



**utilities at illinois institute of technology**

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**IPRO 326**

# Overview

- IIT utility overview
- Team structure
- Background
- Micro-Utility Model



# Goals for IIT Utility

- Reduce cost of energy
- Increase efficient use of resources
- Set an example
  - IIT at forefront of sustainable practices

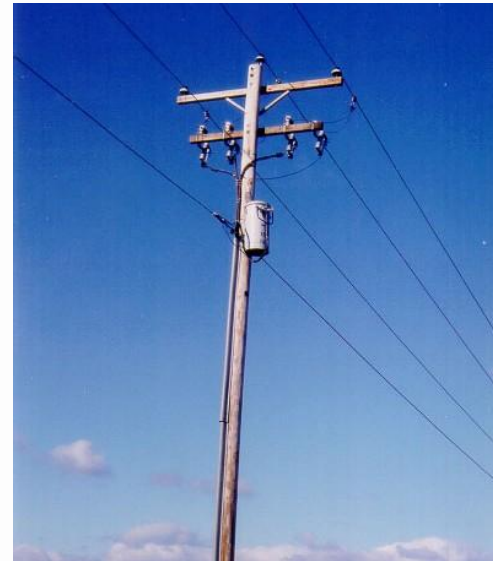


# Current IIT Utility Statistics

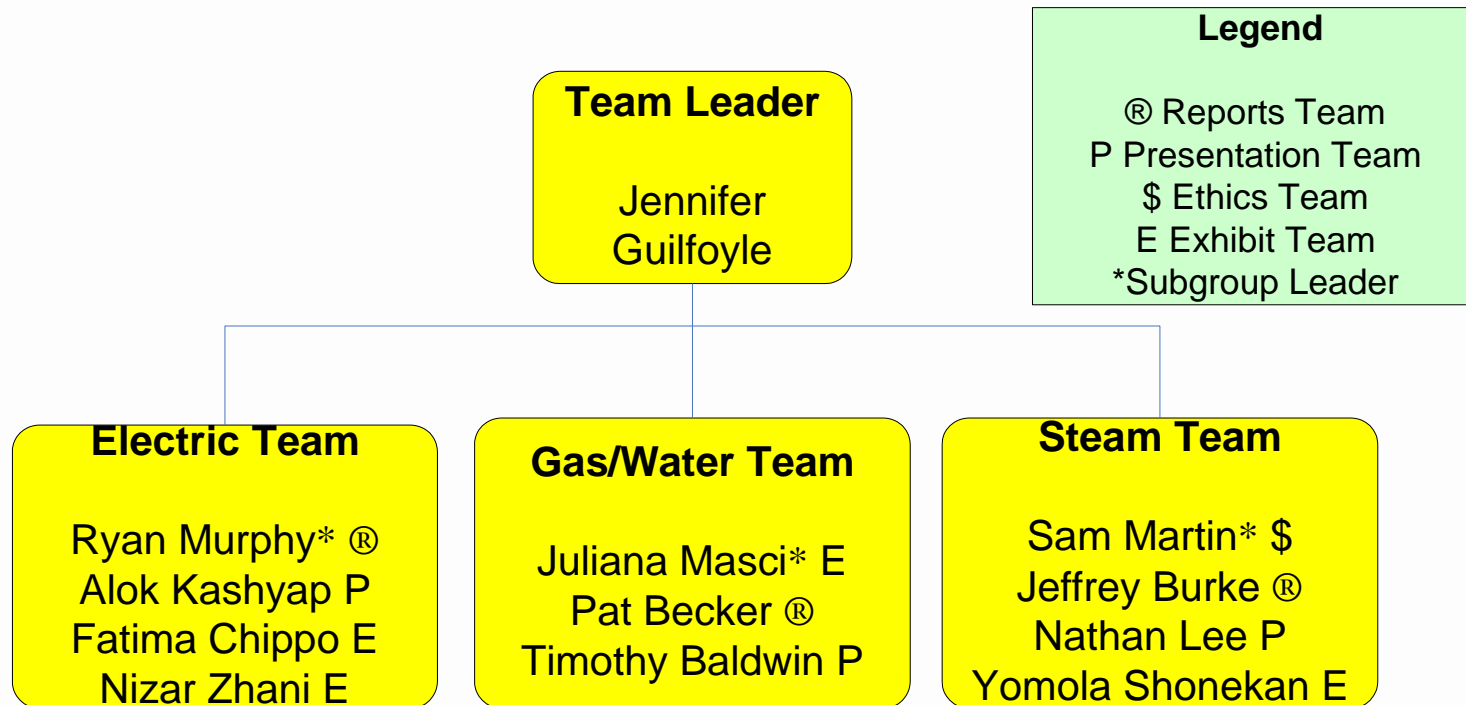
- \$10 Million/year on energy
- 32,000 tons of carbon emitted
- IIT's commitment to sustainability
  - Technology around for 10 years
  - More \$ on marketing than solutions

# Objectives

- Current utility management research
- Develop a scalable Micro-Utility Model
- Final recommendation
  - 14 week deadline
  - 1 semester IPRO



# Team Organization



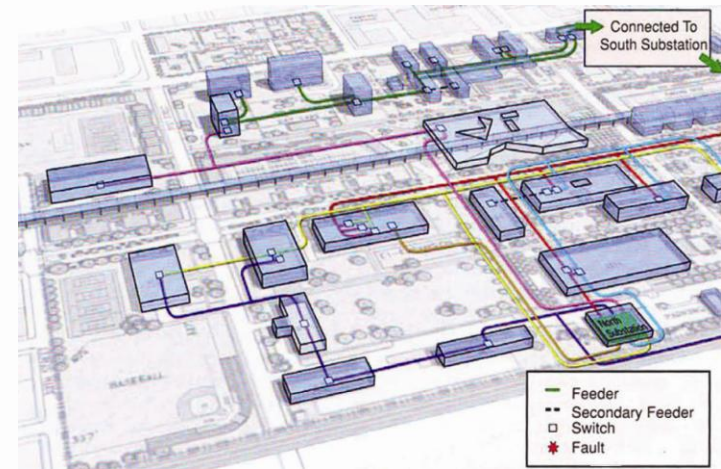
# Utility Requirements

- Economically feasible
- Encourage energy reduction
- Maintain service level



# Utility Parameters

- Develop an economic rather than implementation strategy
- Scale to IIT's size and needs
- Pair incentives with control





# Background

- Deregulation
  - Reducing size of utility monopoly
  - Creating competition in energy markets
- Government Incentives
- Decoupling
  - Makes energy saving profitable
  - Unlinks the units of energy sold to profits

# Solutions Considered

- Utility Taxes
  - Burden to users
- Implementations by IIT Facilities Dpt.
  - Excessive risk
- Performance Contracting
  - Decentralized

# Energy Contracting

- Transfer control of utilities
- Maintain same level of service to customer
- Continuously diminish flat fee
- Gain profits from energy reductions



# Groups Involved

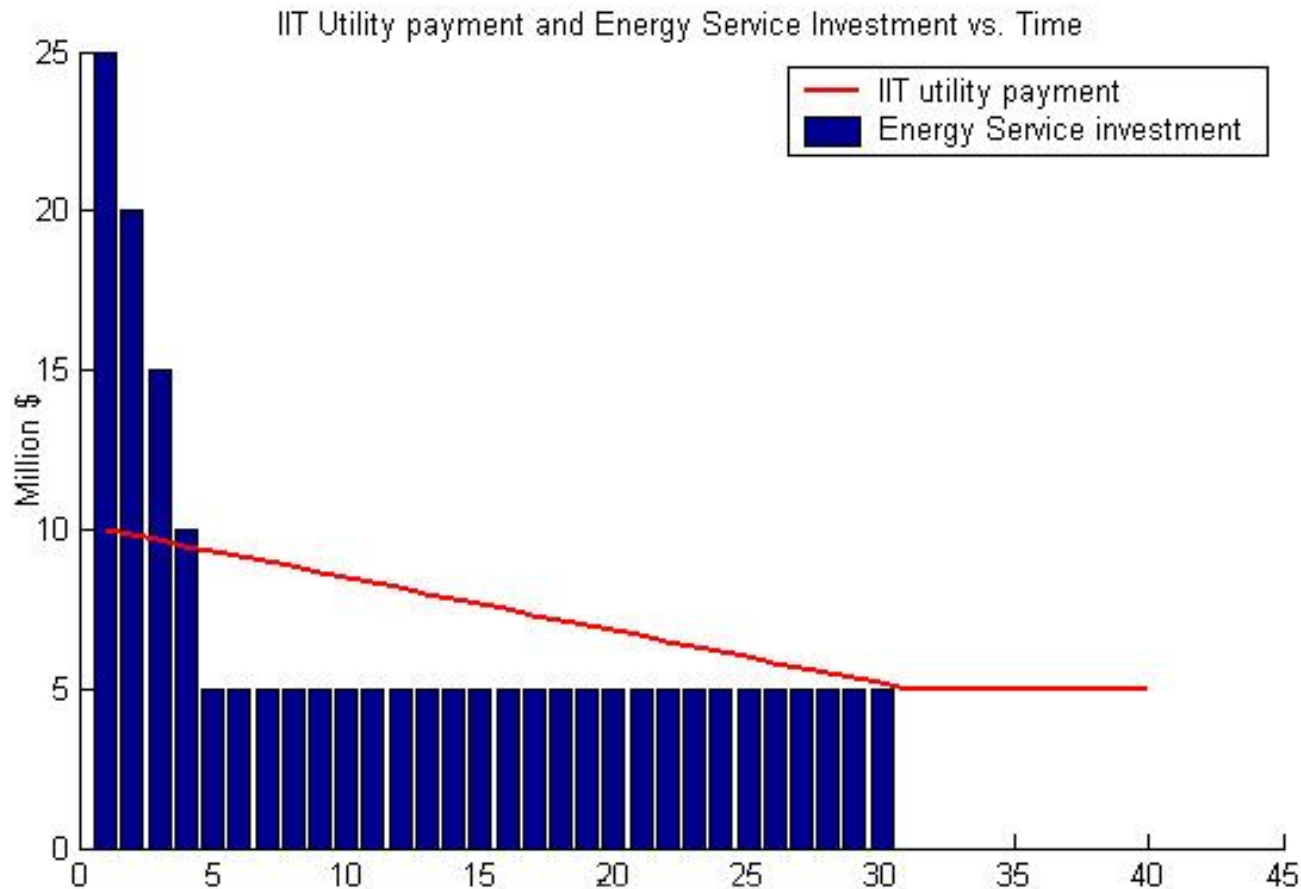
## Contractor

- Experts in retrofitting buildings
- Willing to take economic risk
- Profit from energy reductions

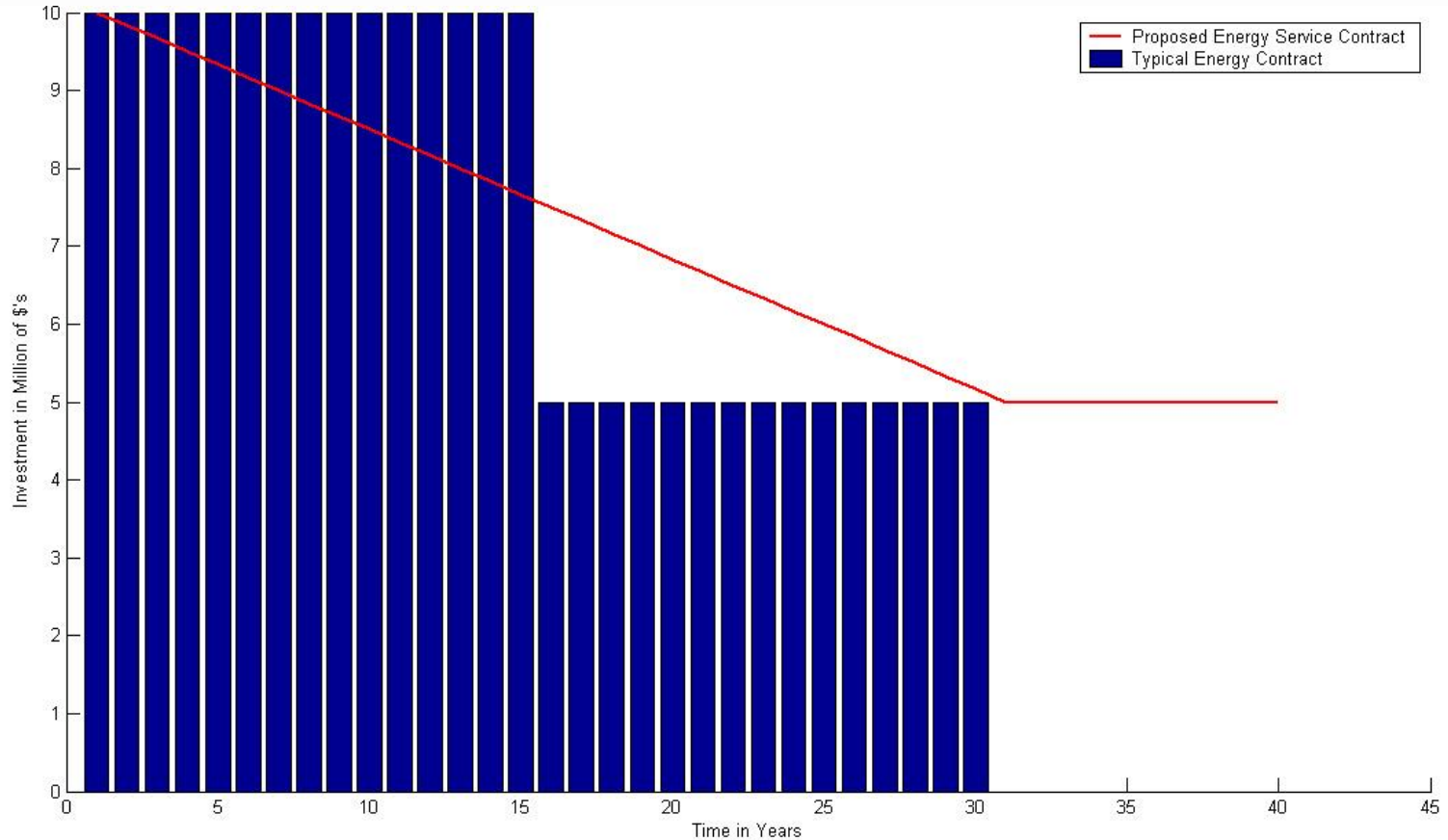
## IIT

- Reduces energy resources consumed
- Reduces risk to institution
- Reduces energy costs

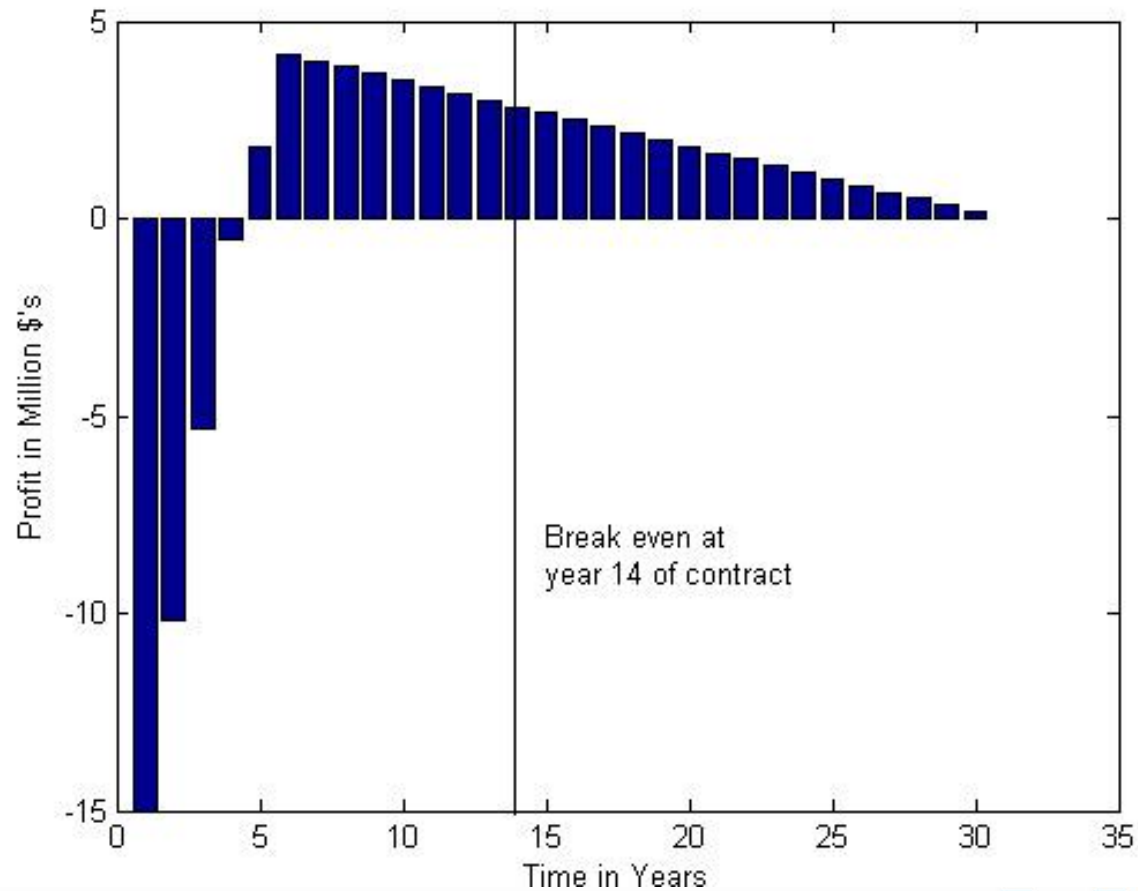
# Payments and Investment



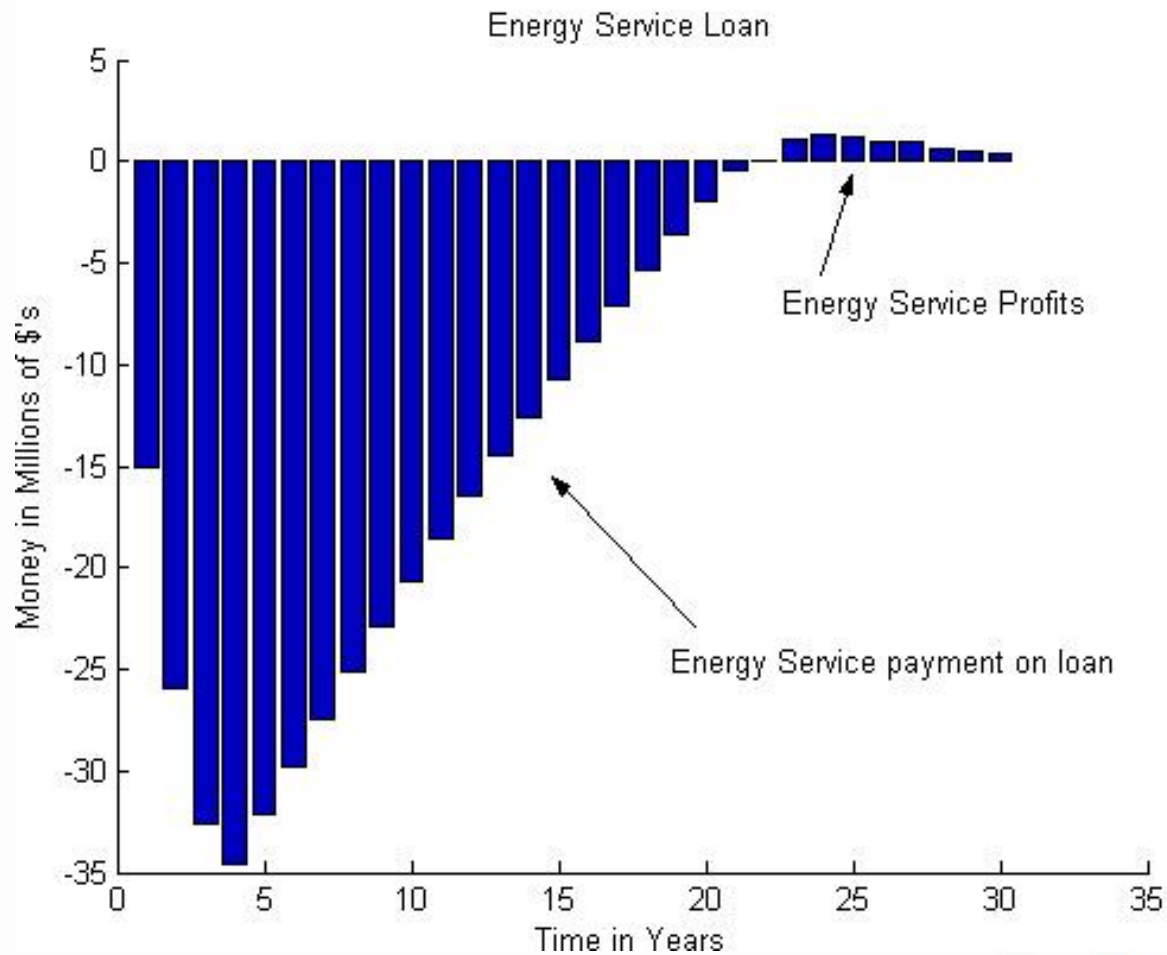
# Typical Performance Contract



# Contractor Income



# Return on Investment





# Conclusion

- IIT saves money from first year
  - \$166,000 reduction each year
  - \$75 million saved over 30 years
- Resource use drops within five years
  - Half of current usage
- Manage IIT's financial risk
- Contribute to IIT's sustainable image

# Questions?

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