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AABC Commissioning Group

AIA Provider Number 50111116



## Case Studies: Saving Energy without Large Capital Projects

Course Number: CXENERGY1721

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***Energent Solutions***

April 27, 2017



Credit(s) earned on completion of this course will be reported to **AIA CES** for AIA members. Certificates of Completion for both AIA members and non-AIA members are available upon request.

**CES** for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product.

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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

This course is registered with **AIA**



# Course Description

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When people think of Energy Efficiency, they think of LED Lighting, central plant replacements and other large capital projects. Oftentimes, small and rural hospitals do not have the budget for state of the art equipment or systems. How is it that two such hospitals have gone from ENERGY STAR scores in the teens to the verge of ENERGY STAR certification? Find out how these facilities used people rather than equipment to achieve massive energy savings through creativity, systems and processes and having top down buy in from the c-suite.

# Learning Objectives

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At the end of the this course, participants will be able to:

1. Discover how energy efficiency is less about equipment and more about people.
2. Assess creative ways your facility can implement energy efficiency measures.
3. Create systems and processes to foster a culture of accountability in your facility.
4. Communicate effectively with your c-suite to get buy-in.

## About Me

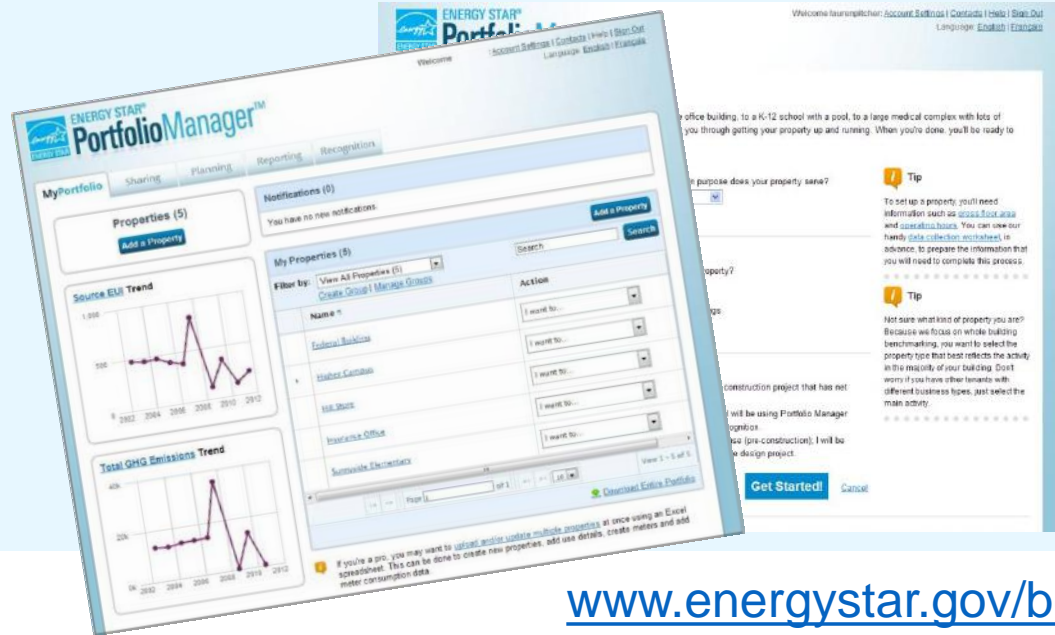
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**ENERGENT**

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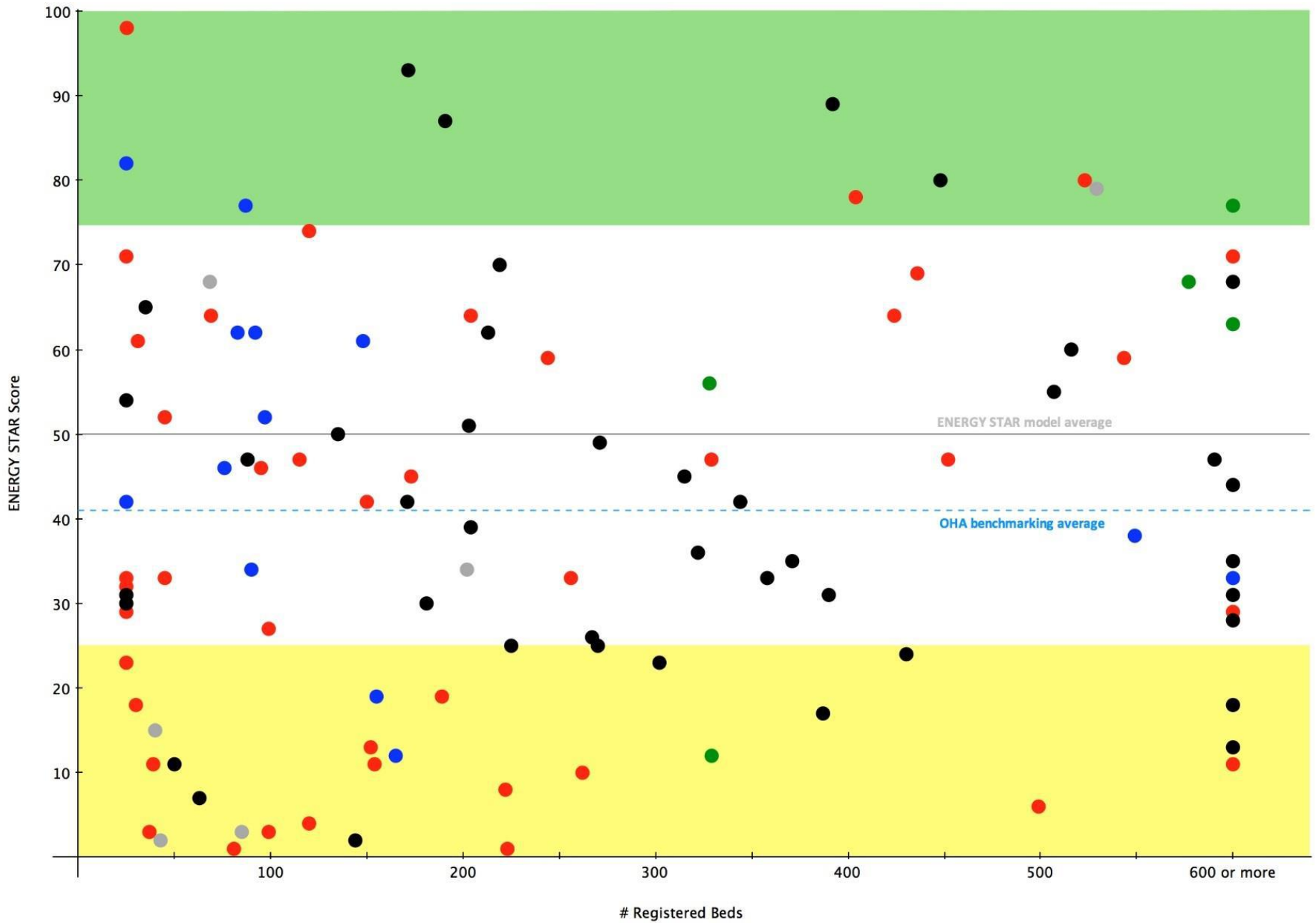
**SOLUTIONS**



[www.energystar.gov/benchmark](http://www.energystar.gov/benchmark)

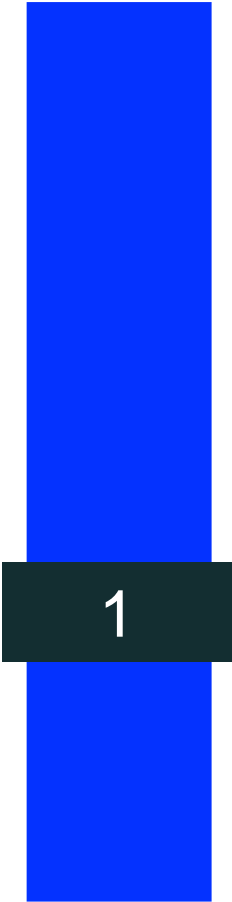
- ✓ Free and easy to use
- ✓ Industry standard
- ✓ For existing buildings & *new designs*
- ✓ ENERGY STAR score

# ENERGY STAR® PortfolioManager®



# Information is Power (and Money)

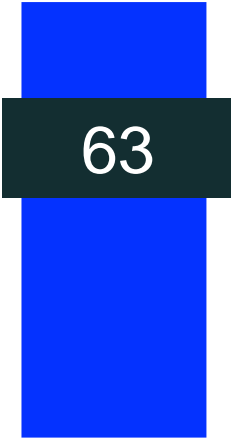
**\$6,742**



**\$4,451**



**\$3,265**



**1**

**47**

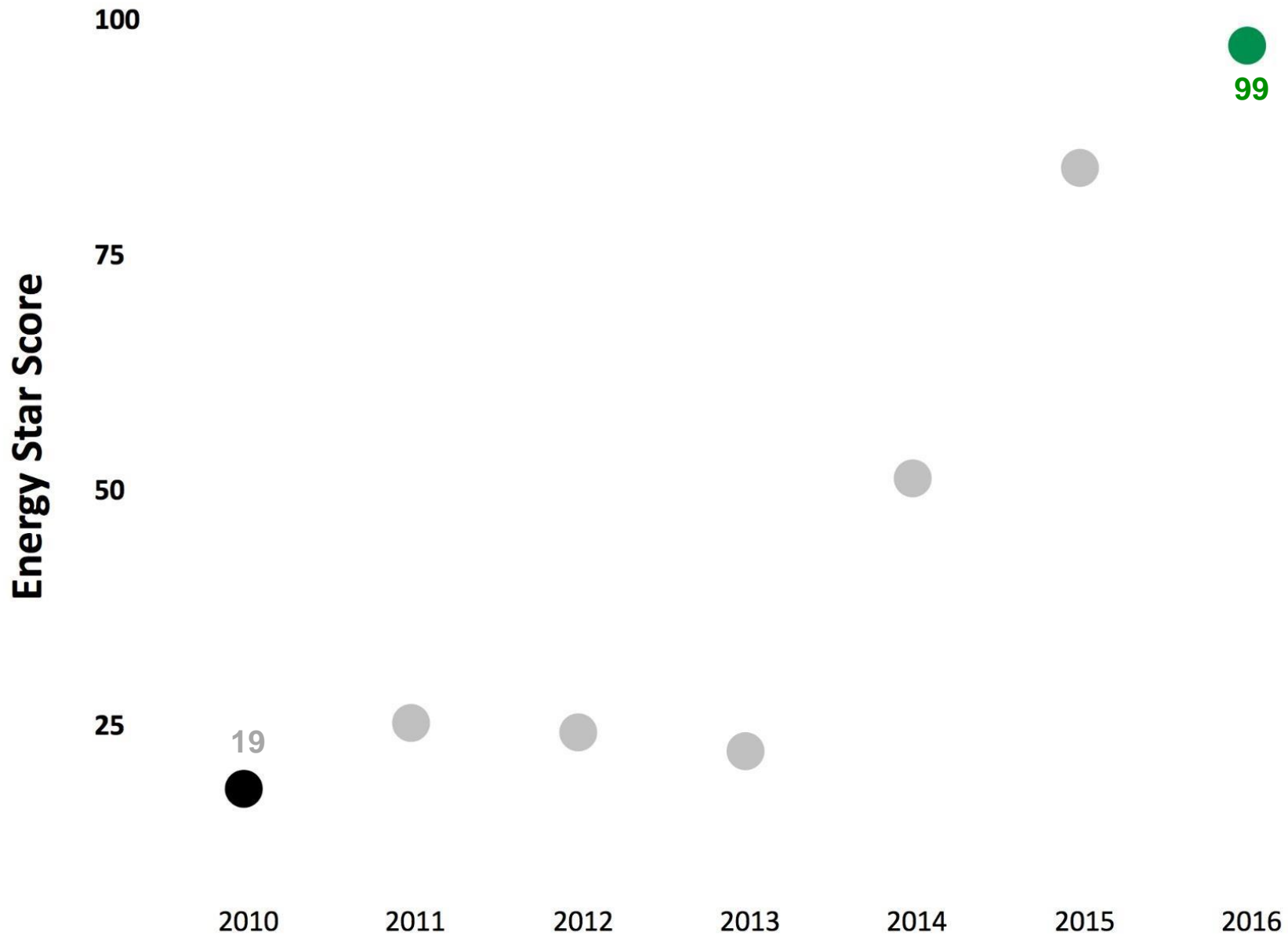
**63**



# Hospital in East Ohio

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- 25 Bed, Critical Access Hospital
- 70,000 Square Feet
- Energy Star score of 19 in 2010



How did they do it???

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# Background

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- Building built in 1952
- Pneumatic Controls
- Facilities wears many hats

# Step 1 – Find the Starting Line

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- Began Benchmarking Energy Use in 2010
- Were disappointed in ES score and were determined to change it
- Got CEO on board



## Step 2 – Raw Determination

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- Manual adjustments of valves and dampers
- Office AHU Replacement
- Culture Change



## Step 3 – Seizing an Opportunity

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- ER Addition Project in 2014
- Got whole building controls and some LED lighting added to budget



## Step 4 – Using the Tools at Hand

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- Mastering the Controls
- CONTINUOUS COMMISSIONING!



**“Do what you can,  
with what you  
have, where you  
are.”**

Theodore Roosevelt



# What's Next

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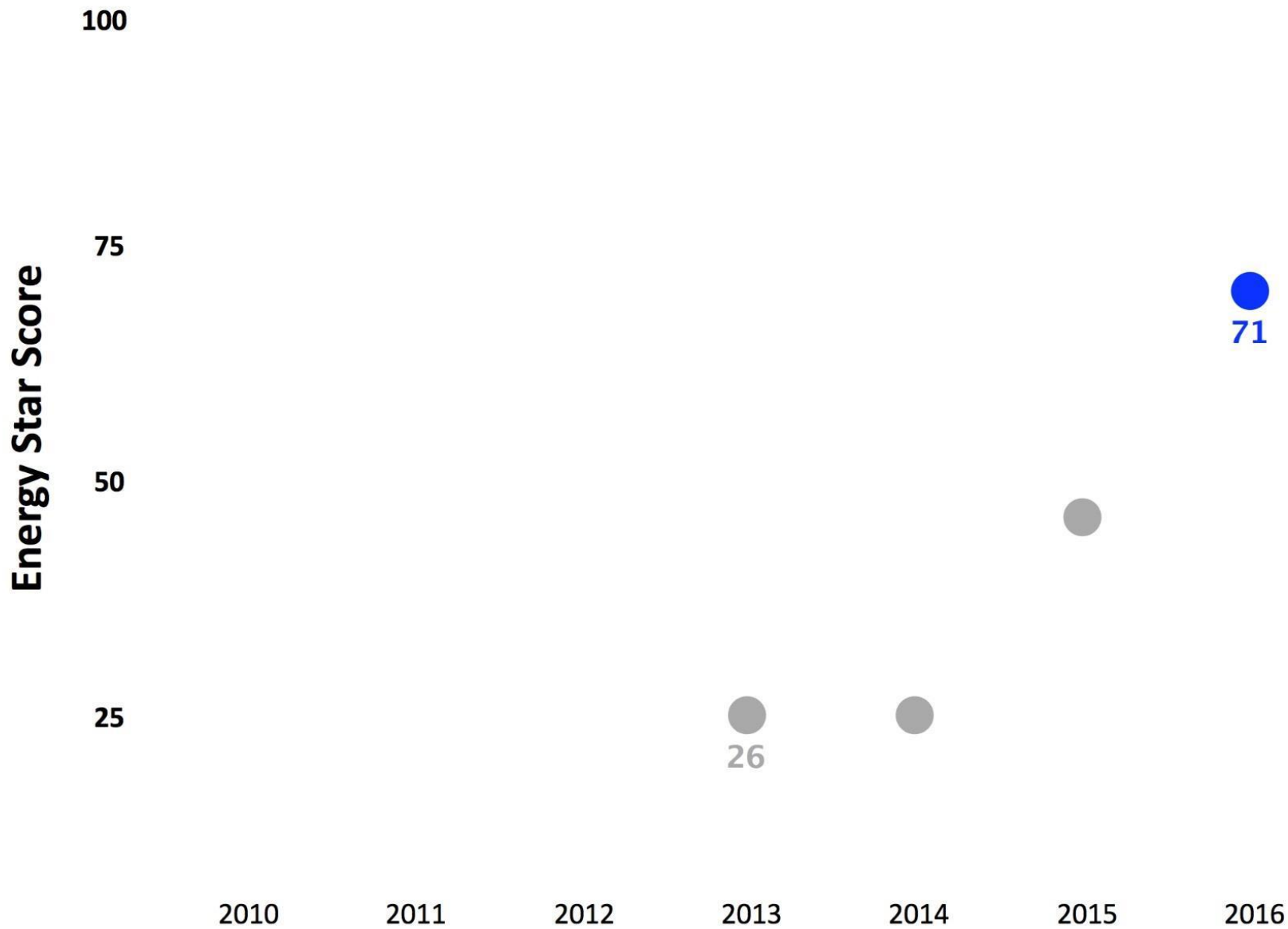
- Rolling savings into other projects
- Rock Star Status



# Hospital in Northeast Ohio

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- 25 Bed, Critical Access Hospital
- 104,000 Square Feet
- Energy Star score of 26 in 2014



How did they do it???

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# Background

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- Building built in 2012
- Was never commissioned
- Old facilities staff was unfamiliar with new systems

# Step 1 - Competition

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- New facility director wanted to beat “sister” facility
- Found the finish line



## Step 2 – Controls Mastery

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- Taking the time to know how the building is operating
- Create a plan of how the building should be operating
- Implement Controls Changes
  - Duct Static Pressure Reset
  - Discharge Air Temperature Reset
  - Scheduling Air Handlers

## Step 3 – Continuous Commissioning

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- Uses interval data to find abnormalities and investigates
- Checks setpoints for manual holds daily





# What's Next?

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- LED changeouts
- ENERGY STAR Certification



# What are the common themes?

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- Didn't buy the newest widget
- Culture Change
- Made their goals known

*... a Little Help from Your Friends (and the C-Suite too!)*

Investor Owned Natural Gas Utility

Investor Owned Electrical Utility

Security

Janitorial Staff

*Public Relations*

Purchasing

CEO

**Facilities Manager**

Infection Control

Lab Technicians

Administrative Staff

*Contractors*

Energy  
Efficiency  
Success

**Energy Manager**

Vendors

**Laundry**

Sterilization

Doctors

*Patients*

Kitchen Staff

CFO

Nurses

**Maintenance Technicians**

Safety

Human Resources

Information Technology

Radiology

The Community