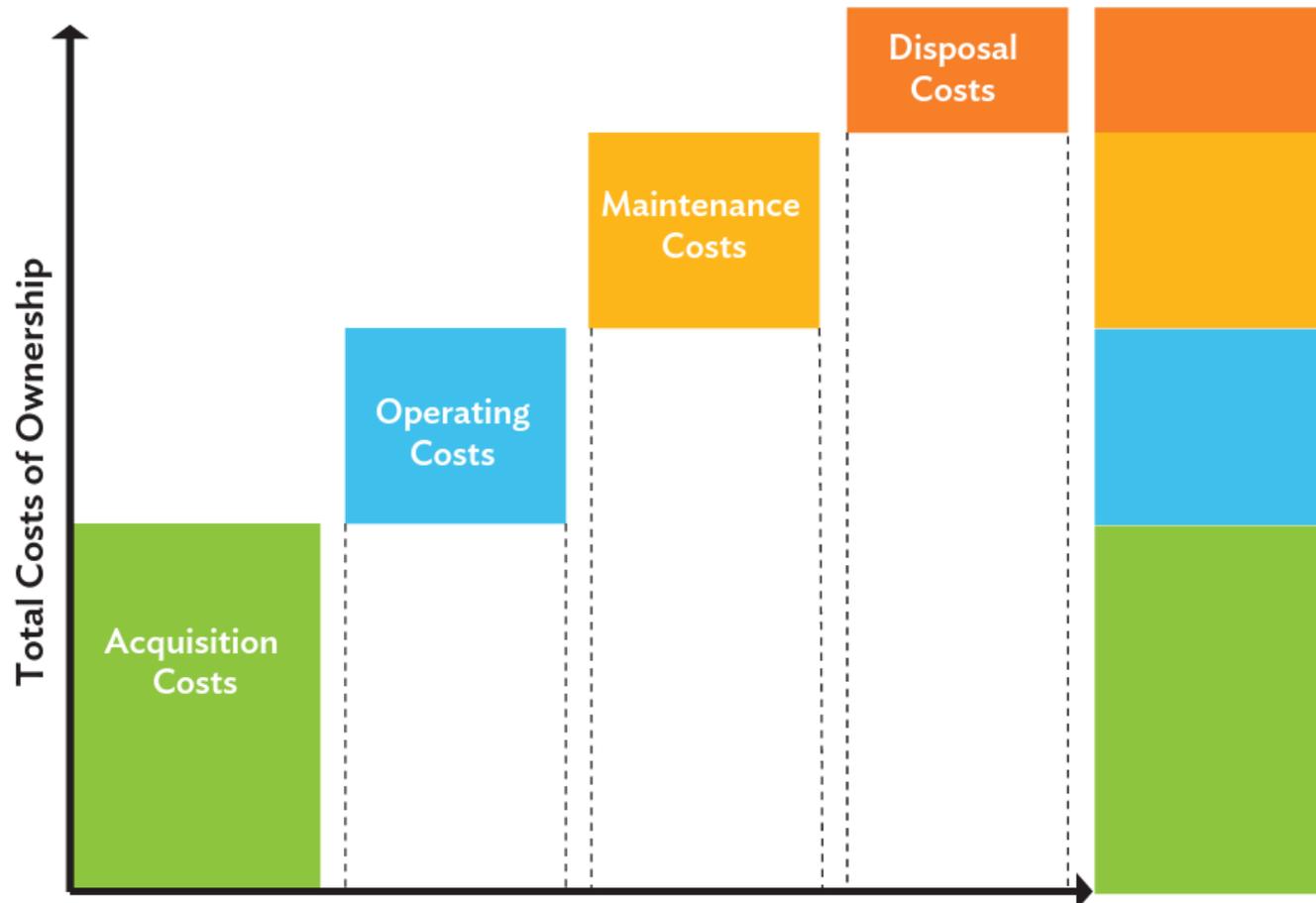
## Evaluation methodologies

- Lowest evaluated bid
- Life cycle cost
- Merit points evaluation
  - Life cycle and merit point evaluation can be combined



# When to use Life Cycle Cost evaluation

Figure A1: Common Costs Comprising the Total Costs of Ownership



- When the difference of O&M costs by different bidders is expected to be non-negligible comparing to the difference of proposed construction costs (bid prices), LCC evaluation may be considered.



# Relevant Clauses in SBD Plant for Lifecycle Cost Evaluation (1)

- Section 3, EQC 1.3.3 O&M Costs

Since the operation and maintenance (O&M) costs of the facilities being procured form a major part of the life cycle cost of the facilities, these costs will be evaluated according to the principles given hereafter, including the cost of spare parts for the initial period of operation stated below and based on prices furnished by each Bidder in Price Schedule Nos. 1 and 2, as well as on past experience of the Employer or other employers similarly placed. Such costs shall be added to the bid price for evaluation. The price of recommended spare parts quoted in Price Schedule No. 6 shall not be considered for evaluation. Use of unverifiable future O&M cost and consumption figures as a factor in economic evaluation should be avoided.

## NOTE

*Use one of the two options given below.*

The O&M cost factors for calculating the life cycle cost are as follows:

- (a) Number of years for life cycle [*insert life cycle period in years. The period should not exceed the period before a major overhaul of the facilities becomes necessary*]
- (b) Operating costs [*insert fuel and/or other input, unit cost for annual and total operational requirements*]
- (c) Maintenance costs, including the cost of spare parts for the initial period of operation
- (d) A rate of [*insert rate in words and figures*] in percentage to be used to discount to present value all annual future costs calculated under (b) and (c) for the period specified in (a)

or

[*insert a reference to the methodology specified in the specifications or elsewhere in the Bidding Document*]



# Relevant Clauses in SBD Plant for Lifecycle Cost Evaluation (2)

- Section 3, EQC 1.3.4 Functional Guarantees of the Facilities

The minimum and/or maximum requirements stated in the Specification for functional guarantees required in the Specification are the following:

*[insert appropriate reference to the Functional Guarantees, and use text suggested below]*

<b>Functional Guarantee</b> <i>[as required in the Specification, e.g., performance, efficiency, consumption, etc.]</i>	<b>Minimum and/or Maximum Requirements</b> <i>[as required in the Specification]</i>
1.	
2.	
3.	
...	

For the purposes of evaluation, for each percentage point in performance or efficiency below the norm specified in the Specification but above the minimum acceptable levels also specified there, an adjustment of *[insert amount in the currency of bid evaluation]* will be added to the bid price.



# Life cycle cost case: Combined Cycle Power Plant Project

- Procurement modality: ICB 1S-1E with PQ
- Project Lifecycle time: 25 years
- Performance guarantee items
  - Net Power Output
  - Weighted Average Net Heat Rate
- Lifecycle cost was evaluated with Fuel cost and O&M cost for the whole plant life
- Lessons learned
  - 1) The portion of Fuel & O&M costs in the total lifecycle costs offered by bidders ranges from 75% to 82%. Construction costs (bid price) only covers 18-25% of the lifecycle costs.
  - 2) The winning bidder did not offer the lowest construction costs (bid price) but won the contract by offering the lowest lifecycle costs (evaluated bid price per kW).
  - 3) The LCC bid evaluation for power plant would be very technically sophisticated, so very strong technical/procurement capacity of the EA (or its engineer) is crucial.

- 1) Annual Fuel cost (\$) = Plant Net Power Output (kW) x Annual Total Operating Hours (hr) x Weighted Average Net Heat Rate of Plant (J/kWh) x Fuel price per unit heat (\$/J)
- 2) Annual O&M cost (\$) = Plant Net Power Output (kW) x Annual Total Operating Hours (hr) x O&M cost per kWh (\$/kWh)
- 3) Evaluated Total Cost = Evaluated Bid Price (Construction Cost) + NPV of Annual (Fuel Cost + O&M cost) for the plant life (25 years)
- 4) Evaluated Total Cost per kW = Evaluated Total Cost / Plant Net Power Output (kW)
- 5) The contract was awarded to the bidder with the Lowest Evaluated Total Cost per kW.



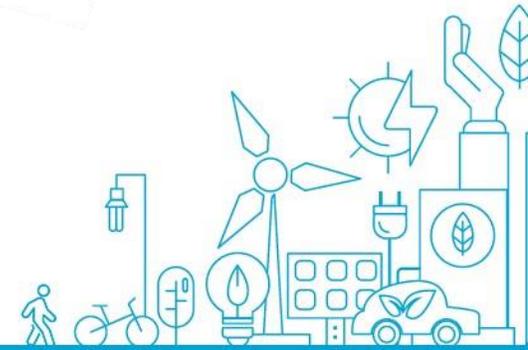
# Merit-point evaluation – how to use

## Two types of merit point evaluation

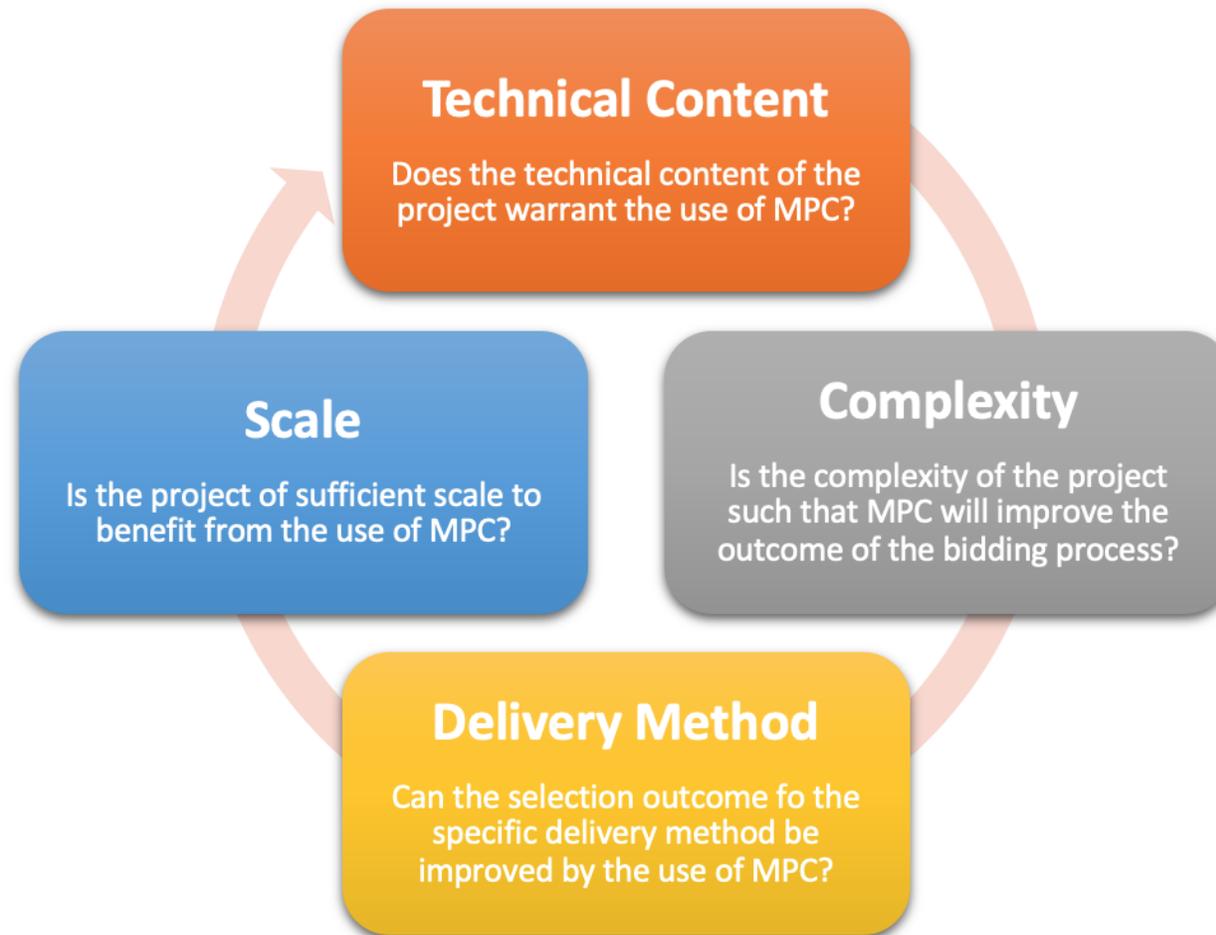
- Least cost
- QCBS

## Criteria that may be included

- (Experience/Qualifications)
- Materials/systems
- Construction implementation
- Social/community
- Environment/sustainability
- O & M implementation



# Merit-point evaluation – when to use



# Merit point evaluation case study

- **Project Owner:** Dhaka Water and Sewerage Authority (DWASA), Bangladesh
- **Delivery Method:** Design Build, 1S2E
- **MPC Implementation Option:** Pass/Fail, minimum technical score, and low-price selection
- **Merit Point Criteria Included:** Construction methodologies, schedule, health and safety, local coordination, team structure
- **Minimum Technical Score Required:** 45
- **Results and Findings:** 3 out of 8 bidders were declared technically responsive. 5 bidders failed to meet qualification criteria. TP of 3 technically responsive bidders scored between 64-70.



# Contract Overview

- The scope included 43 kms of secondary distribution pipeline, connections to existing water supply system, critical pipeline crossings of rivers and railways.
- Pipe materials (mainly HDPE) could not be procured in country, and because the pipeline was to be laid along major roadways and urbanized areas, adequate storage of pipe materials within proximity to the construction was critical. As such logistics plan, pipe staging and storage was included in scored criteria
- ESHS, liaising with relevant authorities was also included in the scored criteria



# Merit Point Criteria – 100 points available – 45 points required to pass the technical evaluation

Criteria	Maximum Score
Work methodology (WM) 1 – GPR Survey	10
Work methodology (WM) 2 – Design of pipelines	12.5
Pipe route selection and long section	(10)
Determination of pipe diameter	(2.5)
Work methodology (WM) 3 – Logistics	10
Location of storage yards	(5)
Sizing of storage yards	(5)
Work methodology (WM) 4 – Pipeline installation	20
Trench support system, fusion welding of HDPE pipes, culvert crossings	(10)
Schematic diagram of working corridors	(10)

Number refers to requirements in the Technical Proposal as per Section 4 (Bidding Forms) of these bidding documents.  
Numbers in bracket ( ) refer to maximum score allocated for a sub-requirement.



# Merit Point Criteria

Criteria	Maximum Score
<b>Team structure and organogram</b>	5
Establishment of hierarchies and relevancy	(2.5)
Relevancy to expected key personnel	(2.5)
<b>Mobilization schedule</b>	5
<b>Construction schedule</b>	5
<b>Liaising with relevant authorities</b>	5
Team structure and tasks	(1)
List of relevant authorities	(2)
Approval processes and timing	(2)
<b>Environment, Social, Health and Safety</b>	7.5
Traffic management	(2)
Consent/permit	(1.5)
Disposal of spoil material from excavations	(2)
Classification/disposal of contaminated spoils	(2)

Number refers to requirements in the Technical Proposal as per Section 4 (Bidding Forms) of these bidding documents.  
Numbers in bracket () refer to maximum score allocated for a sub-requirement.



# Merit Point Criteria

The requirements for each criteria were defined in Section 4 of BD.

- Work methodology (WM) 3 – Logistics 10 points
- Location of storage yards (5 points)
- Sizing of storage yards (5 points)
  - WM3 shall detail the Bidder's logistics plan to supply, import, transport to Site and store the pipes, fittings, and sensitive accessories such as gaskets, lubricants etc.
  - Bidder shall provide annotated maps showing proposed locations and approximate size (metres wide by metres long) of pipe storage yard(s) and any additional land the Bidder proposes to occupy for Works access, temporary works and material storage.
  - Bidder shall demonstrate that the sizing of storage yard(s) is adequate to store enough pipes and fittings to allow continuity of work for six months as required in ER section 6.2.3.1 clause 5.27.1.
  - The response shall be limited to maximum 5 pages.



# Merit Point Criteria – Methodology of scoring

% Of Maximum Score	Description of Services
Excellent submission (100%)	Significantly exceeds the requirements. Exceptional demonstration by the bidder showing it has the relevant experience, the ability, understanding, skills, and resources required to properly deliver the Project on time. Response identifies factors that could offer potential added value. Excellent supporting evidence is provided.
Good submission (80%)	Marginally exceeds the requirements. Above average demonstration by the bidder showing that it has the relevant experience, the ability, understanding, skills, and resources required to deliver the Project on time. Good supporting evidence is provided.
Acceptable submission (60%)	Satisfies the requirements. The bidder has demonstrated that it has the relevant experience, the ability, understanding, skills, and resources required to deliver the Project on time. Sufficient supporting evidence is provided.
Some reservations (40%)	The submission does not fully meet the requirements and the bidder has not sufficiently demonstrated that it has the relevant experience, ability, understanding, skills, and resources necessary to deliver the Project on time. Insufficient supporting evidence is provided.
Serious reservations (20%)	Significantly below the requirements. There are major reservations concerning the bidder's relevant experience, ability, understanding, skills, and resources required to properly deliver the Project on time. Little supporting evidence is provided.
Unacceptable submission (0%)	Feature is absent/omitted. Does not comply and/or provides scarce information to demonstrate that the bidder has the ability, understanding, experience, skills, and resources required to deliver the Project on time.



# Lessons learned

- The overall experience of moving from a pass/fail evaluation to an objective/quantitative method was found to be efficient and benefitted the project significantly by shortening the evaluation period.
- A scored system used for contract was quantitative and simplified the process significantly
- Omissions or lack of responses were scored low and very little amount of clarification was required to conclude the final outcome.
- The method was found to be well suited to identify low quality bids which were ambiguous or lacked sufficient amount of information.
- The overall benefit was savings in evaluation effort and time period by reducing the need to action multiple rounds of extensive clarifications.
- **Contract awarded a few percentage under the Engineers Estimate. Expectation is less cost overruns/contract variations**

