

# SQ3: Market Adoption of a Simple-to-Understand HVAC Quality Management System

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# Situation

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## **NYSERDA Clean Energy Fund goals**

- Self-sustaining clean energy without subsidies
- Greater private capital investments
- Big reductions in greenhouse gases

# Condition

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“There are building owners who *buy* delusional maintenance, and there are service contractors who *sell* delusional maintenance.”

## **Commercial Maintenance: A 180 View**

Margo Vanover Porter, IES Magazine, Sept. 2014

# Filter Fit

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**One size fits all?**



# Non-Energy Motivations

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## ***OWNERS:***

- Avoided costs: emergency repair and replacements
- Tenant/employee IAQ and comfort

## ***HVAC FIRMS:***

- Scheduled maintenance
- Non-adversarial sales relationship
- Avoided emergency calls
- Separate from “Joe Crash Bangs”

# Non-Energy Motivations

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## **DRIVERS:**

- Accurate data
- Compelling **OVERALL** economic benefits



Found: **Bad wire**

Saved replacing compressor.

*Estimated savings:*

**\$2,500 - \$3,000**

Photo credit: Frank Cerbone, All State Air Control



Photo credit: Frank Cerbone, All State Air Control

Found: **Bad bearing**

Prevented torn fan wheel.

*Estimated savings:*

**\$900 - \$1,500**

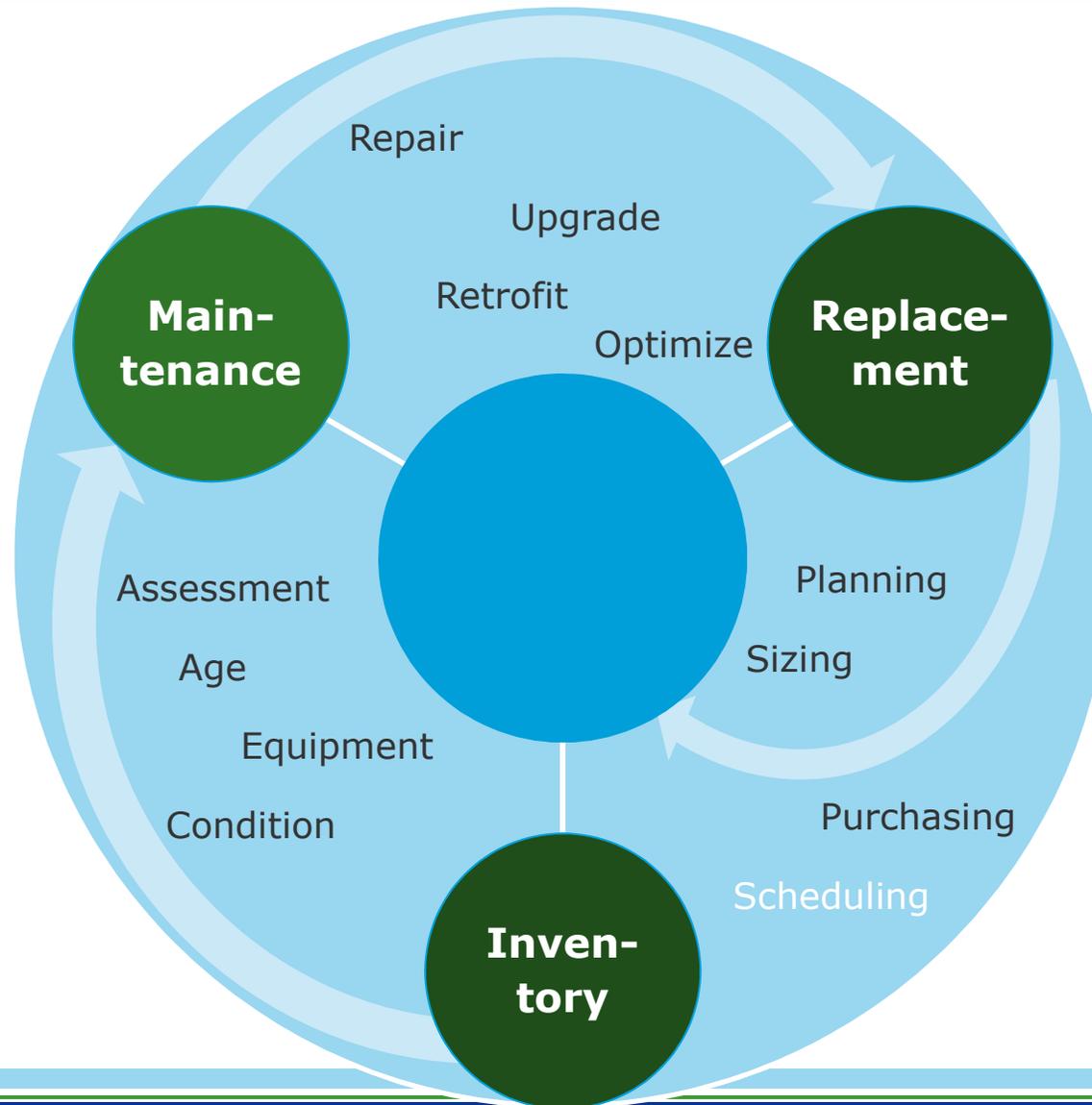
# Question

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Market-based, market-driven approach to comprehensive and high efficiency HVAC practices?

AND without incentives?

# Sustainable Quality 3: Single Packaged Model for Building HVAC



# Sustainable Quality Inventory

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**Inventory**

- **RTU Inventory**
- **Controls Inventory**
- **HVAC as a System**
- **RTU Locations**
- **RTU Evaluation Checklist**

# Sustainable Quality Maintenance

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- **Quality Maintenance** including ASHRAE/ACCA Standards
- **Log Book**
- **Plan Energy Improvements**

# Sustainable Quality Replacement

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**III**

Replacement

- **Planned Replacement Assessment**
- **Right Sizing and Unit Recommendations**
- **Forecast ROI, Projects, Budgets and Timing**

# Single Source Package

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- Tools developed by **DOE Advanced RTU Campaign**
- Marketplace resources
- **Case studies** and **results**
- Pool of **statewide qualified providers**

# DNV GL Energy.

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**SAFER, SMARTER, GREENER**