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Preservation Through Energy Efficiency  
*Road Show*

September 29, 2015 • Gleacher Center • Chicago, Illinois

# Energy Financing 101

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WinnCompanies

Boston, MA

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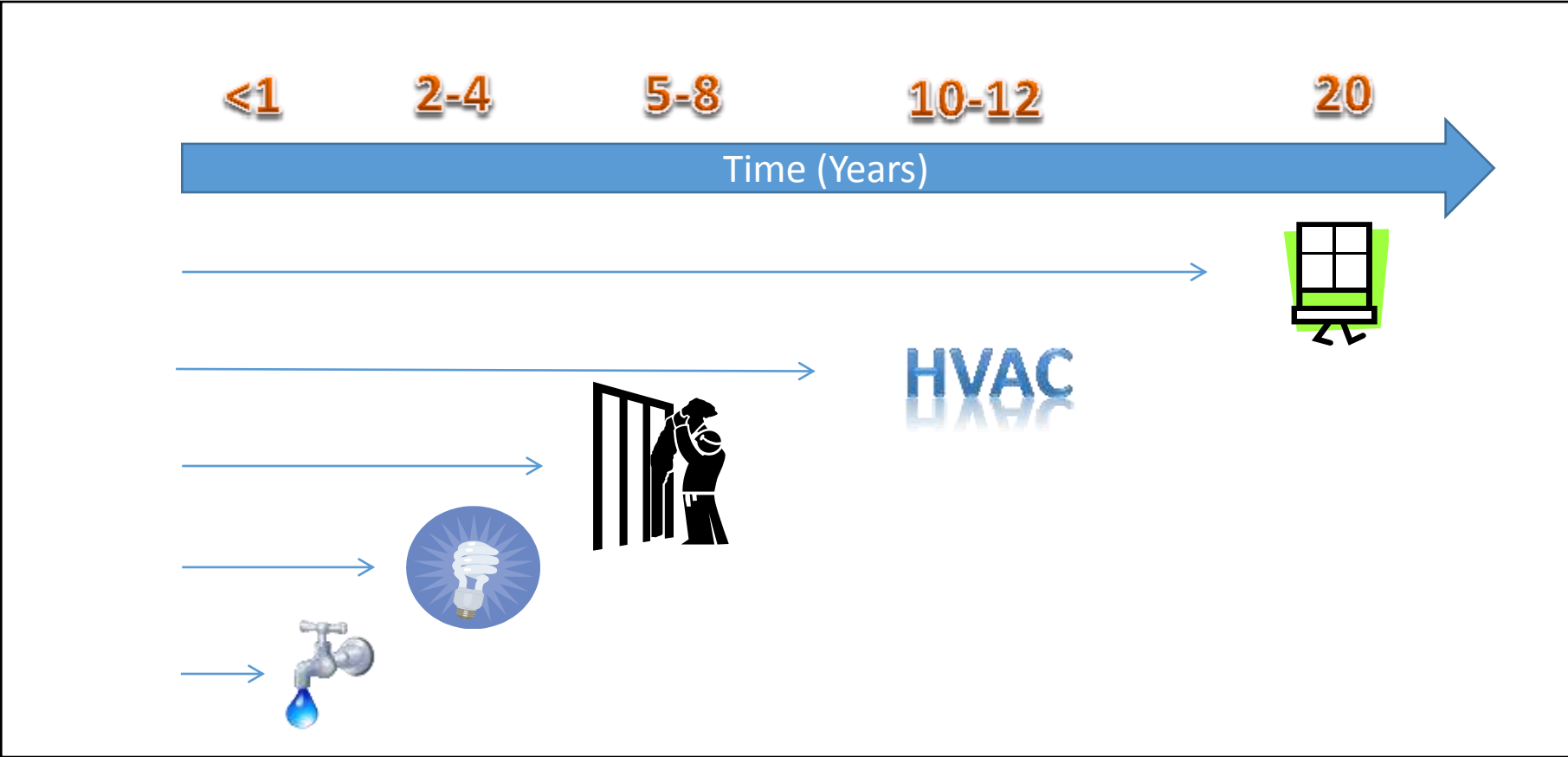
# Unlocking Potential Savings

**“\$46 billion** invested in low-income residential buildings between 2009-2020 will provide a present value of **\$80 billion in energy savings.”**

– McKinsey and Company

- Low hanging fruit
- Replacement at EUL
- State mandated code compliance and utility programs
- Energy requirements of Low Income Housing Tax Credit applications
- Innovative Energy Financing at time of refinancing or purchasing

# Simple Payback



# Basics of Financing

- Financing allows someone else to pay for current expenses
- Requires repayment from future sources over agreed upon terms
- Requires evaluation of Risks, Liability and Security



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# Basics of **Energy** Financing

- Financing allows someone else to pay for current expenses  
**Boilers, lighting, insulation, solar, etc.**
- Requires repayment from future sources over agreed upon terms **Future energy savings**
- Requires evaluation of Risks, Liability and Security **Complex risk management**



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# Energy Financing Underwriting

- Energy financing has added complexities:
  - How to accurately forecast savings?
  - Is there data for similar projects proving it will work?
  - What % of savings will be underwritten?
  - What % savings benefits building owner?
  - Is there a need for Guaranteed savings?
  - Unique Operation and Maintenance responsibilities to ensure savings persist over time?
  - Qualifications of owners, financier, and vendors?
  - What if utility rates change over time?

# What energy financing options exist?

Grants and self financing

Debt & leasing options

New, non-debt and “off balance sheet” options

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# Grant vs Energy Financing

$$\text{SIR} = \frac{\text{annual savings} * \text{useful life}}{\text{installation costs}}$$



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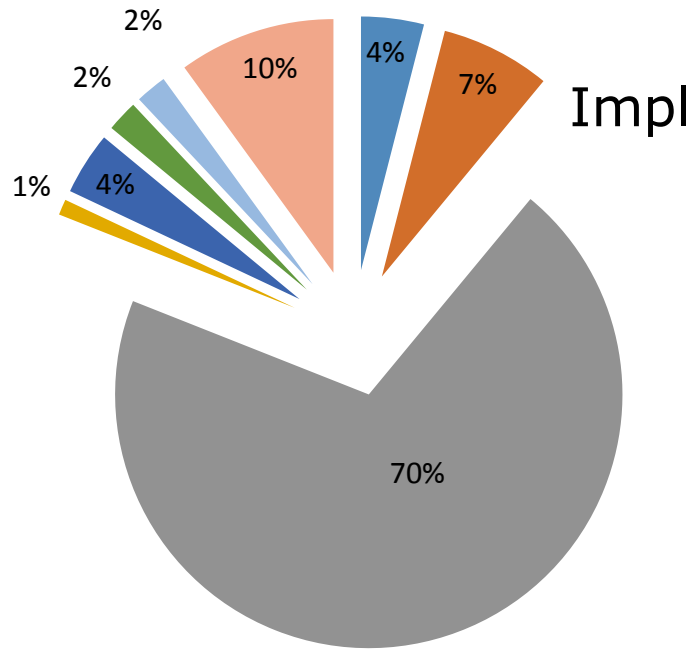
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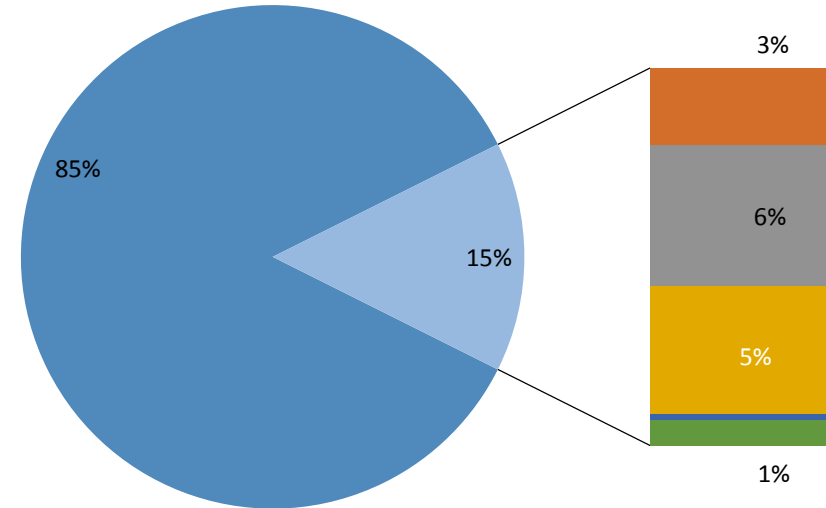


# Grant vs Energy Financing



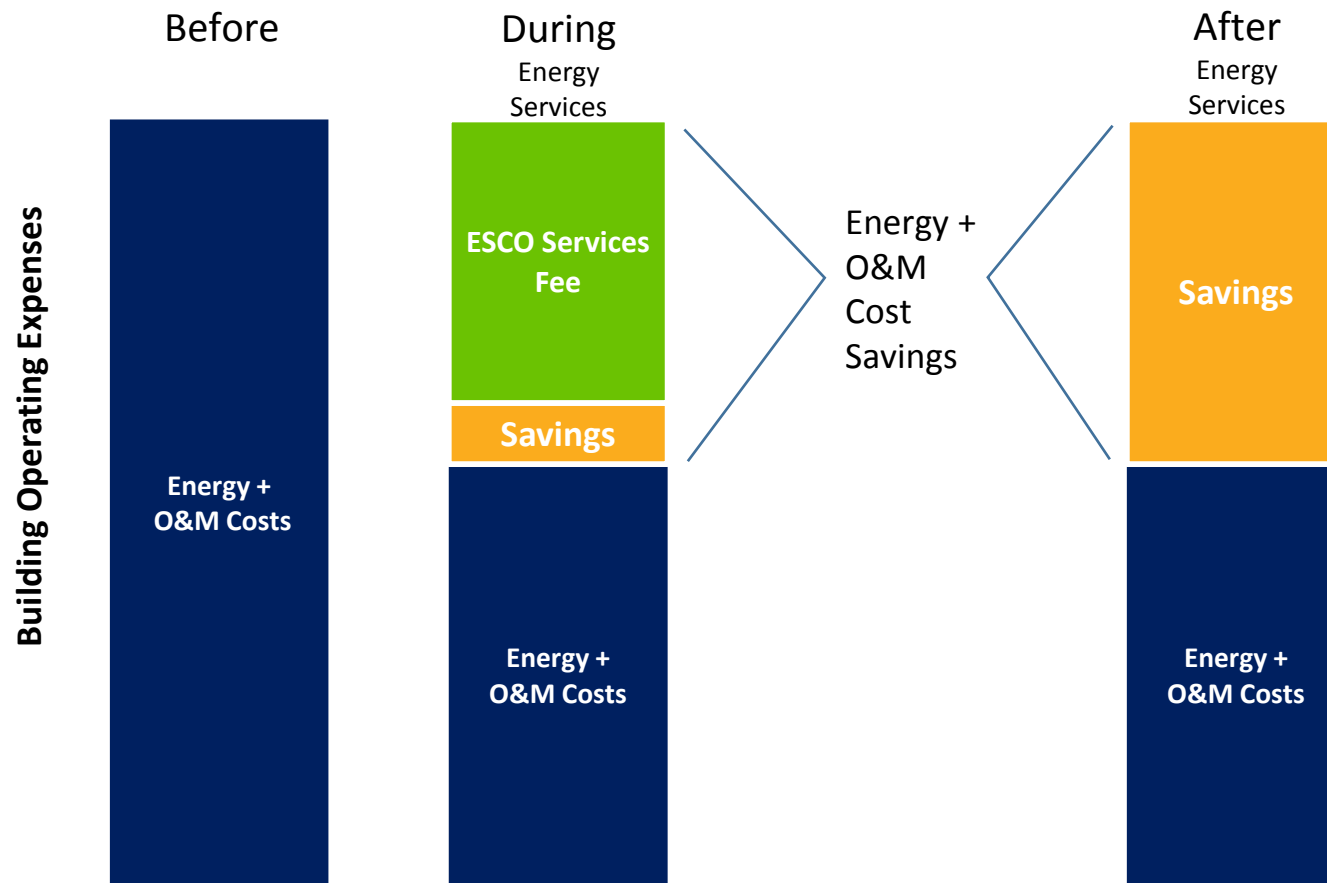
- Investment Grade Audit (3rd Party)
- Engineering Design (3rd Party)
- Construction / Installation (3rd Party)
- Commissioning (3rd Party)
- Total Contingency
- Legal
- Financing soft costs
- Project management

Implementation and Operating Costs



- Debt Service
- Measurement and Verification
- Operations and Maintenance Fee
- Owner shared savings incentive
- Insurance
- Marketing and Engagement

# ESCO Pay-out-of-savings model



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# Energy Financing in a simple Proforma

## GROSS POTENTIAL INCOME

- Rental Income
- Other Income
- Expense Reimbursements
- Minus vacancy

## TOTAL EXPENSES

- Management Fee
  - Building Repairs & Maintenance
  - General & Administrative
  - Reserves
  - Payroll
  - Utilities
- 

**INCOME minus EXPENSES = NET OPERATING INCOME**

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# Energy Financing in a simple Proforma

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- Reserves
- Payroll
- **Utilities**

**Above the Line Utility Savings.  
Finances operating agreements &  
“off balance sheet” services**

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**Below the Line Utility Savings.  
Finances debt, capital lease, etc  
Improves Cash Flow**

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**INCOME minus EXPENSES = NET OPERATING INCOME**

# Energy Management Services

	2012	2013	2014	2015	2016	2017
	Reforecast	Budget	Projected	Projected	Projected	Projected
Telephone	10,070	10,116	10,318	10,525	10,735	10,950
Advertising - Employees	0	460	469	479	488	498
Miscellaneous	647	100	102	104	106	108
Bank Charges	2,365	2,364	2,411	2,460	2,509	2,559
<b>Total Administrative Expenses</b>	<b>307,934</b>	<b>311,397</b>	<b>316,669</b>	<b>322,038</b>	<b>327,506</b>	<b>333,075</b>
<b>Utility Expense</b>						
Fuel Oil - Heat	0	0	0	0	0	0
Electricity Vacant	45	336	353	370	389	408
Utility Late Fee	347	0	0	0	0	0
Gas - Oil - Grease	0	0	0	0	0	0
Electricity	27,606	27,743	28,576	29,433	30,316	31,225
Electricity - Savings Estimate			(6,234)	(6,421)	(6,614)	(6,812)
Water & Sewer	64,373	65,114	67,067	69,079	71,152	73,286
Water & Sewer - Savings Estimate			(6,786)	(6,990)	(7,199)	(7,415)
Gas - Heat	170,021	176,710	185,546	194,823	204,564	214,793
Gas - Savings Estimate			(63,547)	(66,724)	(70,061)	(73,564)
Utility Processing	738	760	760	760	760	760
Energy Management Services Fee			76,567	76,567	76,567	76,567
<b>Total Utility</b>	<b>263,129</b>	<b>270,664</b>	<b>282,302</b>	<b>290,898</b>	<b>299,875</b>	<b>309,249</b>

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# Energy Affordability?



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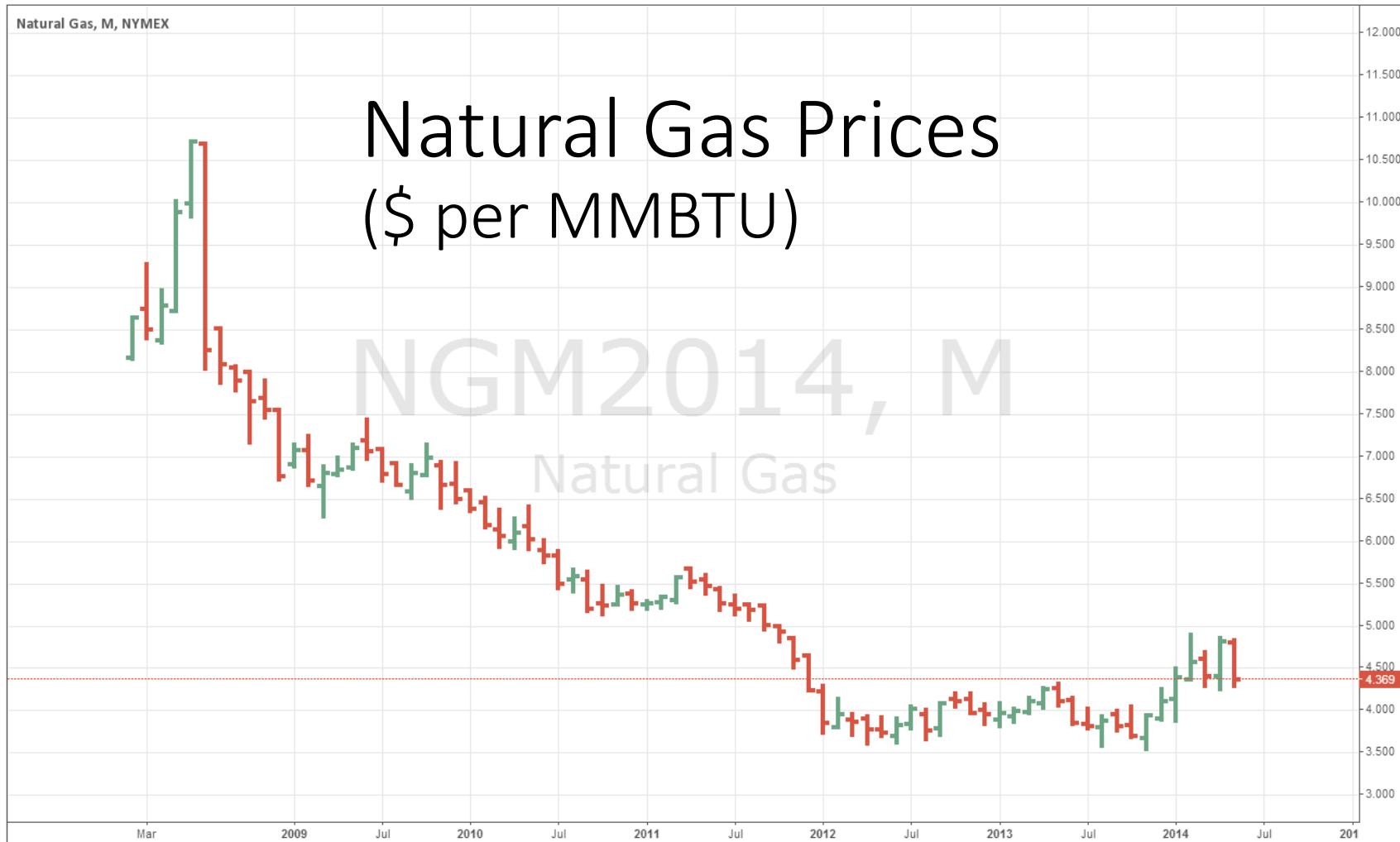


May 22, 2014

NYMEX:NGM2014 4.369 ▼-0.112 (-2.5%) O:4.797 H:4.827 L:4.289 C:4.369

Natural Gas, M, NYMEX

# Natural Gas Prices (\$ per MMBTU)



NGM2014, M  
Natural Gas

<https://dwq4do82y8xi7.cloudfront.net/x/G6gCkZMH/>

CME Group  
Powered by TradingView.com

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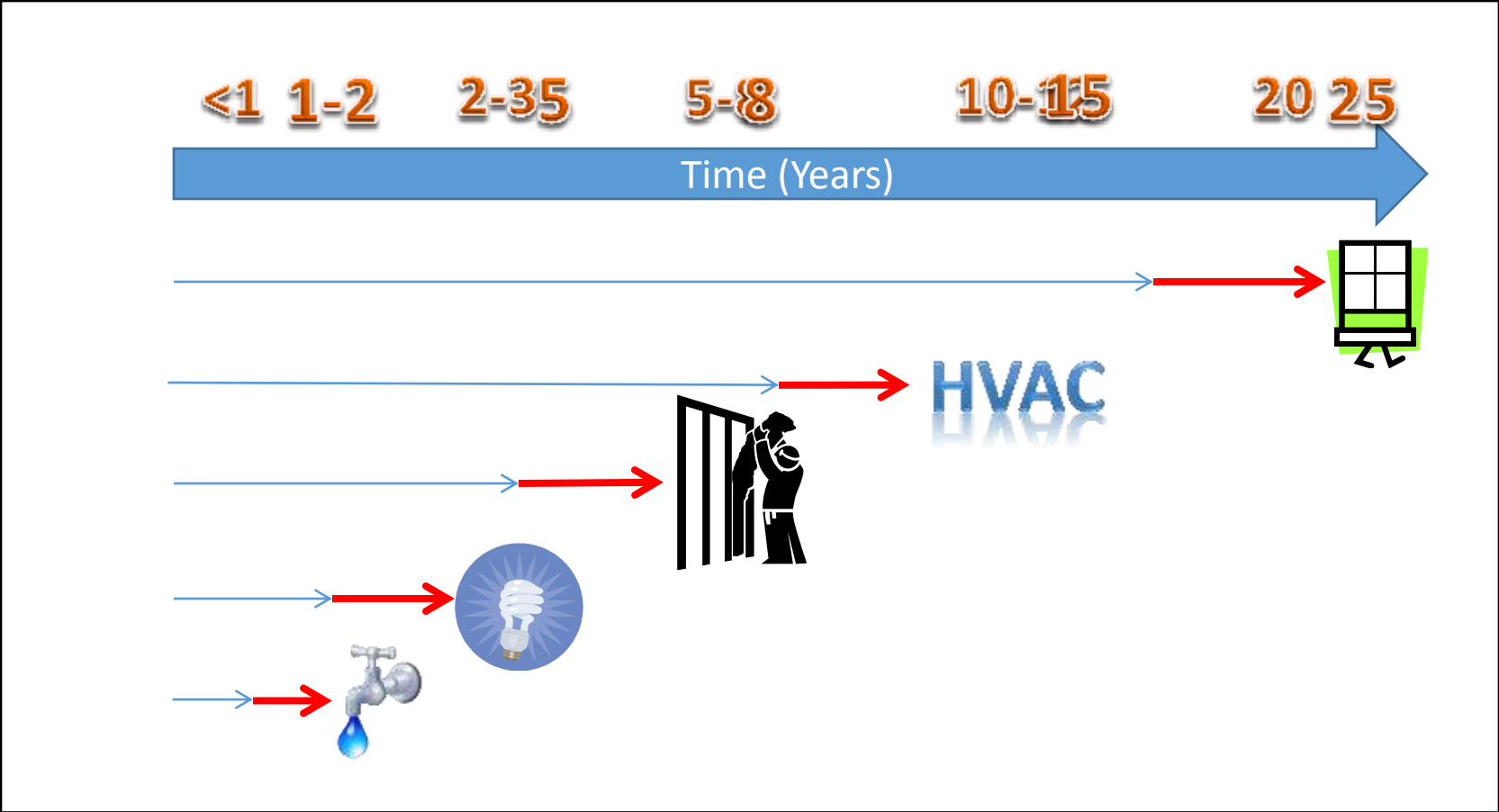
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# Simple Payback



# Low Energy Price Implications

- Economic signals say:
  - Retrofit makes no sense
  - “Burn more, it’s cheap”
- Paybacks exceed investor appetite or useful life (SIR <1)
- Cost Benefit Ratio affects utility incentives
- Market intervention may be needed

## Boiler Retrofit:

- Cost: \$159,403
- Annual Gas \$ Savings: \$7,800
- Simple Payback: 20 years
- SIR: 0.74



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# Preservation Through Energy Efficiency

Evaluating Retrofit Financing Options:  
Presentation by Affordable Community Energy

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### MISSION-DRIVEN ENERGY SERVICES COMPANY

- Created to help keep Affordable Housing affordable and to preserve the planet
- Comprehensive retrofits
  - Energy efficiency
  - Water conservation
  - Onsite electricity production
  - Storage
  - Staff and resident education
- Provide all services, including most importantly, paying 100% of the costs
- Repaid over time (10 year terms)
  - From measured savings
  - Vested interest in maintaining savings over time



- 1 Why Focus on Financing
- 2 Financing Dynamics
- 3 Financing Options
- 4 Case Study
- 5 Discussion

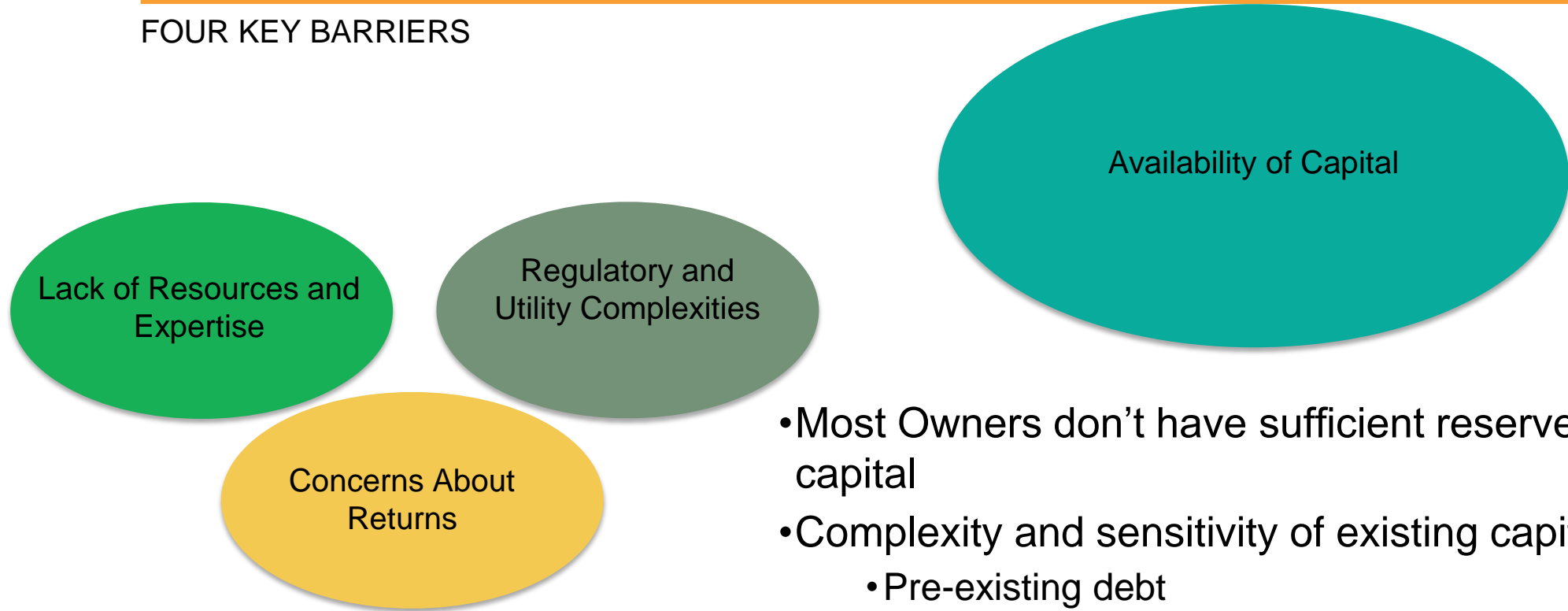
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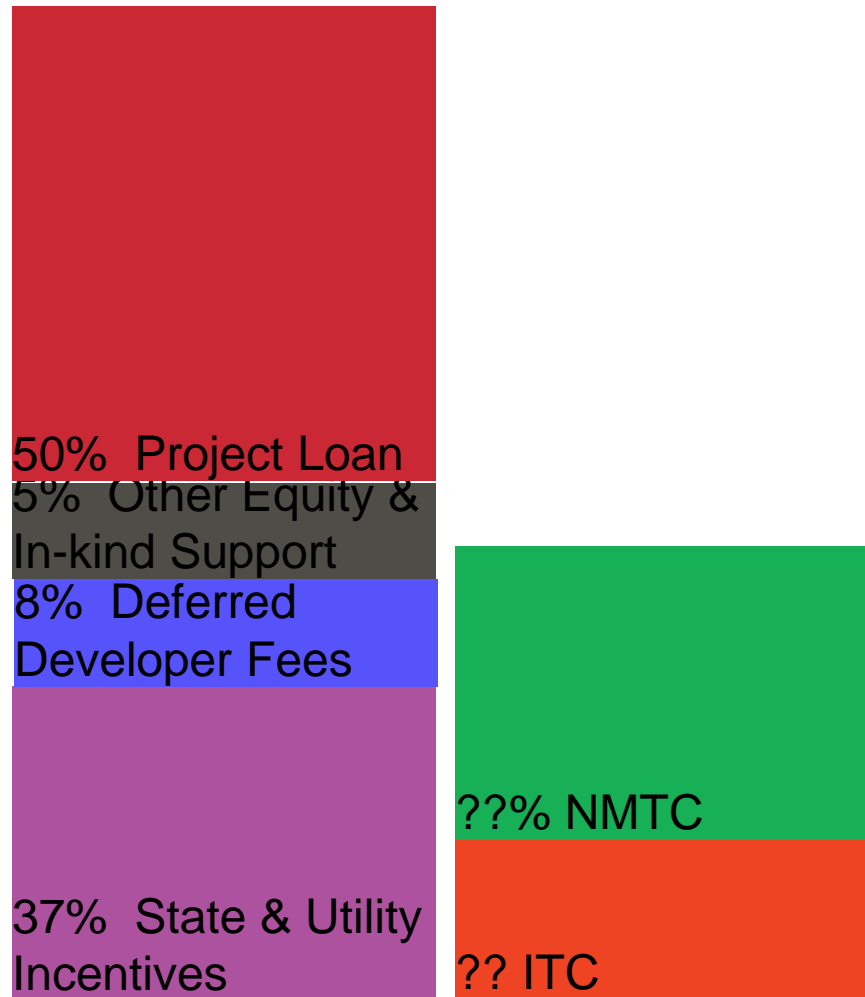


### FOUR KEY BARRIERS



- Most Owners don't have sufficient reserves or free capital
- Complexity and sensitivity of existing capital stacks
  - Pre-existing debt
  - LIHT and other Investors
- Recapitalization event (sale or refinancing)

FUNDING SOURCES



**What Needs to Be Financed**

- Working assumption: “free money” for 40-50% of total costs in Midwest, **BUT**
  - Illinois is at a budget impasse
  - Other reductions or suspensions (Ohio)
  - Some states less supportive all along
- Math changes if add solar or CHP or can obtain NMTC’s





State	State/Local/Utility Subsidies for Low-Income Multifamily Housing
<b>Wisconsin</b>	<i>Focus on Energy</i> has been the principal program; there are a number of other state and local incentive and loan programs
<b>Illinois</b>	Dept. of Commerce and Economic Opportunity (DCEO) has administered low-income subsidies (40-50% of hard costs)—but availability in doubt because of state politics
<b>Indiana</b>	Programs include: Indianapolis Power & Light (electricity), Northern Indiana Public Services Co (natural gas) and Indianapolis Green Building Incentives (both)
<b>Michigan</b>	Has PACE financing, which allows owners to borrow money to pay for energy improvements, repaying through energy bills. Indiana-Michigan Power Company has rebates for its customers. Michigan Public Power Agency Green Smarts Program in selected cities
<b>Ohio</b>	Ohio has PACE financing programs in selected cities. Also AEP Ohio manages its Gridsmart rebate program. However, First Energy successfully petitioned the Public Utility Commission to suspend its rebate programs for two years to allow evaluation.

**Questions:**

- Has the program been funded for the coming year (calendar or fiscal)?
- Is the incentive “by right” or is it first-come, first-served? What is level of funding?
- How much of total costs does it pay?
- What are the specifications, requirements, limitations of the program?

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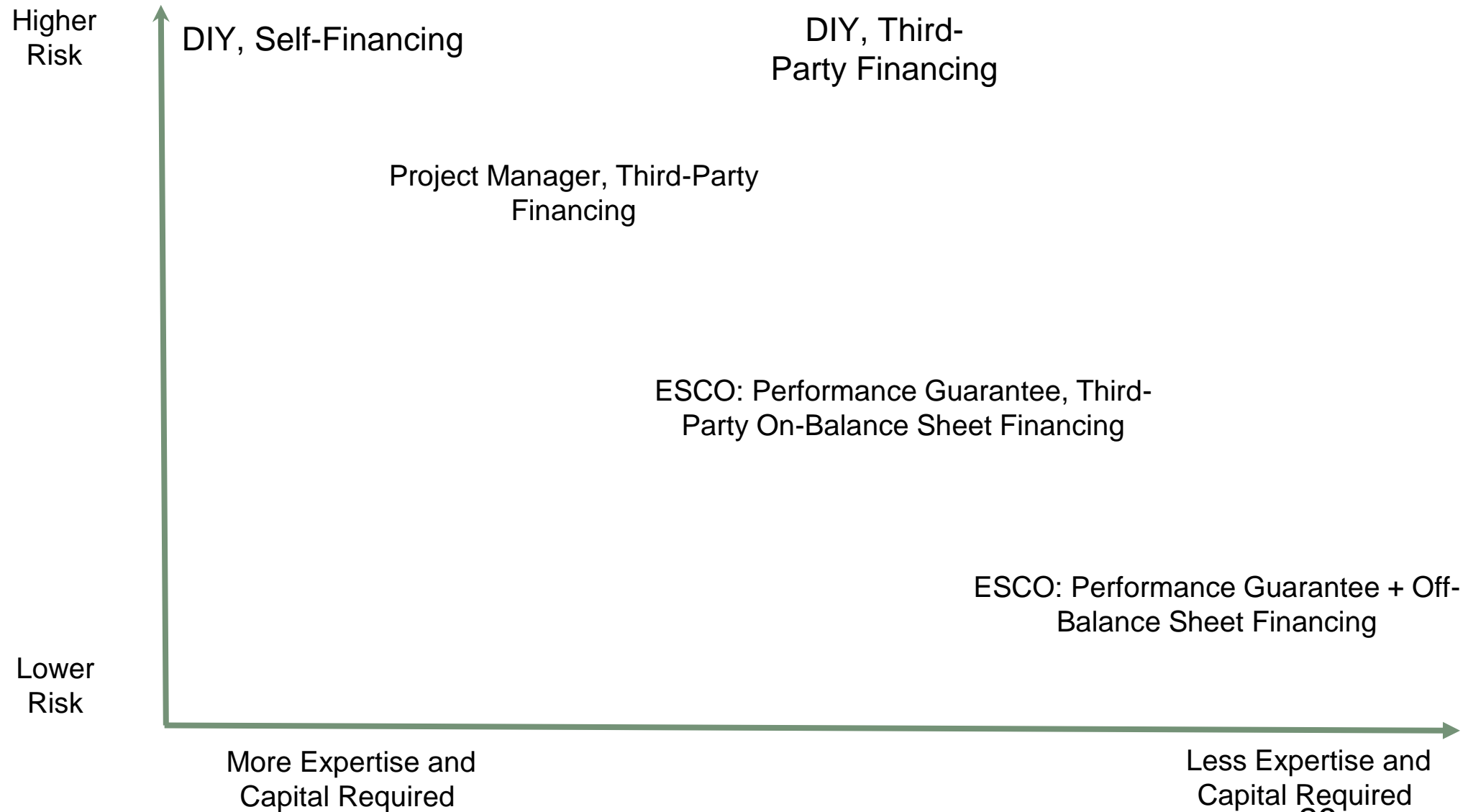


### CHALLENGES OF FINANCING

- Lender types
  - Mission-driven
  - Market lenders
- Lender Concerns<sup>1</sup>
  - Performance Risk
  - Lack of Physical Security
  - Credit Risk of Borrower
  - Collection Risk (customers, if different than Borrower)
- Borrower's Concerns similar

1. Note that the cost of electricity and natural gas will affect the ability to underwrite.

# FINANCING OPTIONS



### FACTORS INFLUENCING YOUR DECISION

- Available capital and/or balance sheet
- Complexity of existing financing
- Impending re-capitalization event
- Tolerance for risk
- Staff resources
- Access to trusted advisors
- Other factors

### PORTFOLIO APPROACH

- 11 Multi-unit affordable housing properties
- 1,174 units for seniors, the disabled and families
- Some LIHTC, some not
- All building types
- All building sizes



### PROJECT METRICS

#### Project Size

- \$6.25 million total costs
  - \$4 million in 2,400 solar panels and 7 combined heat and power units
  - \$2.25 million in energy efficient improvements
  - Water conservation improvements financed separately



#### Project Results

- 37% reduction in electricity consumption
- 15% reduction in natural gas consumption
- 34% reduction in water consumption
- 600 kW of electricity production (*projected*)

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