



Energy Performances Contracting (EPC)

EMT

October 2013





Agenda

- Energy Performance Contracting – What Is It?
- Issues, Solutions And Benefits
- What Is The Approach?
- Communication And Employee Engagement
- Financial
- Summary



What is an Energy Performance Contract (EPC)?

EPC is a turnkey service in which Health Authorities, Educational Institutions, Government, and Industry are able to purchase a comprehensive set of energy efficiency and building renewal improvements - paid for through guaranteed energy savings. In its simplest form it re-directs future utility payments into badly needed building renewal capital and transfers the project risks to the EPC partner.

ISSUES, SOLUTIONS AND BENEFITS

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INFRASTRUCTURE

Issues

- Energy costs are rising
- Buildings are aging requiring more maintenance
- Current budgets do not allow for extensive maintenance or capital renewal

Solutions

- Energy Performance Contracts
- Government grants and incentives



It's about Helping People Achieve

The greatest gains from an efficient building are in the **ways people respond** to efficient, healthful work and living spaces.

- Patients and Students – enjoy a more healthy healing or learning environment
- Visitors – come away with a positive experience
- Staff – more productive



WHAT IS THE APPROACH

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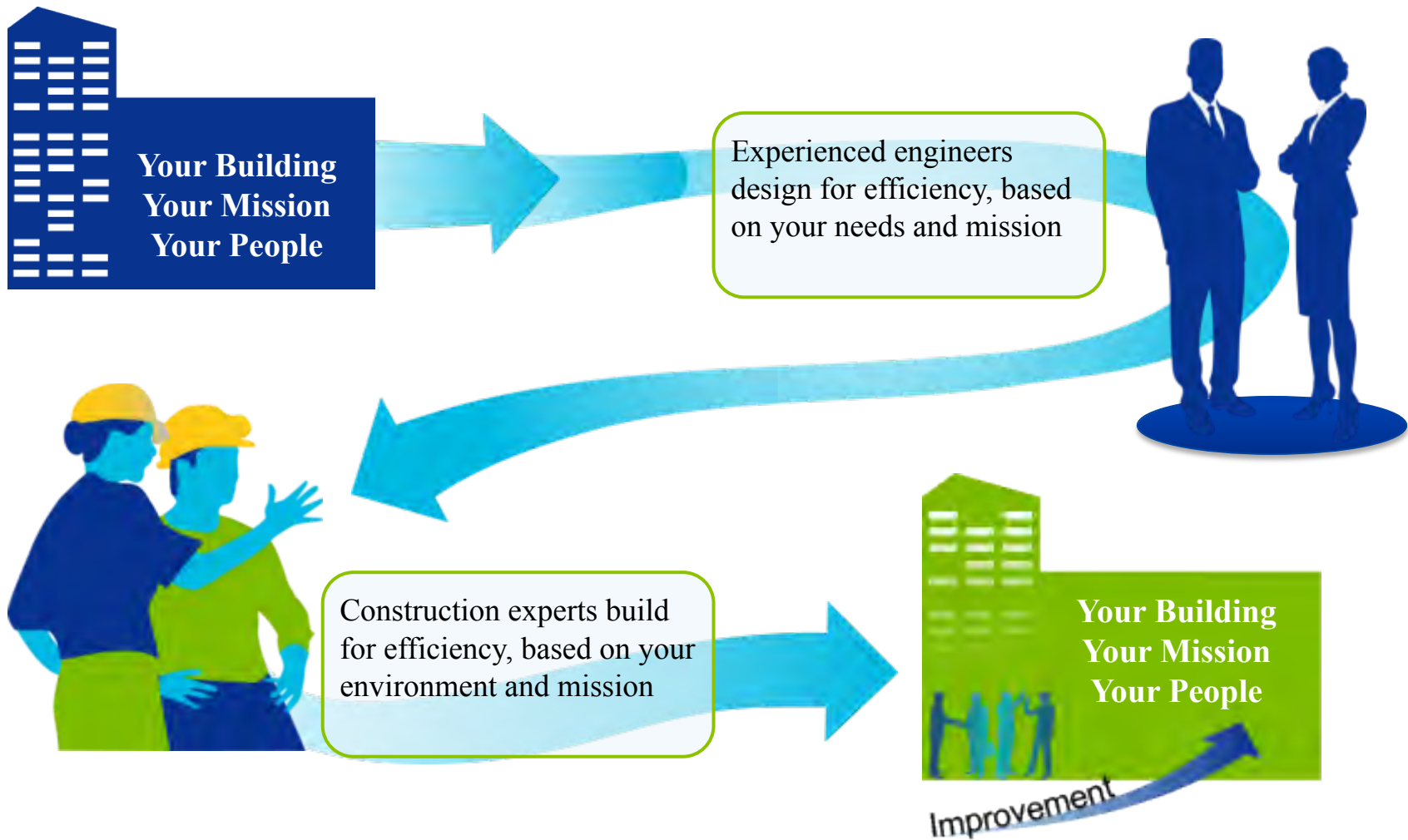


The Five Steps To An EPC

- Preliminary Study
 - Overall look at your facility to get an estimate of possible energy savings
 - Takes one or two days
- Feasibility Study and Report
 - Assessment of utility bills
 - A deep dive into the actual condition of the facility
 - Determine where energy \$ can be saved
 - Includes consultation with Engineering, Construction, Electrical and Mechanical trades
 - Takes up to 4 months
 - The comprehensive report includes: a list of project improvements, savings, project cost, and length of payback
- Construction
- Training
 - Operators are trained on the use of the new equipment
- Measurement and Verification
 - Assuring the client is getting what was guaranteed in the Feasibility Report



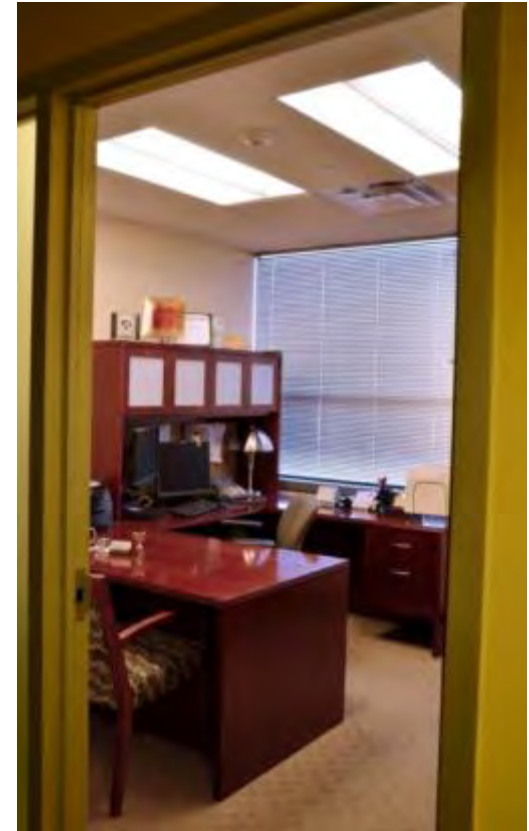
How does the energy efficiency process work?





What is done to our building?

- Most often improvements include:
 - Lighting
 - Low-flow water fixtures
 - Insulation and other building envelope updates
 - Upgrades or replacement of HVAC equipment
 - Building management system upgrades
 - Renewable energy
- **What won't be done to our building?**
 - Measures that don't support your vision
 - Measures that add unnecessary cost or complexity





Measurement and verification (M&V)

How do I know if I am realizing my savings?

Monitoring and Verification (M&V)

- International Performance Measurement and Verification Protocol (IPMVP) used
- Regular energy savings tracking and reporting
- Dedicated M&V team
- System commissioning
- Reporting and program reviews with RQHR
- Continuous improvement, additional savings

International Performance Measurement and
Verification Protocol (IPMVP) and FEMP

In North America, we have over
70 IPMVP accredited professionals



Your guarantee

- You are guaranteed you will receive the energy savings in our report
- IPMV protocols are used to establish a base line
- After construction comparison
- What if there is a shortfall?

**Our projects worldwide are
producing guarantees of over \$5
billion**



**COMMUNICATION
AND EMPLOYEE
ENGAGEMENT**



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Project Execution and Completion

Individual Development

- **External and internal audiences**
 - Web content (external as well)
 - My Greenprint www.mygreenprint.org,
 - Give 5
 - Add sustainability links to learn about ways to take action, have fun and communicate ways to go green
 - Ignite Green--training

- **Internal audiences**
 - General education
 - Reminders and checklists
 - Green team/champion roles
 - Technical training
 - Johnson Controls Institute

Give Five for Greener Living

REDUCE WASTE@WORK

Work Checklist

HERE ARE SOME EASY TIPS TO GO GREEN AND SAVE MONEY BY REDUCING WASTE.

- Minimize Waste
 - Conduct an audit or hire a consultant to determine where to reduce or recycle waste from your operations.
 - Specify returnable or reduced packaging in supply agreements, particularly for items purchased in bulk.
- Make two-sided copies.
- Avoid using cover sheets for documents.
- Update mailing lists - any 1 years old may be unreliable.
- Save used manila envelopes for reuse.
- Recycle magazines with zodiacs or zodiacs containing multiple copies.
- Donate old computers, telephones and other electronics to local organizations.
- Turn off lights when you leave the office to make it more energy efficient.

PLEASE turn off lights when room is vacant for ENERGY CONSERVATION.

Johnson Controls

WATCH YOUR FOULS

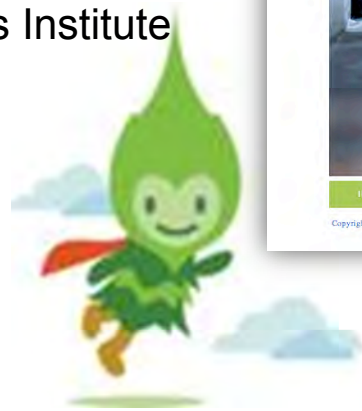
Don't Blow! Please! Earthquake to contain recycling efforts. Recycling items require 40% less energy to produce than new items.

- Use proper recycling bins.
- Check recycle symbols.
- Monitor and repair drainage problems.
- Recycle or reuse all disposable waste items.
- Choose recyclable containers.
- Select products made from recycled materials.

What others have said:

Frequency	Impact	Percentage
Routinely	High	45%
Sometimes	High	33%
Never	Low	13%
Not Applicable	Low	9%

3% Complete





Project Execution and Completion

Site-based communication

Signs

Displays/kiosks



Cutting costs and carbon
This energy and water efficiency
project brought to you by



INGENUITY WELCOME

FINANCIALS

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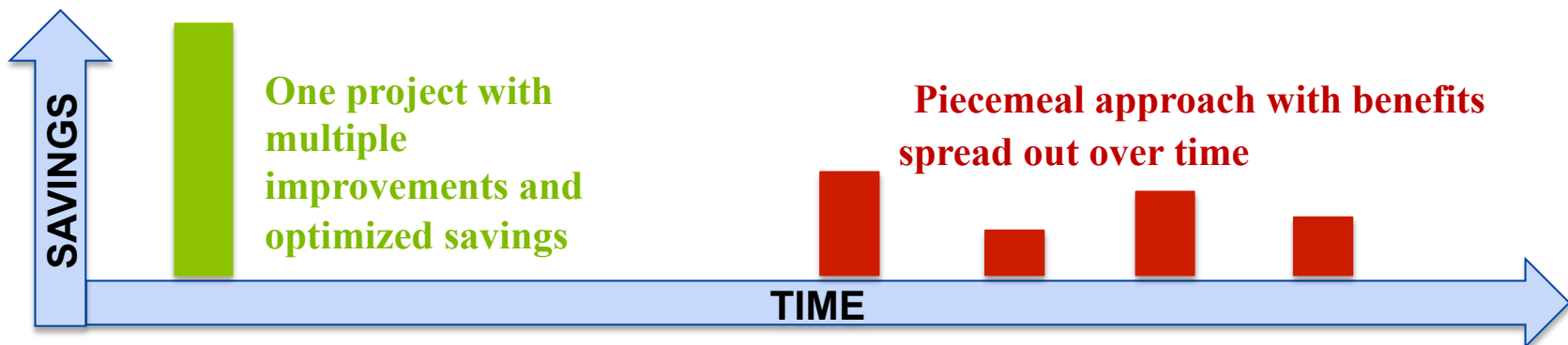


What if we want to do one improvement at a time?

Traditional approaches to building efficiency focused on one basic measure at a time, such as lighting. This approach can lead to lost opportunity for savings.

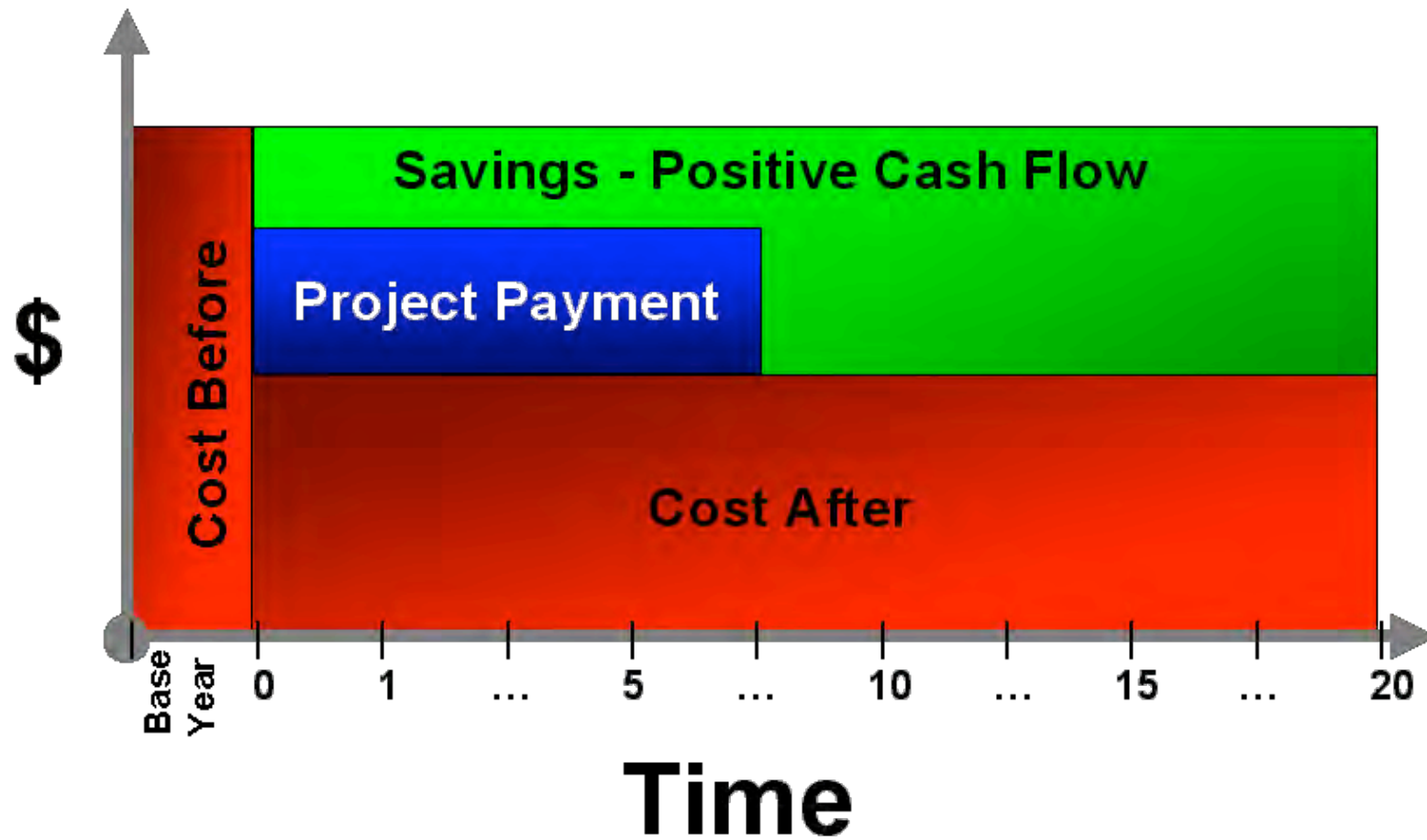
Consider the following **BENEFITS**:

- If you perform all improvements now, you **start saving immediately** from all upgrades
- Improvements that are planned together have a **synergistic** benefit so multiple improvements working together optimize your environment
- One construction event with one project means **less disruption** for your occupants
- Utility costs generally rise, so a project started today means you **avoid future costs** with a more efficient environment





Performance Contract Approach





Payback and Guarantee

- What is guaranteed?
 - Energy savings: water, electrical, and gas
 - A \$ amount is assigned to each improvement measure at the outset of the contract.
 - If there is a shortfall the ESCO will write a check for the shortfall and will also determine the reason and make the appropriate changes in concert with the client
- Simple Payback
 - This is the cost of the project not including borrowing costs and taxes
- Overall Payback
 - This is the total cost of the project with all hard and soft cost included
 - The payback is usually from 15 to 25 years.

Summary





What are the benefits?

- A better environment means:
 - Patients and students have a better learning and healing environment
 - Staff are more productive
 - Your visitors have a positive experience
- The ESCO assumes the risk
- Your EPC project is self funded and guaranteed
- Money being spent on utilities is redirected to upgrade infrastructure
- You can take advantage of Government incentives and grants
- Recommissioning and operator training ensures that your buildings are operating at peak proficiency

Discussion



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