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Energy Performance Contracts (EPC)

Edmonton Construction Association Owners Forum

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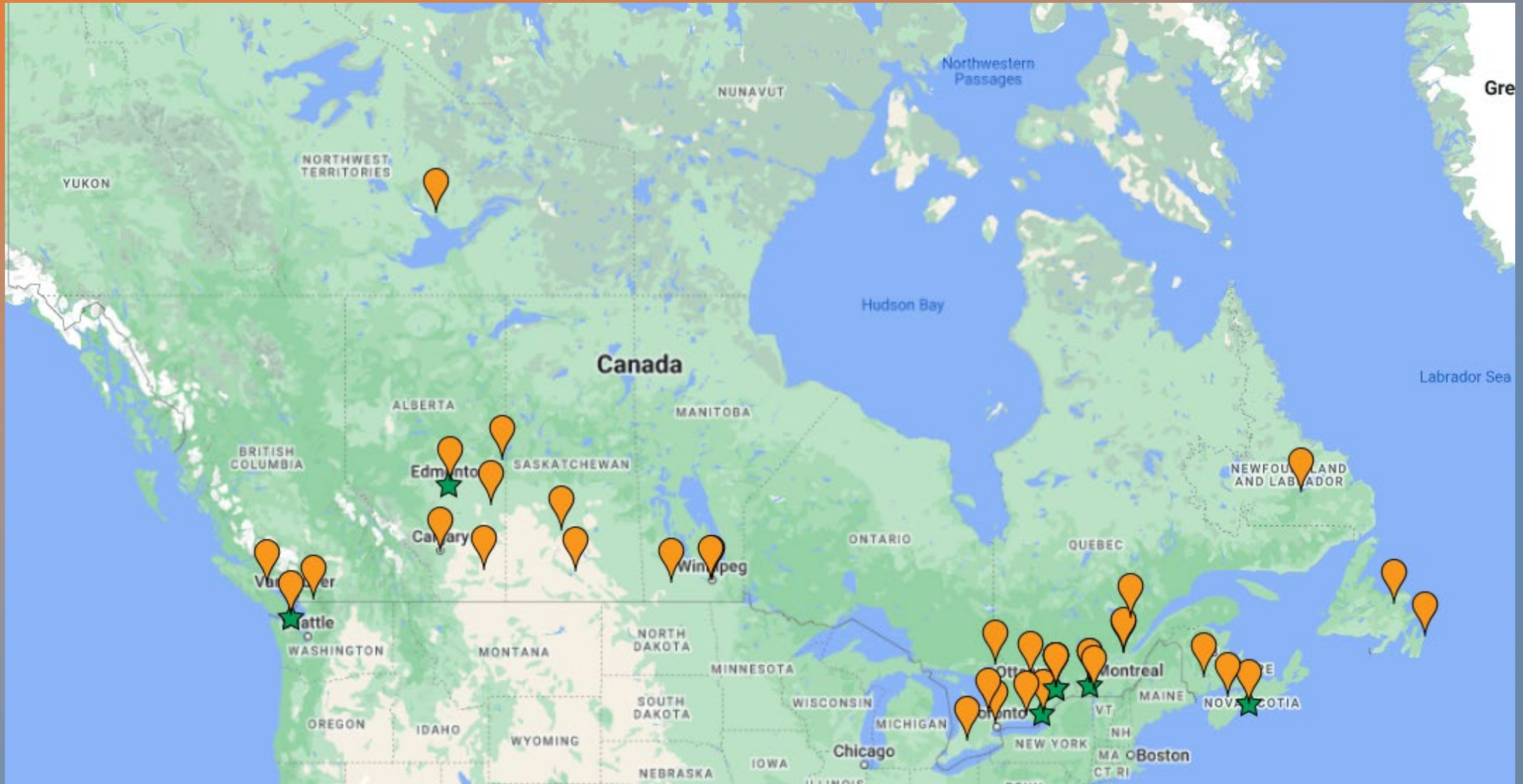
Discussion Topics

- Introduction to DCC
- Our Energy Performance Contract (EPC) Model
 - Overview
 - Process
 - Benefits
 - Challenges
- Other Energy Initiatives

Defence Construction Canada (DCC)

Who Are We?

- Federal Crown Corporation (1951) accountable to Federal Gov't through Minister of Public Services and Procurement (PSPC).
- Provide infrastructure and environmental services to Department of National Defence (DND)... mainly ADM Infrastructure and Environment (ADM IE) and Communications Security Establishment (CSE)
- Expertise in:
 - procurement,
 - contract management
 - project management,
 - environmental services and
 - real property support services.
- ~ 1200 employees at 35 Site across Canada (and internationally) with 6 Regional offices (Halifax, Montreal, Ottawa, Kingston, Edmonton, Victoria) and a Head Office in Ottawa.



[Defence Construction Canada](#)

The background is a solid dark blue color. It features an abstract geometric pattern of white lines that form various polygons and shapes, primarily concentrated in the top-left and bottom-right corners. The lines are thin and create a sense of depth and structure.

Energy Performance Contracts (EPC)

Overview - Federal Government Energy Challenges

- DND is the largest Green House Gas (GHG) emitter in the Federal Government.
- Aggressive targets such as:
 - Purchasing Clean Power for all Federal Facilities by the year 2025
 - GHG reduction target of 40% below 2005 levels by 2030
 - GHG reduction target of 90% below 2005 levels by 2050.
- In response to the above, ADM IE issued the Green Building Directive that provides guidance/process in a number of areas in order to meet these targets... one of which is Energy Performance Contracts (EPC).
- To date, DND has invested >\$400M in EPCs.



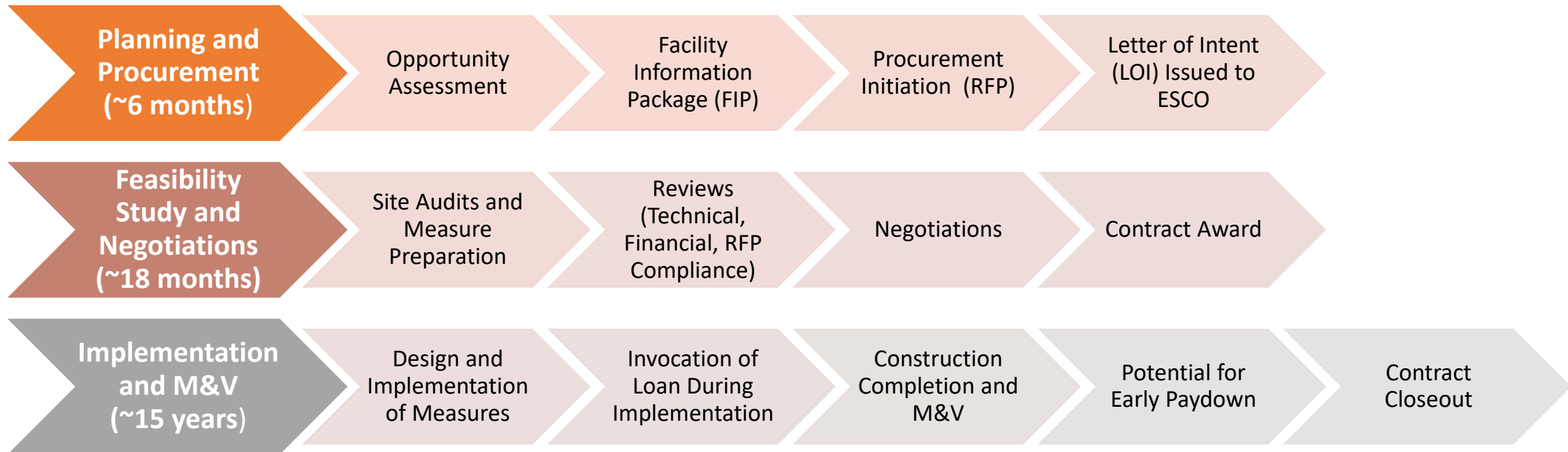
What is an EPC?

- Performance-based financing mechanism that enables a client organization to leverage the technical and financial capacity of an Energy Service Company (ESCO) to design, build, and secure financing to improve energy management practices and/or retrofits within a facility or group of facilities.
- ESCO develops energy saving measures based on a set payback period using the savings generated from the retrofits. They provide the financing for the retrofits, and the Owner repays the loan from utility savings over a set timeframe.
- The focus is on savings, with an added benefit of GHG reduction (not as easy as it sounds).

EPC Highlights in DND Context

- EPC model does not follow traditional project approval requirements – exempt by TB.
- DCC is primary Contracting Authority for DND; allows for a National Program approach. DCC/DND collaborate closely on the Program with the goal of completing a Feasibility Study (FS) at all Bases/Wings.
- FS outlines multiple Energy Conservation Measures (ECMs) for a set scope of facilities. Each ECM represents a savings and a subsequent payback period for implementation costs.
- FS requires a 15 year payback period. The process allows for “blending” of ECM payback periods and inclusion of capital injection, to achieve the 15-year target.
- FS is the basis of a detailed negotiation and once the EPC is awarded, the design, tender, construction and financing arrangements for the implementation of the measures is the responsibility of the ESCO.
- Most risk and accountability for energy performance is transferred to the ESCO. ESCO responsible for demonstrating proof of savings.
- Measurement and Verification (M&V) period is typically 2-3 years and follows the International Performance Measurement and Verification Protocol (IPMVP).

EPC Process



- EPCs are not required to follow the traditional approval process model for federal procurement; they are quicker.
- Aligns with the new Government of Canada (GOC) targets for reducing energy footprint consumption and Greenhouse Gas (GHG) emissions.
- Relieves financial pressure on Maintenance and Repair, Minor Capital, and Major Capital budgets.
- Updates facilities, building performance, and improves occupant comfort (lighting, temperature, and air quality).
- Transfers risk and accountability to private sector.
- Results in equipment replacements and improvements to existing buildings.

- Capacity/expertise to evaluate potential for an EPC including preparation of the documents.
- Stakeholder management and communications.
- Technical/Financial - unproven or risky technologies, complex financial calculations.
- Determination and management of baselines. Building metering and data challenges.
- Validation of savings. Difficult to manage operational changes during M&V.
- Savings disappear over time due to lack of maintenance.
- 10 to 15 years of verification work.
- DND's aggressive paydowns and the recent/current interest rate situation



Other Initiatives

Smart Building Energy Management System

Electric Vehicle Equipment Support

Net Zero Carbon Planning

Existing Building Re-Commissioning

Building Metering

Lifecycle Cost Analysis



Questions?

Stakeholders

DND (DPI, DAES,
RPOps HQ and
Detachments)

ESCO (Leads,
Auditors x 5
proponents)

DCC (National,
Regional, Site)