Proposals and Bids with Energy Efficiency

TENTH ENERGY EFFICIENCY FORUM AND EXHIBITION

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Ivan Gerginov

WHAT IS DIFFERENT ABOUT EE/EPC PROCUREMENT?

- EPCs use ***output-based rather than input-based models***.
- EPCs involve a ***blend of goods, works, services, and financing***.
- ***Payments are based on performance*** rather than time-based or delivery-based contracts.
- ***Relatively small contract sizes*** for EPCs make complex procurement options cumbersome.
- EPCs require ***credible, upfront technical information***.
- EPCs are often ***finalized after contract signing***.

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PROCUREMENT VARIATIONS

- **Output-based or performance-based contracts** allow for payments to be based on measurable output indicators rather than inputs.
- **Cost plus contracts** when the exact type and quantity of goods is unknown.
- **Two-stage bidding** allows for bidding when the technical approach is uncertain by requesting unpriced technical bids first to see what solutions bidders may propose.
- **Management services contracts** allow for turn-key, performance-based, output-based contracts.

BUDGETING

Multiyear contracts

- Issue: How can a public agency enter into a multiyear EPC if budgets are appropriated only annually and the project payback period is usually more than a year.
- Solution Examples:
  - Amended budgeting and procurement legislation to allow multiyear EPC. Multiyear contracts exist in the public sector (public debt and hiring on open-ended contracts for example). EPC can therefore be integrated with the budget process to make multiyear EPCs possible.
  - Utility-based ESCOs. Government and energy utilities have an implicit multiyear agreement. By having utilities owning ESCOs, EPCs can be considered as extensions of utility services, which implies no contractual term limit.

BUDGETING

Savings Retention

- Issue: How can a public facility retain energy savings benefits within its budget envelope so as to pay the ESCO and create an incentive for the agency to proceed with the energy efficiency project? (a budget and a contractual issue)
- Solution Examples:
  - Starting EPC programs with autonomous agencies until the concept is better tested and proven. Water, heating and power utilities, hospitals, schools and universities) have budgets based on fixed costs and/or their number of “clients” (students or patients).
  - Creation of an Energy Fund to grant public sector projects (Thailand). Energy savings are ultimately retained by the Ministry of Finance (MoF).

BUDGETING

Line-Item Budgeting

- Issue: Restrictions on line-item budgeting to pay for EPCs? How can it finance capital improvements from operating cost savings or pay the ESCO from an existing budget line item (such as electric utility services)?
- Solution Examples:
  - USA - 25 years of continuous legislative and regulatory modifications
  - Germany – federal level – Multiyear EPCs with annual payments to contractors of more than €300,000, a commitment appropriation in the federal budget is made for future payments to the contractor before the tender process begins.
  - Germany – state level – varies. Some states - No separate authorization for EPC required. Others - each EPC has to be authorized separately. Stuttgart: PICO model.

REQUEST FOR PROPOSAL

Defining the project

- Issue: How should the energy savings project be defined in the RFP to allow for reasonable comparisons but also innovative proposals? Which RFP type should be used – goods, works, services, or a combination?
- Three issues must be addressed when defining the project:
  - Type of procurement (works, goods, services, or combination).
  - Project objectives and basic parameters.
  - Project scope of work to be done.
- The challenge is to set output-based parameters to accommodate the evaluation of a variety of technical approaches and solutions.

REQUEST FOR PROPOSAL

Defining the project

- Solution Approaches include:
  - **The prescriptive approach** (based on a preliminary energy audit).
  - **The compromise approach**: prescribe systems to be retrofitted but not the technical solutions OR prescribe some minimum set of energy efficiency measures but be flexible on energy systems targeted.
  - **The non-prescriptive approach**: energy savings not prescribed in the RFP. There is a place for innovative proposals, but comparative evaluation of the bids is more difficult.
  - Specify a minimum level of energy savings.
  - Specify a minimum share of the savings to be received by the public agency.

REQUEST FOR PROPOSAL

RFP Standardization

- Issue: When should the public EPC procurement process be standardized? Should standard RFP documents and contracts be developed?
  - Develop a standard RFP package to save time and cost in the early stages of the procurement process.
  - Canada and USA have done this (FBI and FEMP).
- Prequalifying EVDs/ESCOs
  - Prequalification Approach: to screen bidders in order to ensure that those who will be invited are qualified enough to realize the project as intended.
  - Short-List Approach: A restricted number of applicants are invited to bid (usually four to six), based on pre-specified evaluation criteria.

REQUEST FOR PROPOSAL

- Preparing the RFP

› The RFP is tailored to the project and to the client's preferences, and allows the bidders to understand the financial, technical, and contractual aspects of the project.

RFP defines:

- Project's requirements
- Evaluation criteria
- Contractual provisions
- Other parametersc

RFP includes:

- Instructions for bidders. Technical information about the project
- "Scope of work"
- Terms and conditions of the contract
- Other demands from the client

- 3. Other steps - Upstream consultation, Pre-bidding conference, Site visits, Oral presentation

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BID EVALUATION

- Issues:
  - What evaluation criteria will permit a fair and transparent comparison?
  - How can government ensure that public agencies have sufficient technical skills to carry out proper evaluation?
  - Aspects to be evaluated are technical, financial, project implementation, and performance monitoring.
- Example Solutions:
  - Two-stage selection process is preferred to ensure transparency: Technical evaluation is conducted prior to opening the financial proposals.
  - Goal should be the best value to the client.

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EVALUATION PROCESS

- Some countries use weighted average of multiple criteria.
- Others use a single parameter (e.g. NPV):

Table CS 4.4 Monetary and Nonmonetary Selection Criteria

Criteria	*Weighting*	*Performance Criteria (0-100 Points)*	*Weighted Score*
Net present value [€]	75%	P1	Q1 = P1*0.75
Bonus participation [%]	5%	P2	Q2 = P2*0.05
Financial proposal and risk mitigation measures	5%	P3	Q3 = P3*0.05
Technical and organizational approach	5%	P4	Q4 = P4*0.05
Quality and compatibility of components	5%	P5	Q5 = P5*0.05
Environmentally friendly technologies, CO_2 reduction	5%	P6	Q6 = P6*0.05
SUM	100%		Sum (Q1 – Q6)

Source: DENA 2008a.

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EVALUATION PROCESS

Category	*Maximum point value*	*Weighting factor*
Financial: payback period; interest rate charges; cost breakdown; buyout option	100 points	25% (0.25)
Technical: completeness of energy savings estimate; baseline; engineering approach	100 points	25% (0.25)
Implementation: plan for purchasing an installing improvements; monitoring savings	100 points	20% (0.20)
Operation and Maintenance: preventive maintenance approach	100 points	10% (0.10)
Project Management: qualifications of personnel; external sources	100 points	10% (0.10)
Training: Approach for delivering training to facility staff; training cost breakdown	100 points	10% (0.10)
Total score	-	-

Source: Natural Resources Canada, Office of Energy Efficiency.

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EVALUATION PROCESS

Table CS 5.3 Selection Criteria for the Qualified Bidders List

Criteria	Points available	Example 1 Weighting factor	Example 1 Total	Example 2 Weighting factor	Example 2 Total
Attractive benefit within 15 years.	5	5	25	4	20
Attractive annual benefit to the municipality within the contract period is proposed.	5	5	25	4	20
Substantial guaranteed savings in utilities is projected.	5	5	25	4	20
The financing plan is reliable.	5	4	20	5	25
The contract period is as short as possible.	5	3	15	3	15
The proposal related to possible subsidies is included.	5	2	10	3	15
The project includes sufficient energy savings.	5	5	25	5	25
Global warming countermeasures are considered, such as measurable reduction in CO_2 emissions.	5	5	25	3	15
Environmental impact is considered, such as NO_x, SO_x, dust, and noise.	5	2	10	2	10
The technology and proposal are specific and reasonable.	5	4	20	5	25
The proposal is unique and indicates particular know-how.	5	2	10	4	20
Renovation rather than the renewal of existing facilities is considered.	5	2	10	3	15
Methods proposed for maintenance, monitoring, and operation control are specific and reasonable.	5	4	20	5	25
The potential bidder has the ability to provide excellent product quality control, complete construction on time, and provide service.	5	2	10	4	20
A proposal is included for support after the contract period is finished.	5	1	5	2	10
Balance and excellence of the total proposal.	5	5	25	5	25

Source: Energy Conservation Center, Japan.
Note: Example 1 is from an ESCO project at a rehabilitation center; Example 2 is from a project at a municipal building. The total number of points available can vary depending on the project.

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EVALUATION COMMITTEE CAPACITY

- A number of countries have facilitators helping agencies review and assess proposals.
- Agencies contract external technical experts:
  - To evaluate the IGA
  - To oversee commissioning
  - For M&V
- Those measures should be in place as long as agencies don’t have enough technical capacity.

CONTRACTING

- Issue: How to ensure that the final contract does not deviate too much from the proposal, since the IGA is often performed after the contract is awarded?
- Issue: How can the public agency enhance its capacity to support contract negotiations and to supervise contract O&M?
- Issue: Should the contract be standardized?
- Issue: What is the nature of typical performance guarantee clauses and M&V plans?

CONTRACTING

- As the IGA is generally conducted after a contract is signed, ESCOs provide their best estimate in their bid.
- ESCOs may have an incentive to “over-promise” in their bid to win the contract and then reduce final energy savings.
- Solution: award contract in two phases.

CONTRACTING

- Phase 1: ESCO conducts the IGA
  - Often, only small variation in guaranteed savings from the proposal is allowed (±10%-20%)

- Phase 2: ESCO implements it without deviation
  - Option 1: Similar NPV should be delivered
  - Option 2: Require unit prices for specific elements (lamp replacement) in the RFP
  - Option 3: “open book” contracting

CONTRACTING

Issue: Should the contract be standardized?

- Improved efficiency of contracting process
- Lower burden on agency staff in negotiation

- Imposes complexities/limitations in contract negotiation

CONTRACTING

Issue: What is the nature of typical performance guarantee clauses and M&V plans?

- Usual guarantees:
  - Annual energy savings
  - Annual energy and cost savings
  - Energy savings plus other cost savings (e.g. O&M)
  - Energy supply
  - Equipment performance or efficiency level

CONTRACTING

Payments:

- Must be clearly defined in the contract
- Single biggest source of argument
- Shared or guaranteed savings
- Agency usually bears costs of energy cost variations

CONCLUSIONS AND RECOMMENDATIONS

Table 7.1 Recommendations for Main Public ESPC Procurement Steps

Main steps	*Recommendations*
Budgeting	Start public ESPC procurement schemes with more autonomous public entities first Gain support from, and work with, parent budgeting agencies After implementation of a few ESPCs, develop public financing programs to help address budgeting, incentive, and financing issues Change the budgeting laws and regulations in the longer term, as required
Energy audit	Consider the level of technical information prospective bidders require to properly define the project Where appropriate, provide basic technical data (facility description, equipment inventory, energy bills, etc.) in lieu of energy audit
Bidding documents	Carefully define the project to ensure that it meets local procurement rules and regulations Provide broader parameters, such as minimum energy savings or target systems, to avoid being too prescriptive Delay the standardization of procurement documents to avoid advance limits on flexibility and the natural evolution of the market (Once sufficient projects have been implemented, standardization can facilitate scale-up and reduce transaction costs.) Introduce steps to the bidding process, such as prequalification, detailed audits, pre-bid conference, or oral presentations, based on local needs and capabilities
Evaluation process	Adopt a two-stage evaluation process in which technical proposals are scored first and the highest-ranked proposals proceed to the financial evaluation stage Use a net present value (NPV)—or an equivalent single, comprehensive indicator—in the financial evaluation to allow for simple, transparent assessments and limit "cream-skimming"

(continued)

Table 7.1 Recommendations for Main Public ESPC Procurement Steps *(continued)*

Main steps	*Recommendations*
Financing	In mature capital markets, make efforts to attract commercial financing for ESPCs with informational and other technical support Where perceived risks are high, offer credit or risk guarantees to encourage commercial financing of ESPCs In immature markets, particularly where liquidity is an issue, create a dedicated energy efficiency fund or other entity to support ESPCs Maintain flexibility in all financing programs to allow for maximum market development
Contracting	Designate entities such as nodal agencies, agents, or public ESPs to facilitate public ESPC projects Develope standardized contracts that are based on initial ESPCs and that have performed successfully to further facilitate public energy savings projects Define performance guarantees based on the type of energy measure being implemented; including an M&V plan in the contract Address operations and maintenance (O&M) and client training in the ESPC to ensure that savings persist

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Thank you