

# From the Boiler Room to the Board Room

Communicating the VALUE of Infrastructure Investment  
with Non-Facility Leadership

Southeastern Michigan Society  
of Healthcare Engineering

Wednesday, May 17, 2023

# Mark Mochel, MBA, CHFM, PMP, ACABE



**Strategic Account Executive**

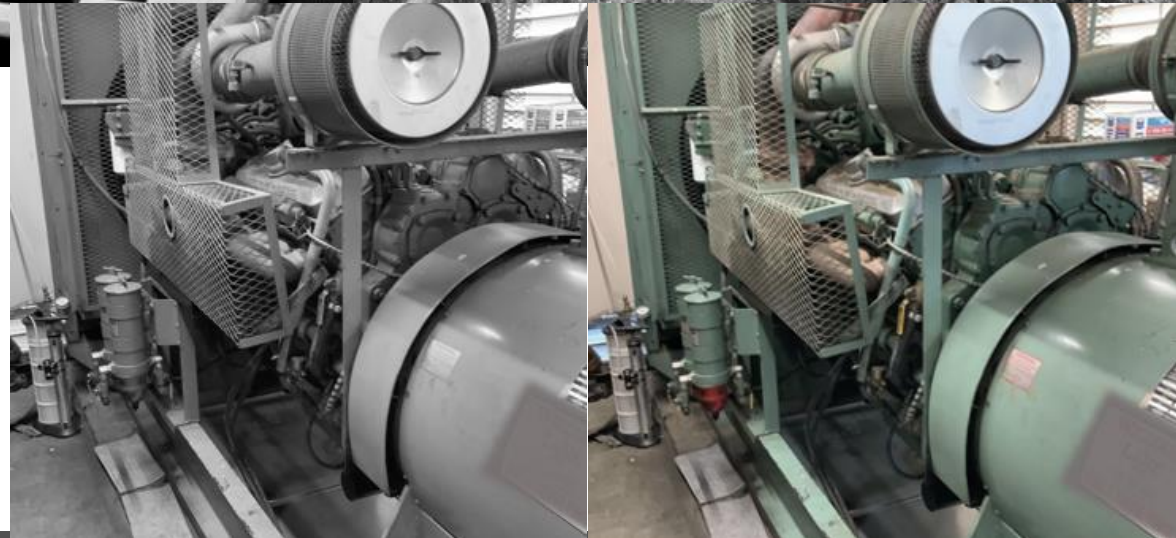
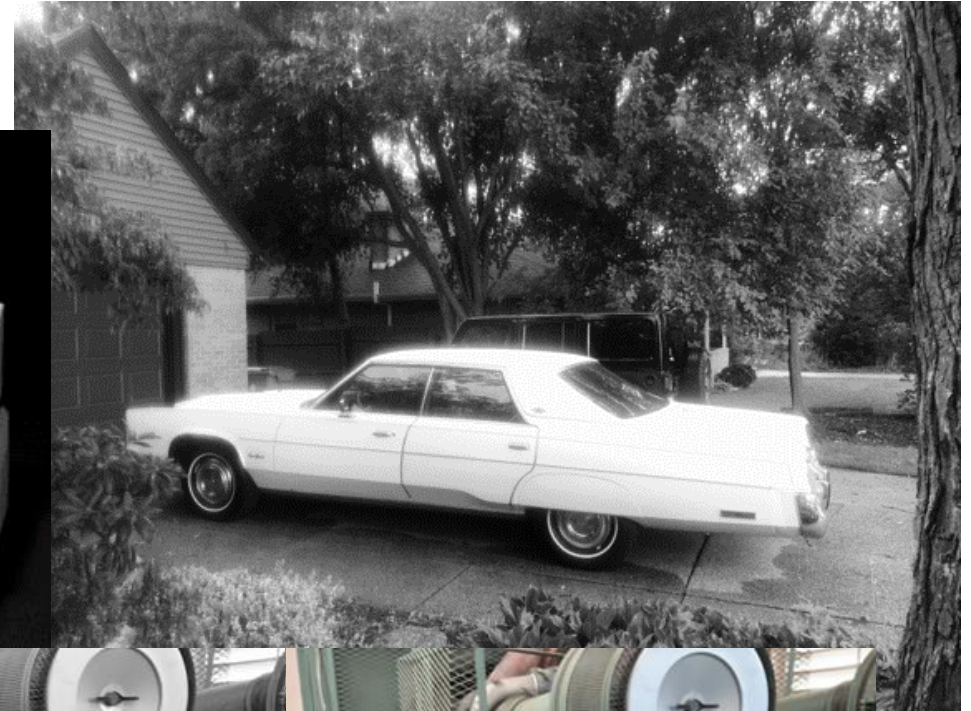
**Brightly, a Siemens company**

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# The year is 1977....





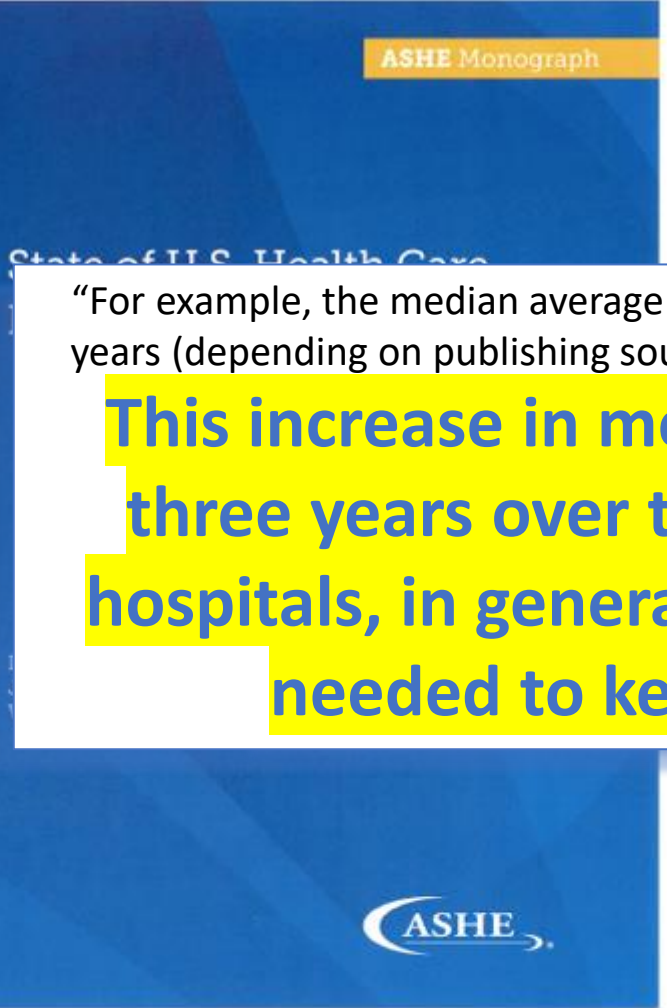


# The Perfect Storm

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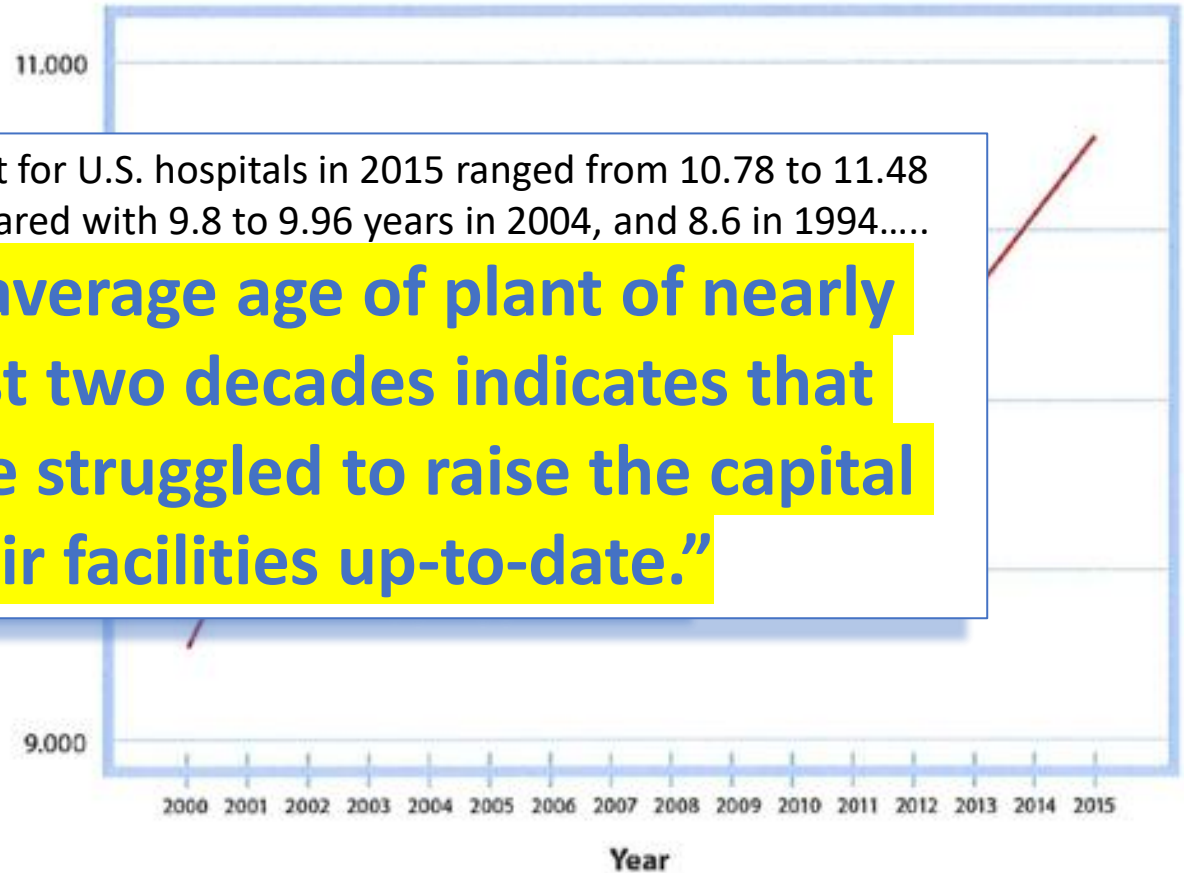


### AGE OF PLANT STATISTIC 2000-2015



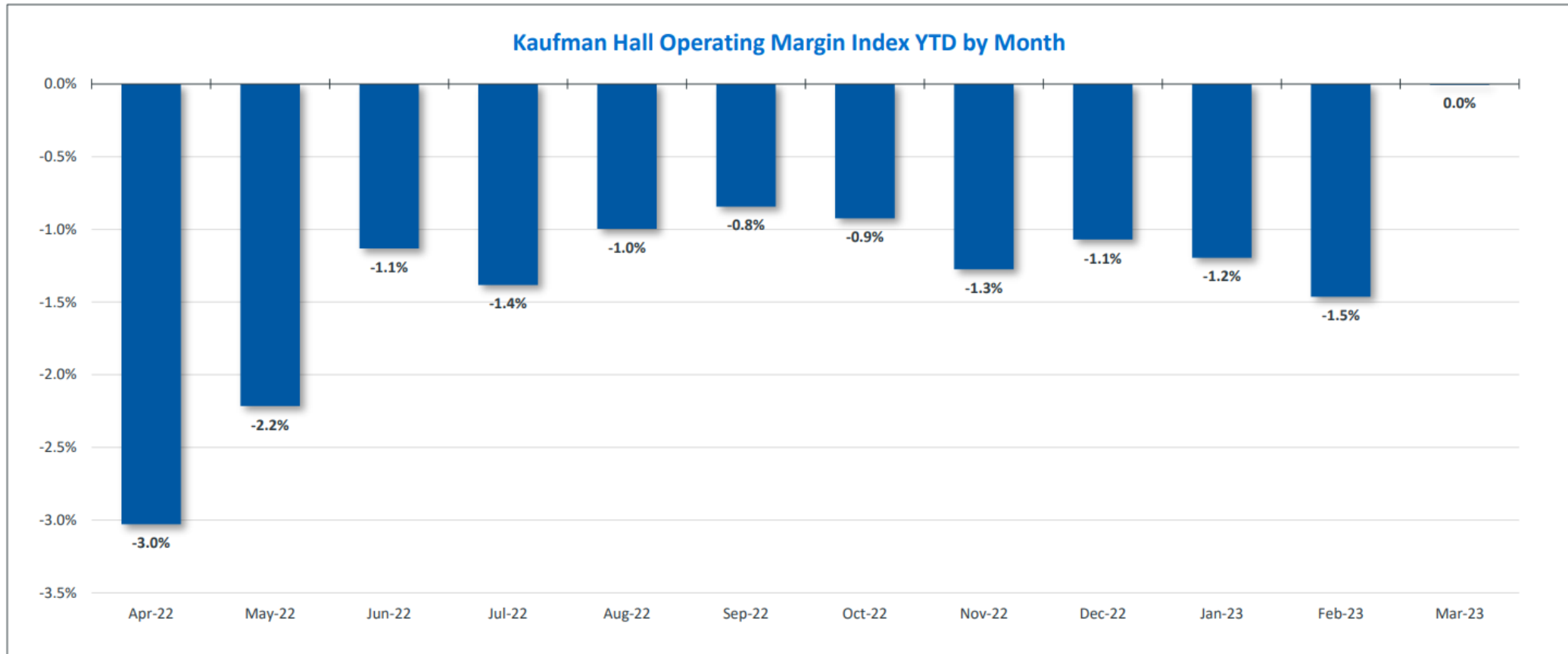
“For example, the median average age of plant for U.S. hospitals in 2015 ranged from 10.78 to 11.48 years (depending on publishing source), compared with 9.8 to 9.96 years in 2004, and 8.6 in 1994.....

**This increase in median average age of plant of nearly three years over the past two decades indicates that hospitals, in general, have struggled to raise the capital needed to keep their facilities up-to-date.”**



# Kaufman Hall Flash Report (April)

## Operating Margin



Kaufman Hall, National Hospital Flash Report (April 2023)

\* Note: The Kaufman Hall Hospital Operating Margin and Operating EBITDA Margin Indices are comprised of the national median of our dataset adjusted for allocations to hospitals from corporate, physician, and other entities.





JUNE 30, 2022

# FACT SHEET: Health Sector Leaders Join Biden Administration's Pledge to Reduce Greenhouse Gas Emissions 50% by 2030



[BRIEFING ROOM](#)

[STATEMENTS AND RELEASES](#)

## • Health Systems, Hospitals and Other Providers

- Providence Health, HealthPartners, Kedren Health, CommonSpirit Health, University Medical Center of El Paso, NYC Health + Hospitals, Boston Medical Center, Baystate Health, Stanford Children's Health, Stanford Health Care, Atrium Health, Cherokee Health Systems, University of California Health, Northwell Health, Rush University System for Health, Northern Arizona Healthcare, Hackensack Meridian Health, UW Medicine, RWJBarnabas Health, Sun River Health, NYU Langone Health, Ascension, Henry Ford Health, Mass General Brigham, Boston Children's Hospital, Tufts Medicine, Southcoast Health, Children's National Hospital, Mount Sinai Health System, Kaiser Permanente, Keck Medicine of USC, Beth Israel Deaconess Medical Center, Montefiore, Seattle Children's, Valley Children's Healthcare, University of Nebraska Medical Center and Nebraska Medicine, Advocate Aurora Health, Gillette Children's, University of Utah Health, Steward Health Care System, DaVita

### *Health Sector Steps Up to Protect Public Health and Lower Costs*

Today, the Biden-Harris Administration announced that 61 of the largest U.S. hospital and health sector companies responded to the Administration's [Health Sector Climate Pledge](#), committing to reduce greenhouse gas emissions 50% by 2030. The new commitments represent over 650 hospitals and thousands of other providers across the country, and include plans to strengthen resilience to climate change, protect public health, and lower costs. The health care sector accounts for 8.5% of U.S. emissions, so these bold commitments advance President Biden's goal to reduce nationwide greenhouse gas emissions 50-52% in 2030 and reach net-zero emissions in 2050.







# Conclusions

- Infrastructure investment has been lagging actual needs for over 2 decades. Critical infrastructure continues to age.
- Financial projections indicate that securing and/or allocating needed funds will be more difficult going forward, not easier.
- **Therefore, we must transform our thinking and work to promote the strategic importance of properly funding our facilities.**

## The business value of infrastructure

Three steps for aligning facility investments with organizational priorities

**T**he health care field has historically underinvested in infrastructure. It is a documented fact substantiated by increasing age-of-plant statistics first published by the American Society for Health Care Engineering (ASHE) in the 2017 monograph, "State of U.S. Health Care Facility Infrastructure" ([ashe.org/facilityinfrastructure](https://www.ashe.org/facilityinfrastructure)).

The conclusion in 2017 was that "the increase in median average age of plant of nearly three years over the past two decades indicates that hospitals, in general, have struggled to raise the capital needed to keep their facilities up to date." Authored in the pre-COVID-19 era, it provides an excellent baseline from which to discuss infrastructure investment challenges today.

As a parallel statistic, facility condition assessment data collected by Brightly, a Siemens company, from 2016 to the present, suggests that up to approximately 47% of major mechanical, electrical and plumbing assets have exceeded expected useful life. Extrapolated to the national level, unless individual assets have been well-maintained, this metric indicates there may be a significant number of infrastructure assets with an increased probability of failure based on either age, condition or both.

Assets in deferred status are not necessarily in imminent failure mode but otherwise represent an increasing liability for many health care organizations. Just as a car with 150,000 miles on the odometer may be running fine around town, that same vehicle may or may not be suitable for a family trip across the country. Aging infrastructure increases risk, and the potential failure of key assets in critical environments can have devastating impacts on health care financial performance. In worst-case scenarios, they can



Translating engineering needs into business outcomes is critical when engaging non-facility leadership.

also negatively impact clinical outcomes and patient care.

Now, in 2023, the lagging negative impacts of the pandemic in combination with other macroeconomic forces have created a perfect storm of conflicting investment priorities. "Normal" pre-COVID-19 infrastructure investment levels, already documented as insufficient, were cut further in the early years of the pandemic. Many of those cuts are now becoming permanent. Yet, even as the infrastructure continues to age, many facility leaders are being asked to harden, decarbonize and otherwise reimagine facility performance in ways that can only be achieved with significant capital investment.

### Boiler room to board room

To justify and execute these transformational investment needs, health care facility leaders across the country must seek to establish stronger business relationships with nonfacility leadership and the C-suite. Now is the time to redefine facility needs in business terms and consider the

adoption of nontraditional project and staffing validation concepts throughout the budget approval process. From the boiler room to the board room, three steps will assist in making that transition.

### Step 1: Know the cost buckets when building a business plan for the facility.

It is understood that facility departments are viewed as cost centers, and it is unlikely this perspective will change in the foreseeable future. However, in the acceptance of this view, it creates significant and immediate capital committee barriers that can be difficult to overcome when communicating and comparing infrastructure financial needs to other investment options.

Tactically, it could be argued that the cost center label undermines or commoditizes the value of the facility itself and the work the facility teams do on a regular basis. Strategically, it perpetuates the false assertion that infrastructure investment provides no return on investment (ROI). A modern medical facility is a clinical asset, required to provide

IMAGE BY GETTY IMAGES

ASHE HFM Magazine  
Look in May Edition



**Strategic Asset Management (SAM)** involves the management of the maintenance of physical assets of an organization throughout each asset's lifecycle.

**People, Process, Technology**

***AKA: Enterprise Asset Management (EAM)***

# Finance 101

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**Facility  
Leader**

**CFO**



# *They Don't Get It!*

*But, Why?*

*Because facilities are managed as cost centers.*



## *What is a Cost Center?*

- *“A cost center is a function within an organization **that does not directly add to profit but still costs money to operate**, such as the accounting, HR, or IT departments.”*

Source: <https://www.investopedia.com/terms/c/cost-center.asp>

## *What is a Cost Center?*

- *“The main use of a cost center is **to track actual expenses for comparison to budget.**”*

Source: <https://www.investopedia.com/terms/c/cost-center.asp>

## *What is a Cost Center?*

- *“The manager for a cost center is only responsible for keeping costs in line with budget and does not bear any responsibility regarding revenue or investment decisions.”*

Source: <https://www.investopedia.com/terms/c/cost-center.asp>

## ***What is a Cost Center?***

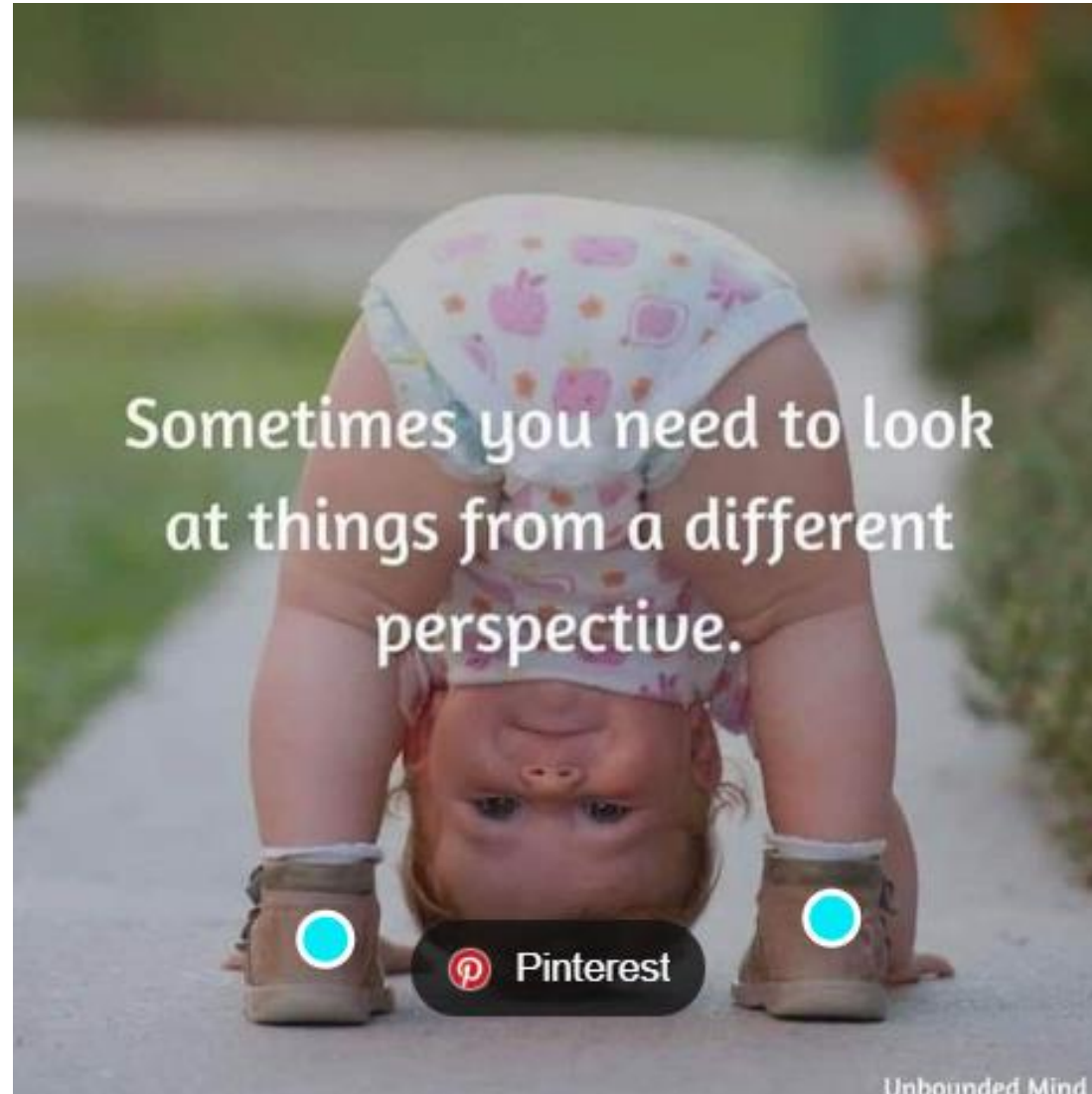
- ***“A cost center indirectly contributes to a company’s profit via operational excellence, customer service, and enhanced product value.”***

Source: <https://www.investopedia.com/terms/c/cost-center.asp>



*“Price is what you pay, value is what you get.”*

Warren Buffet



# Challenge Questions

Does your non-facility leadership understand the work that you do?

Does your non-facility leadership understand **the value of** the work that you do?

# Sales 101

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*A sale is a transaction between two or more parties in which the **buyer receives tangible or intangible goods, services, or assets in exchange for money.***

Source: <https://www.investopedia.com/terms/s/sale.asp>





# Value-Based Selling

1. **Conducting Research:** “...placing the needs of the prospect first in order to make a sale.”
2. **Being Approachable:** “...genuinely place the needs of the client at the forefront of the process.”
3. **Demonstrating Value:** “...the sales professional should be able to articulate their understanding of the client’s needs...”
4. **Offering Educational Resources:** “...includes walking the client through the specific ways that the product will help elevate their business.”
5. **Not Forcing a Classic Sales Pitch:** “Value-based selling relies on research and organic conversation.”
6. **Tailoring the Process to the Prospect:** “...be prepared to address the client’s most pressing questions – and to prioritize those over the points the salesperson is prepared to discuss.”
7. **Adding Consistent Value:** “...focus on demonstrating value in some capacity every time they connect with their clients.”

Source: <https://www.decisionlink.com>

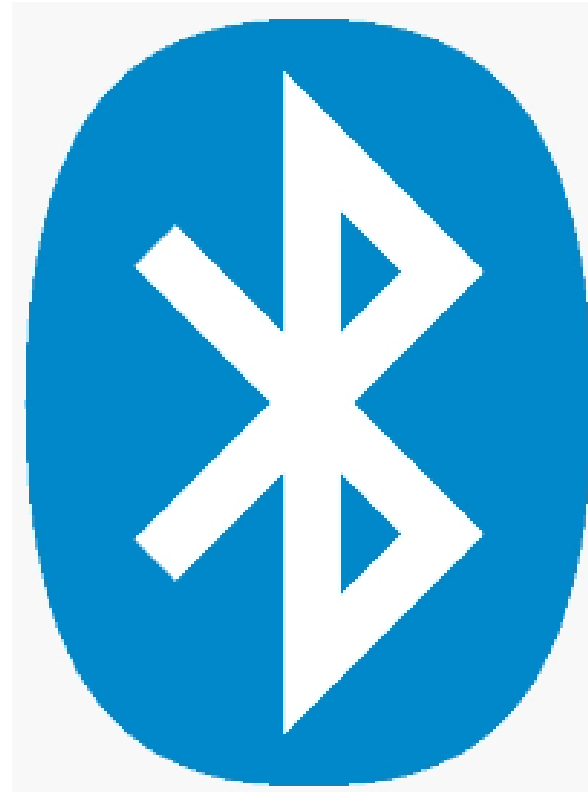
# Value-Based Selling Isn't Easy

# *RFP*

# *(De)Value Engineering*

# Feature Advantage Benefit

# Example





# In Summary...

What is it?

What does it do?

**Why is it important?**

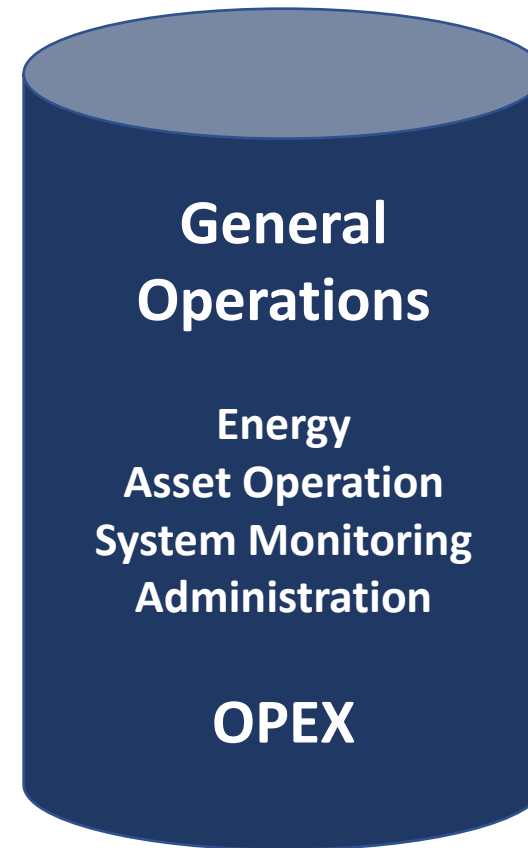
**What is the RISK or IMPACT if it fails?**

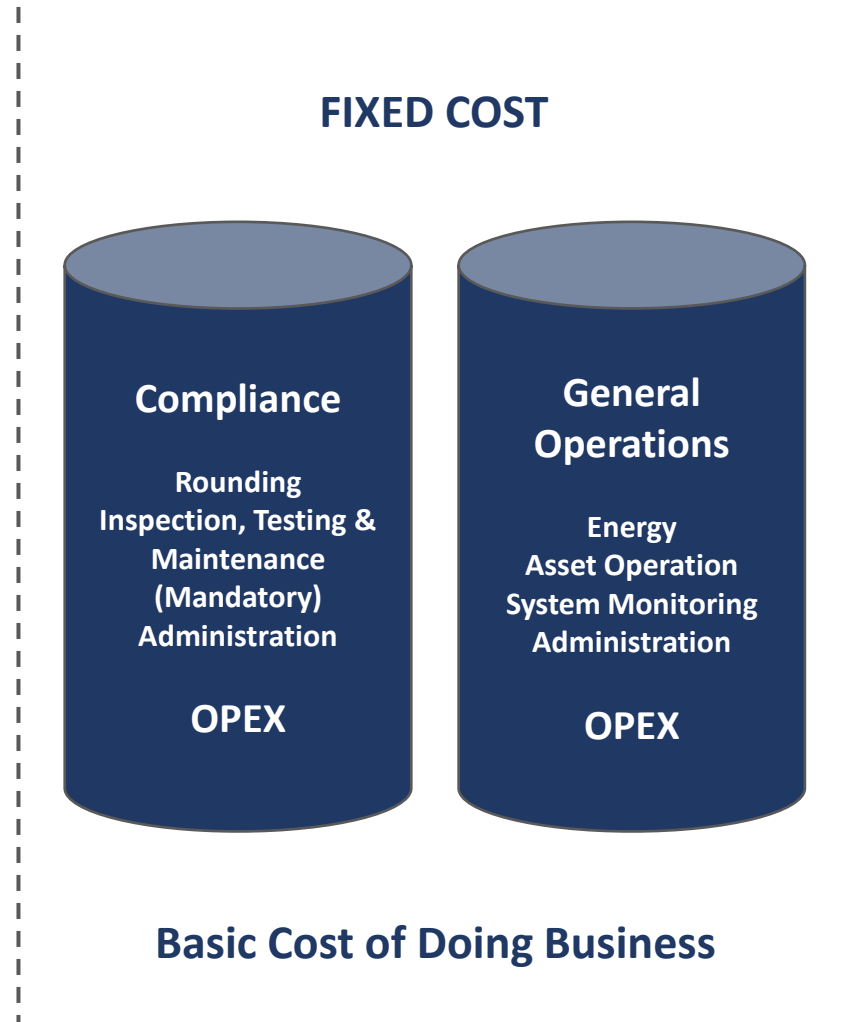
**How does it align with other initiatives?**

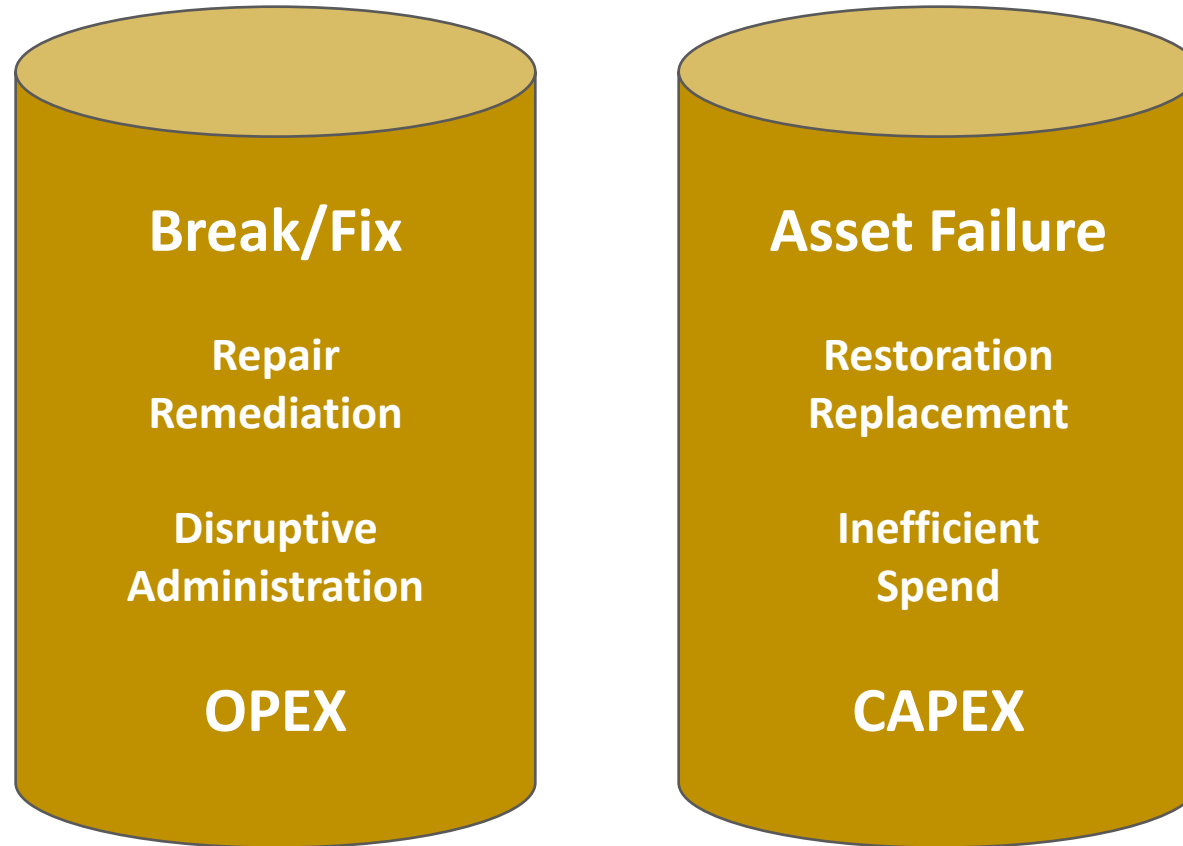
# Buckets

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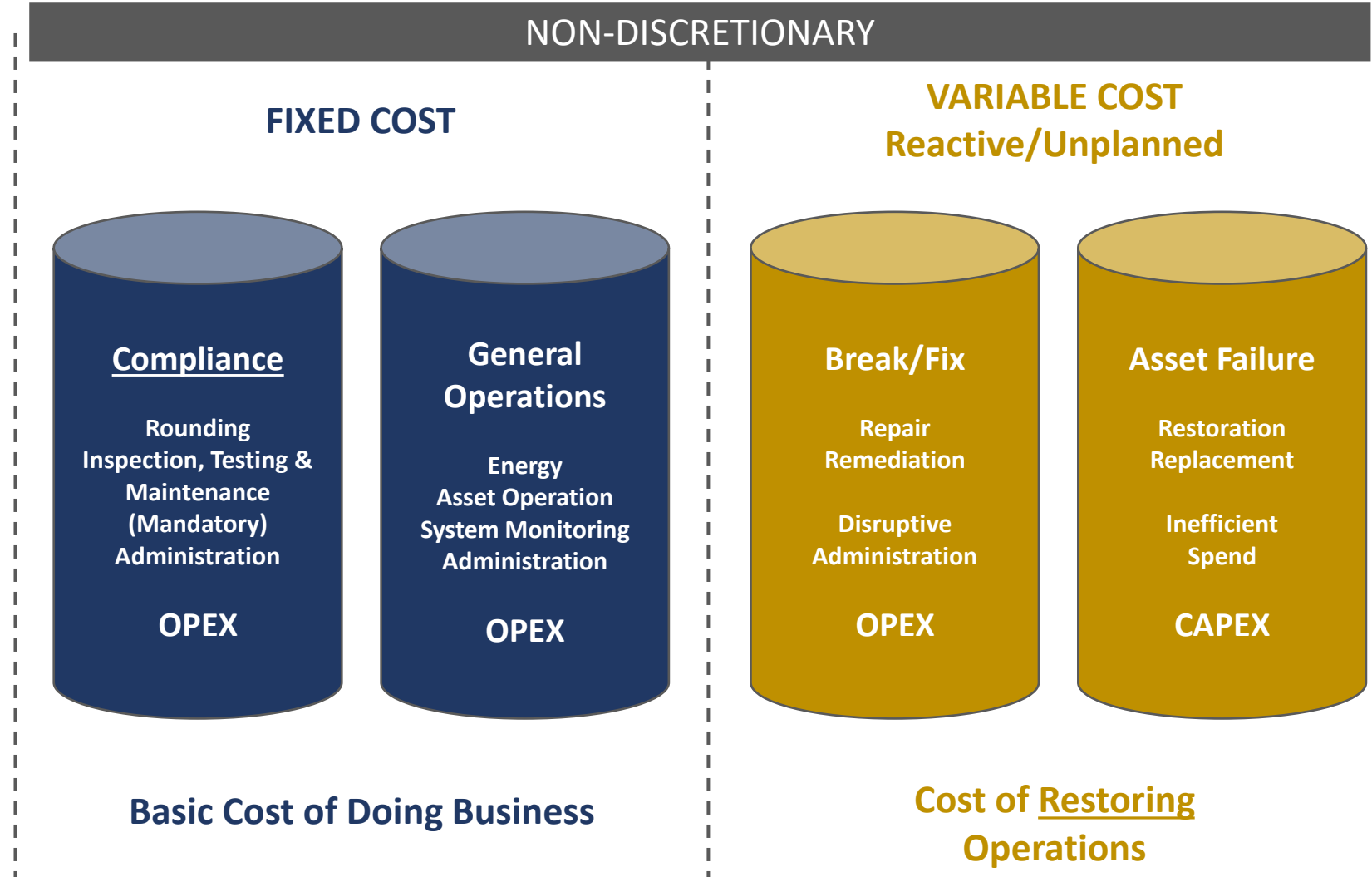


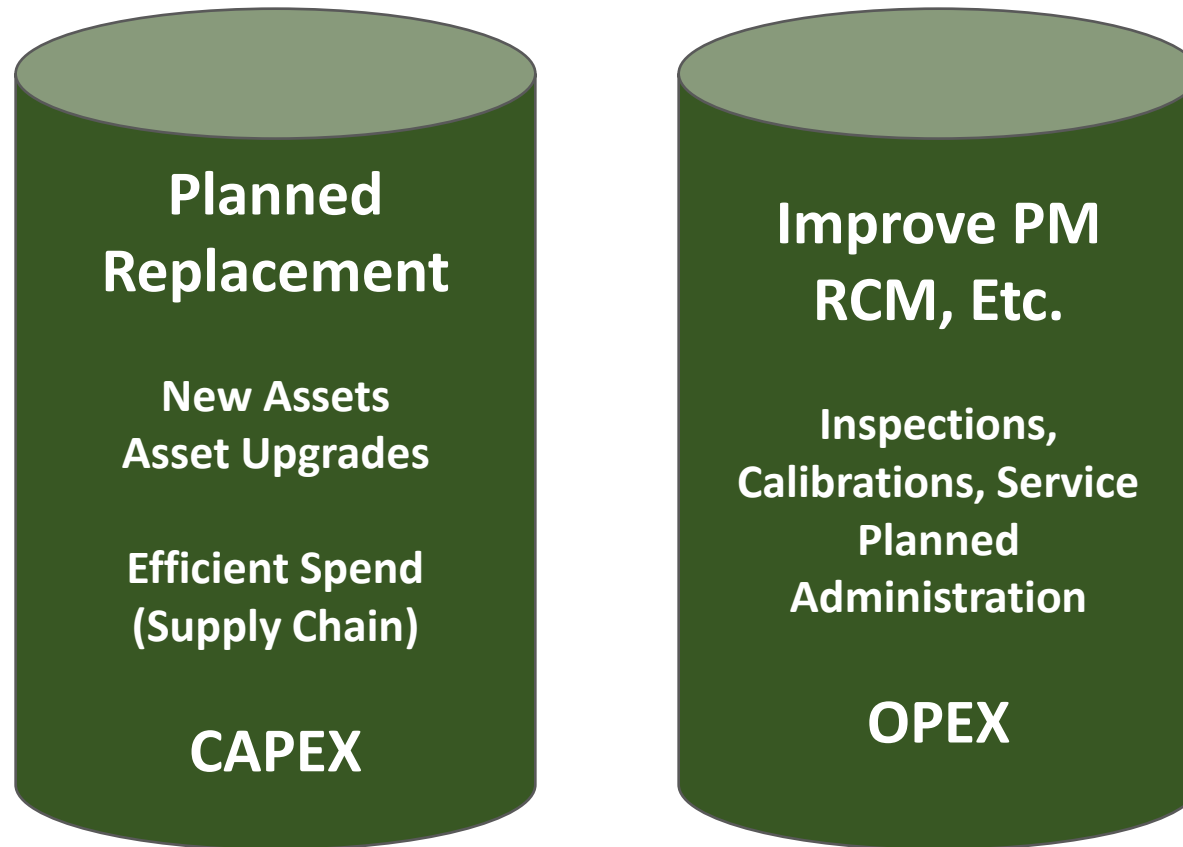


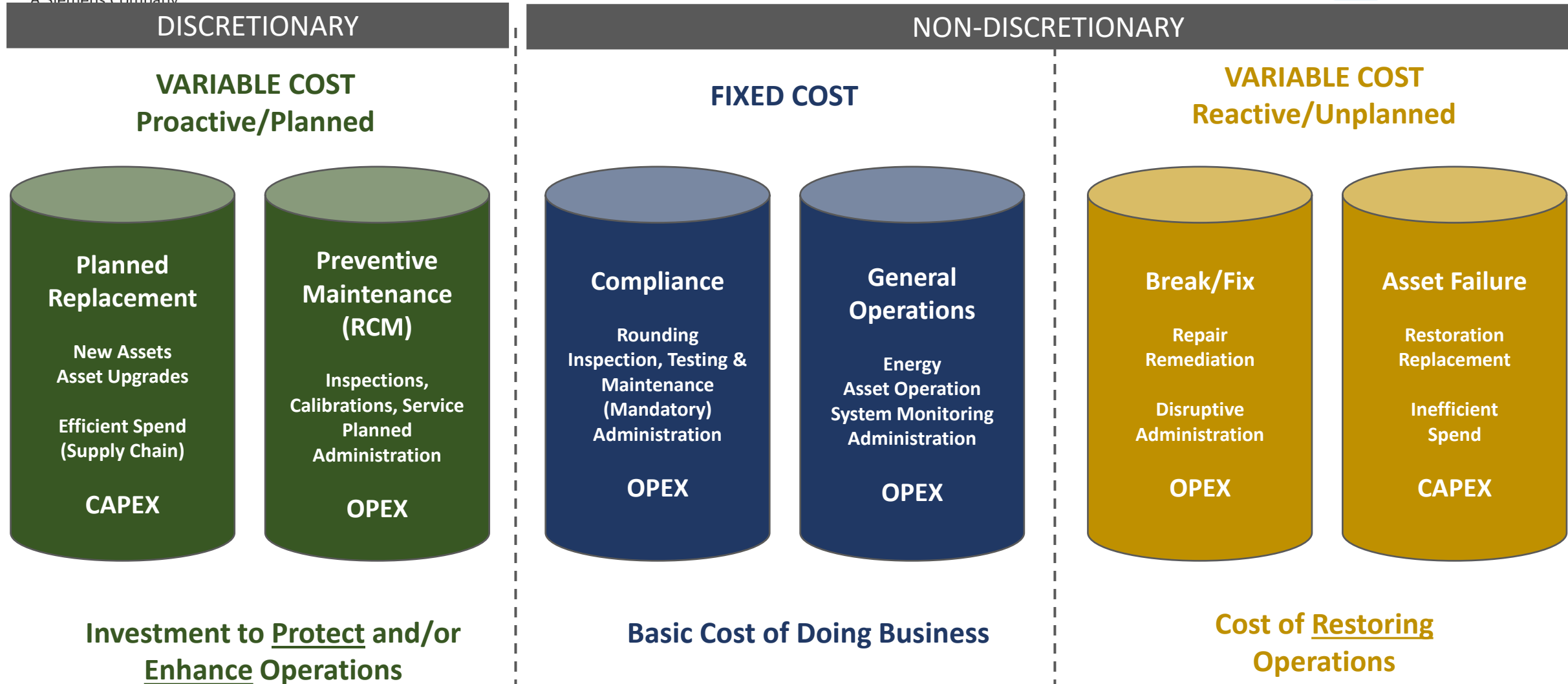


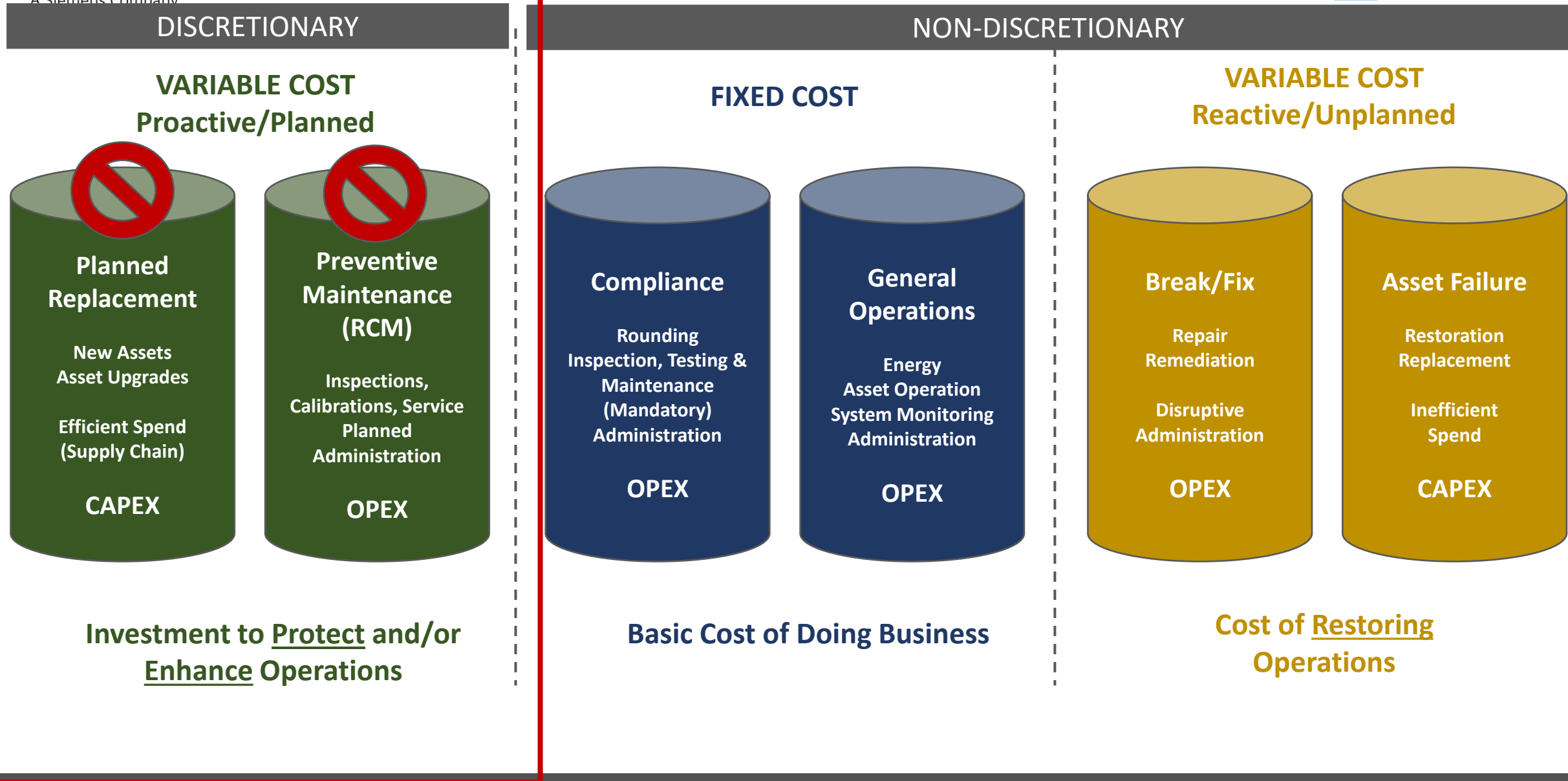




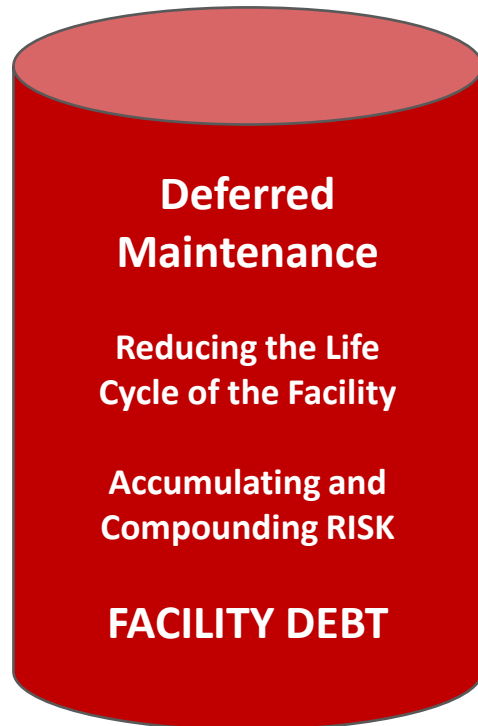








# Deferred Maintenance Defined

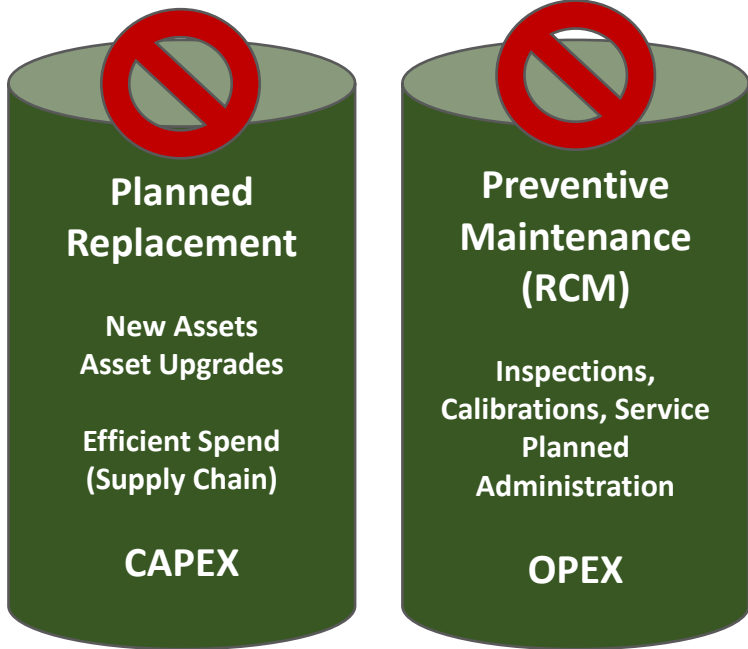


- Infrastructure assets that have exceeded industry expected useful life based on age and/or condition.
- These assets are not in imminent failure mode, but indicate an accumulation of risk, and should be evaluated carefully for renovation and/or replacement.
- Communicating the objective reality of deferred maintenance is not to be feared. It is a continuous reality in any facility.



**DISCRETIONARY**

**VARIABLE COST**  
**Proactive/Planned**



**Investment to Protect or Enhance Operations**

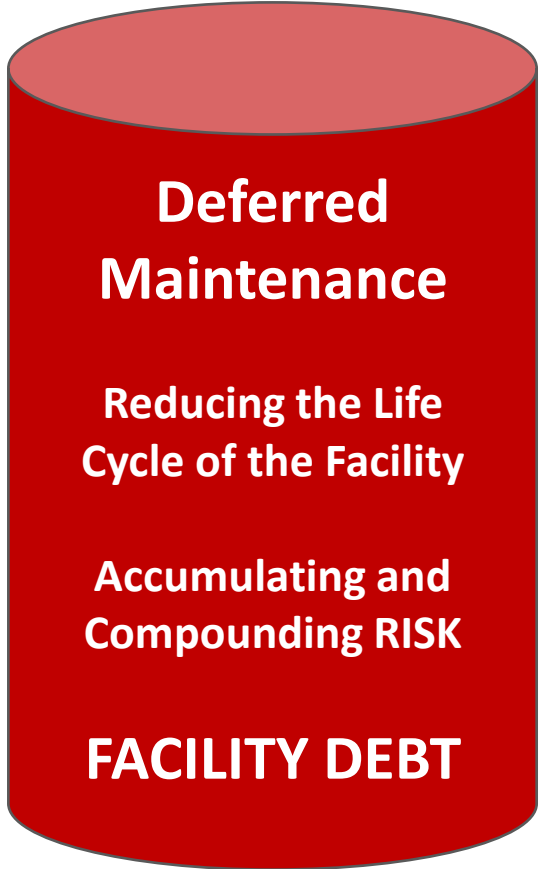
**\$0 in Green Buckets**

Q: Is this good or bad thing?  
A: Maybe.

This can be viewed as “saving money”. It can also be viewed as an opportunity to make other, better, investments. There is not a right or wrong answer.

Simply put, in either case, it is OUR fiduciary responsibility to inform the CFO as to the true cost of the decision.

**That cost is measured as Deferred Maintenance.**

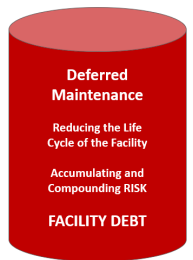
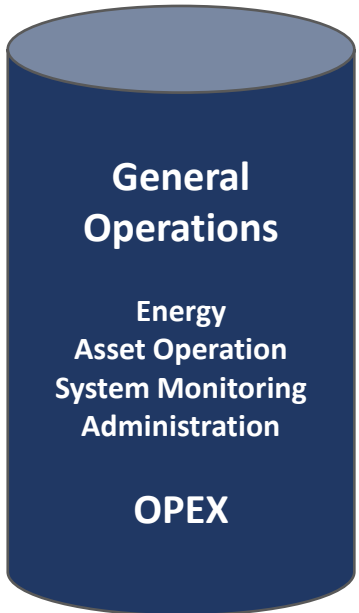
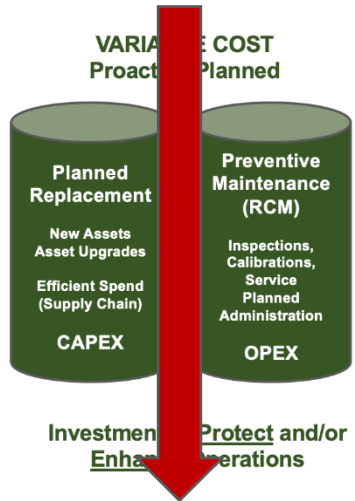


DISCRETIONARY

NON-DISCRETIONARY

FIXED COST

VARIABLE COST  
Reactive/Unplanned



Cost of Doing Business

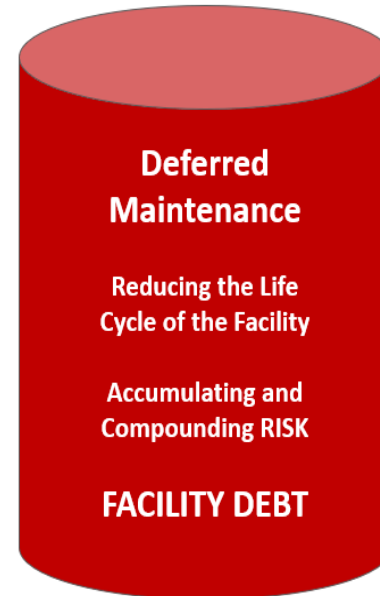
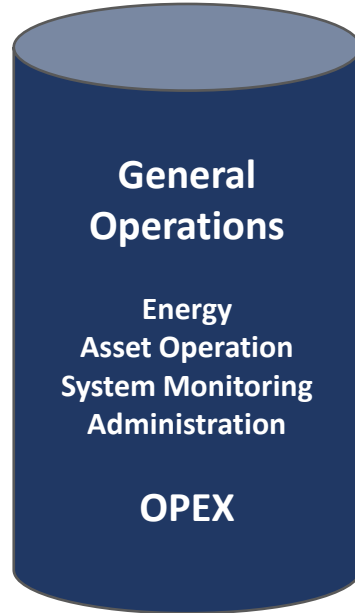
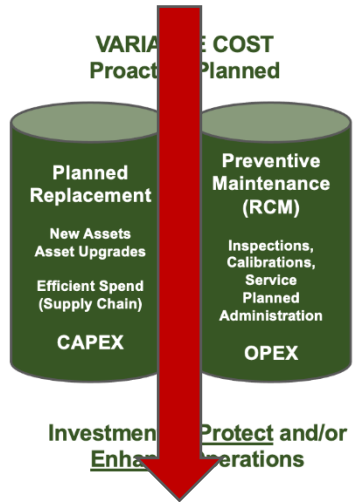
Cost of RESTORING Operations

**DISCRETIONARY**

**NON-DISCRETIONARY**

**FIXED COST**

**VARIABLE COST  
Reactive/Unplanned**

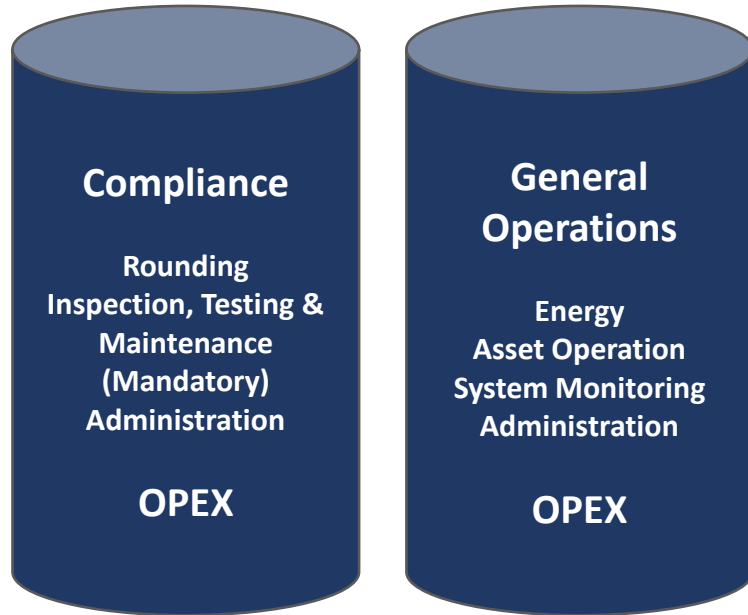


**Cost of Doing Business**

**Cost of RESTORING Operations**

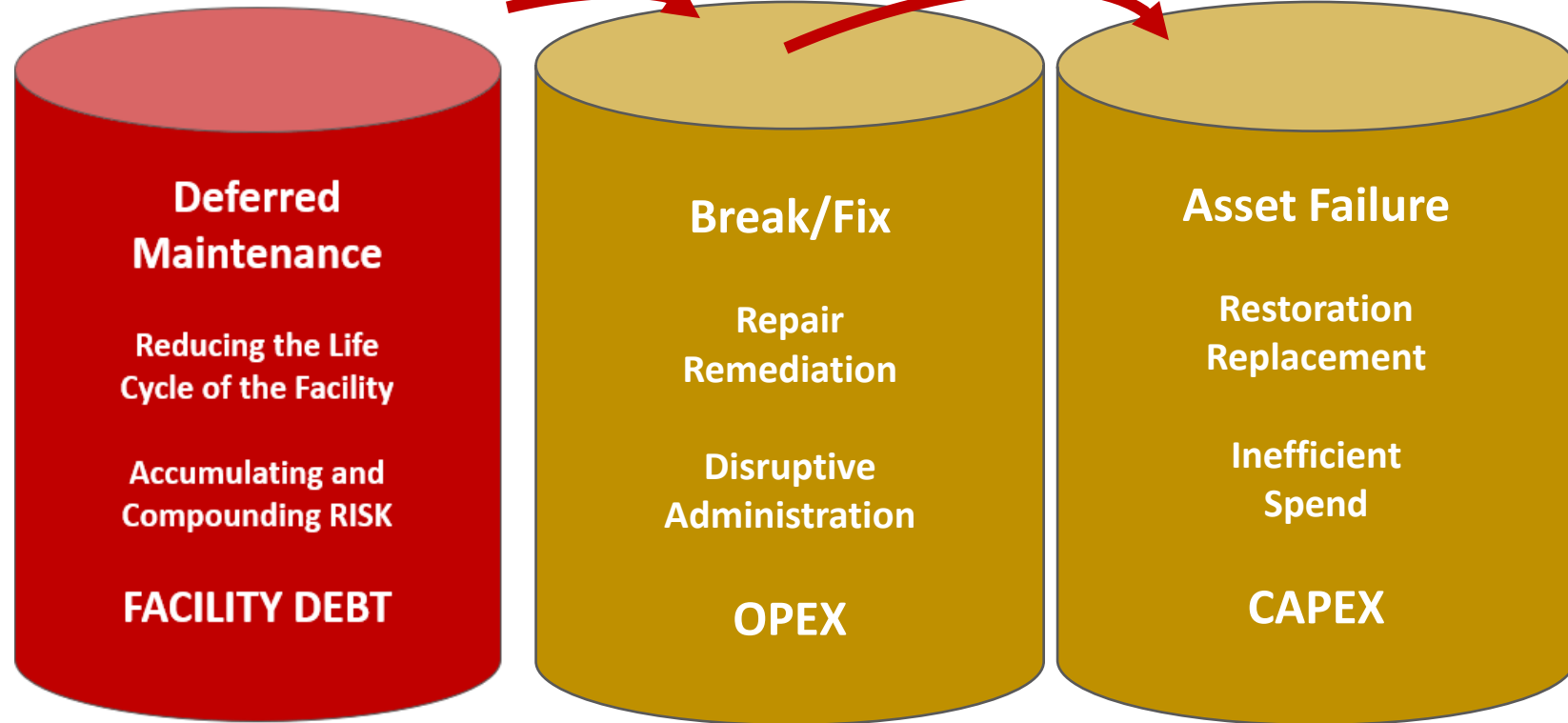
NON-DISCRETIONARY

FIXED COST

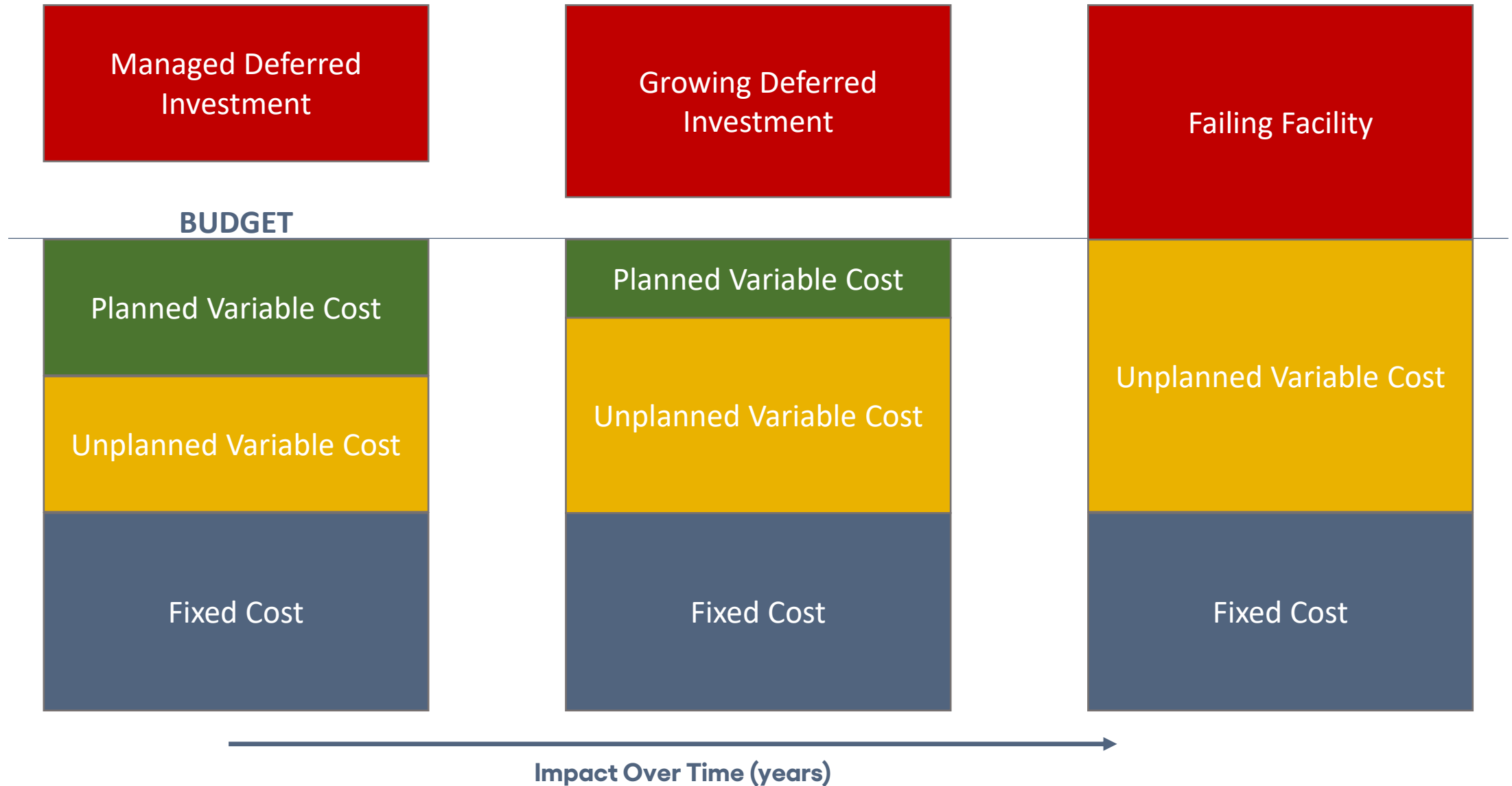


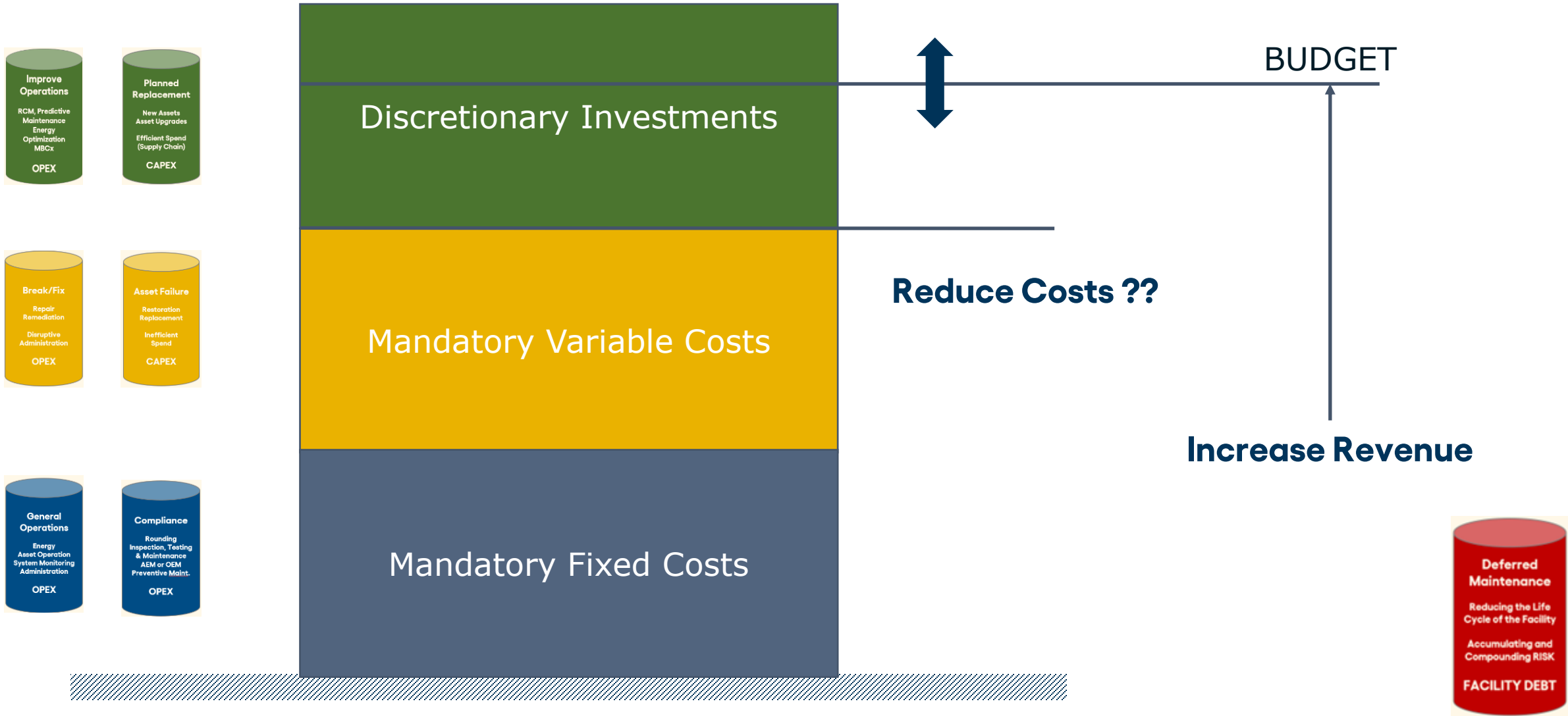
Cost of Doing Business

VARIABLE COST - Reactive/Unplanned



Cost to Stay Alive





# Creating a Value Chain

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# Transparency Leads to Credibility

## Educate Your Customer

## Dallas Campus

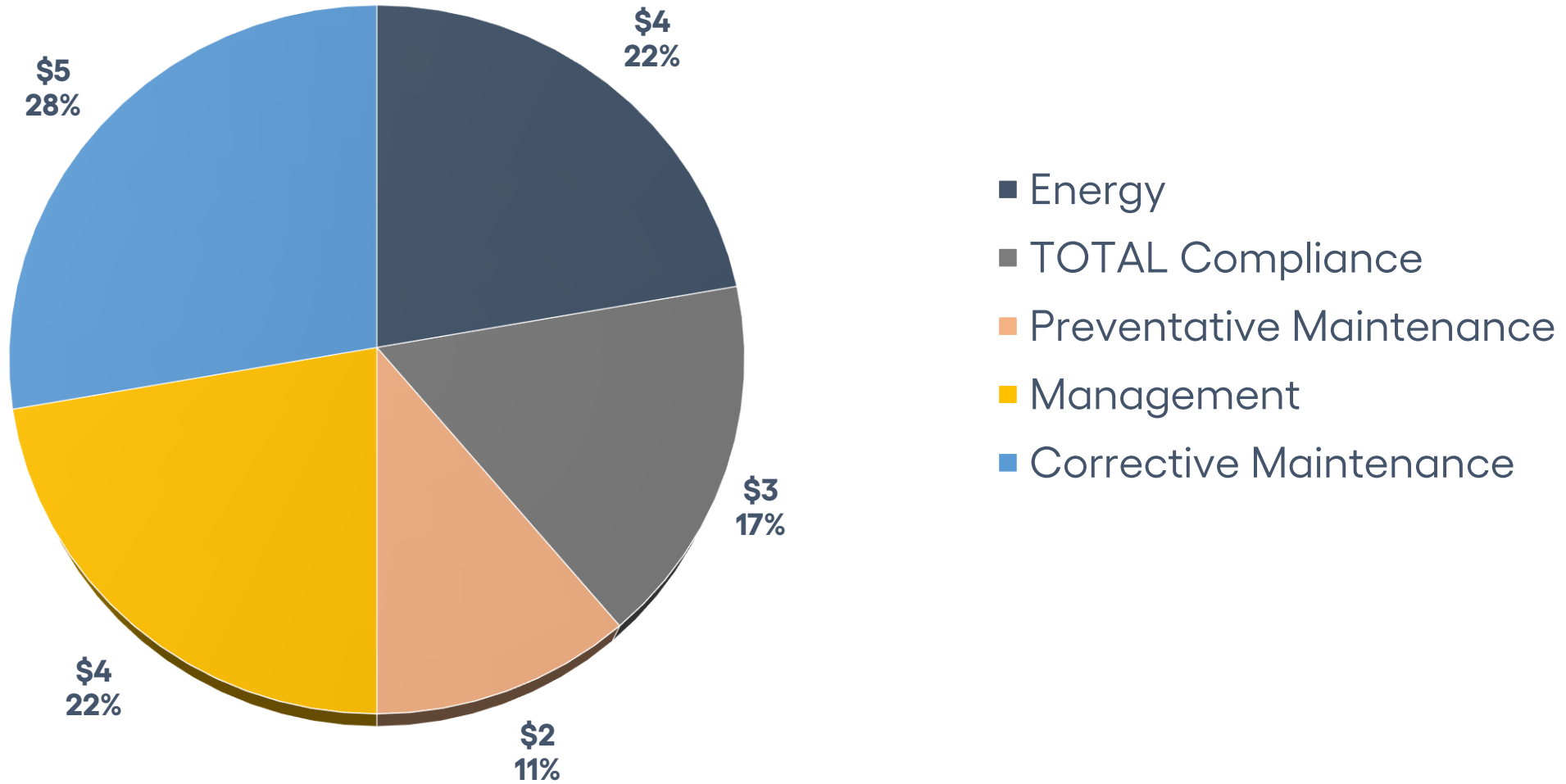
- Level I Trauma Center
- 1.5 Million Square Feet
- 13 Levels + Basement
- Built in 1963
- 490 Beds
- 23 Operating Rooms



# Compliance Cost Examples – First Cut

Emergency Power	\$35,844.00	Eyewashes	\$4,508.00
Annual/Triannual Generator	\$56,000.00	Rated Openings	\$28,105.00
Exit Signs	\$8,100.00	Fire & Smoke Dampers	\$49,296.00
Emergency Lighting	\$2,088.00	Elevator Maintenance & Testing	\$45,355.00
LIM Panels	\$28,348.00	Water Management	\$4,255.00
Backflow Preventers	\$9,480.00	Ventilation Requirements	\$46,240.00
UST/AST	\$10,500.00	Boilers Maintenance & Testing	\$19,244.00
Medical Gas & Vacuum	\$15,975.00	Joint Commission Accreditation	\$120,000.00
Fire System	\$727,503.00	Life Safety Assessments	\$79,705.00
Lightening Protection	\$6,850.00	3 FTE's	\$273,000.00
Tie-Offs	\$12,300.00	Rounding	\$13,104
Ice Machines	\$21,896.00	EOC Committee	\$10,384
Fire Extinguishers	\$36,000.00		

# Operational Budget \$/SQFT

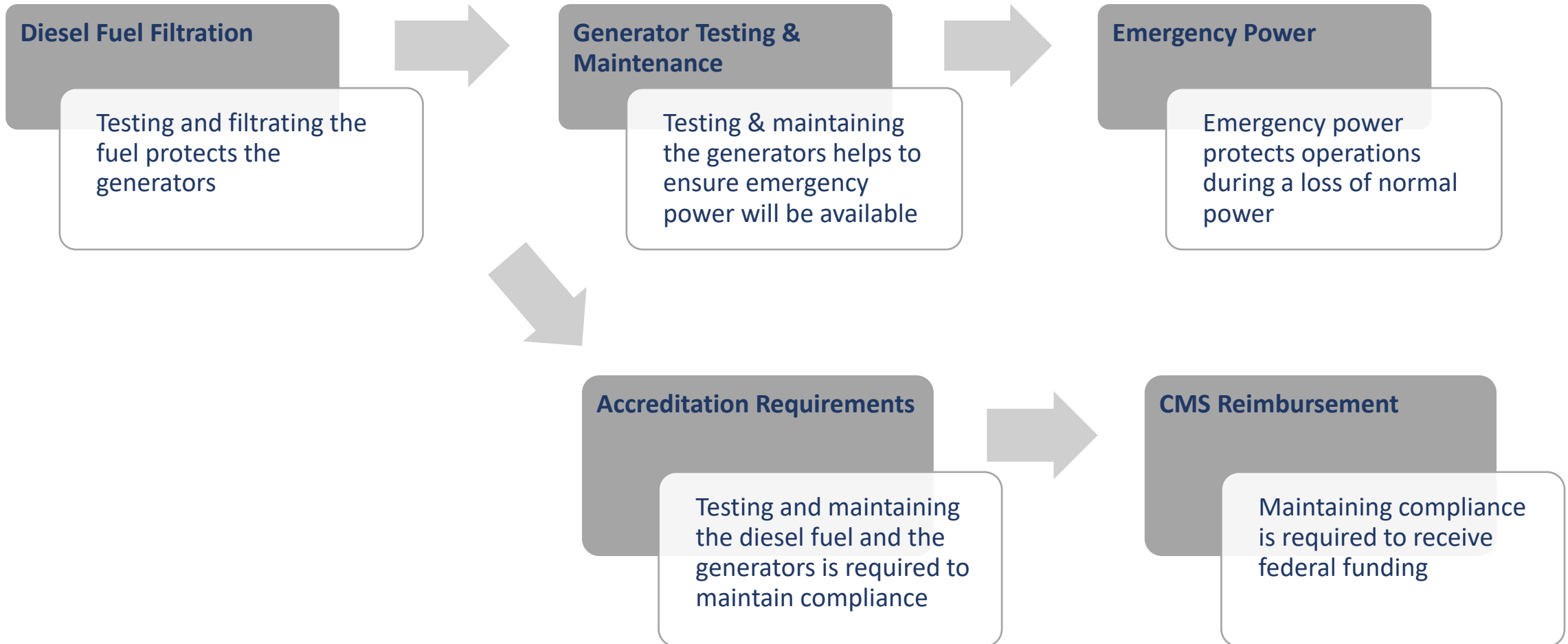




# Credibility Leads to VALUE

## Engage Your Customer

# Value Chain



# Creating a Value Chain

XYZ Major Health System - Diesel Fuel Value Chain			
Macro Data	22,300,000 SQFT - 29 Accredited Hospitals + Non-Acute		
Number of Fuel Tanks	114 of All Sizes, Shapes and Capacities		
Total Amount of Fuel	426,632	gallons	Value Multiplier (ROI?)
Fuel Treatment @ \$0.13 Per Gallon All In	\$ 55,462	\$0.002 per SQFT	NA
Replacement Cost of Fuel at \$5/gallon	\$ 1,706,528	\$0.077 per SQFT	39
Total Replacment Cost of Assets Utilizing Fuel	\$ 67,043,186	\$3.06 per SQFT	1530
Total Liability/Revenue Impact	?????	\$\$\$\$ per SQFT	Infinite



# Creating a Value Chain

Single Campus - Diesel Fuel Value Chain			
Macro Data	1.5 Million SQFT Single Campus		
Number of Fuel Tanks	1 Large CUP Tank, 2 Auxiliary Tanks, 5 Day Tanks		
Total Amount of Fuel	22,590	gallons	Value Multiplier (ROI?)
Fuel Treatment @ \$0.13 Per Gallon All In	\$ 2,937	\$0.002 per SQFT	NA
Replacement Cost of Fuel at \$5/gallon	\$ 112,950	<b>\$0.075 per SQFT</b>	<b>38</b>
Total Replacment Cost of Assets Utilizing Fuel	\$ 7,540,912	<b>\$5.03 per SQFT</b>	<b>2568</b>
Total Liability/Revenue Impact	?????	\$\$\$\$ per SQFT	Infinite

# VALUE Leads to Inclusion

## Partner With Your Customer

# Mission, Vision and Values



Our Mission: Make life better for children



## Our Values

### Selfless Service

Serving others with an enthusiastic spirit

### Passionate Advocacy

Standing as champions for children

### Commitment to Excellence

Driving innovation and quality care to maximize outcomes

### Unwavering Integrity

Creating an environment of trust through honesty, transparency and authenticity

# Mission, Vision and Values

## Sustainability Program

[REDACTED] is committed to making life better for children now and in the future by promoting sustainable practices and creating healthier facilities through safer products, reduced air emissions, less waste, and efficient use of energy and water.



“Our mission is to make life better for children, and we have a responsibility to help give children the right start in a healthy environment. Reducing our carbon footprint directly contributes to that mission and leaves a healthier planet for future generations.”



# A New Bucket - Sustainability





***“If you don’t know where you are going, you’ll end up  
someplace else.”***

~ Yogi Berra



# Questions?

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# Mark Mochel, MBA, CHFM, PMP, ACABE



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# Thank You!

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