

# Asset Sustainability



Intersecting Predictive Life Cycle Forecasts  
with Energy Performance

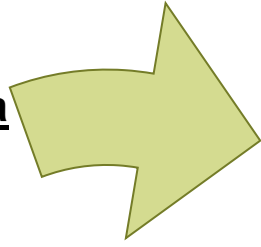
- *Enhancing the Business Case*

# Decision Development Framework



## Real Estate Criteria

- Asset Valuation
- Land Valuation



## Physical Asset Criteria

- Building Condition Needs
- Unfunded Liability
- FCI



## Tools Processes & Policies

## Utilization Criteria

- Facility utilization
- Accommodation planning
- Space use
- Own vs. lease

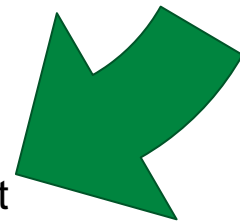


## Financial Criteria

- Capital Costs
- Operating Costs
- Capital Creation Strategies
- Incentives

## Environmental Criteria

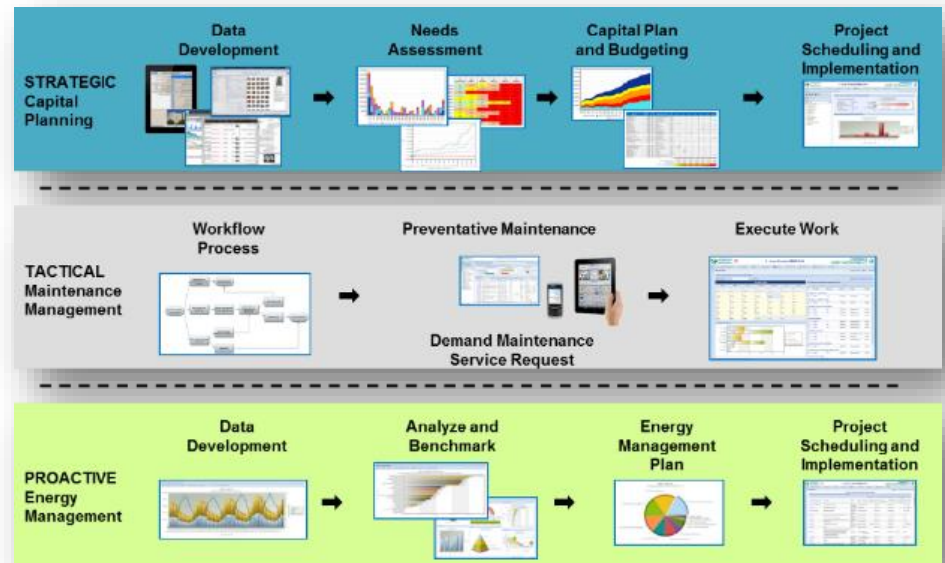
- Carbon Footprint
- Energy Conservation
- Renewable Solutions



# Integrated Decision Development



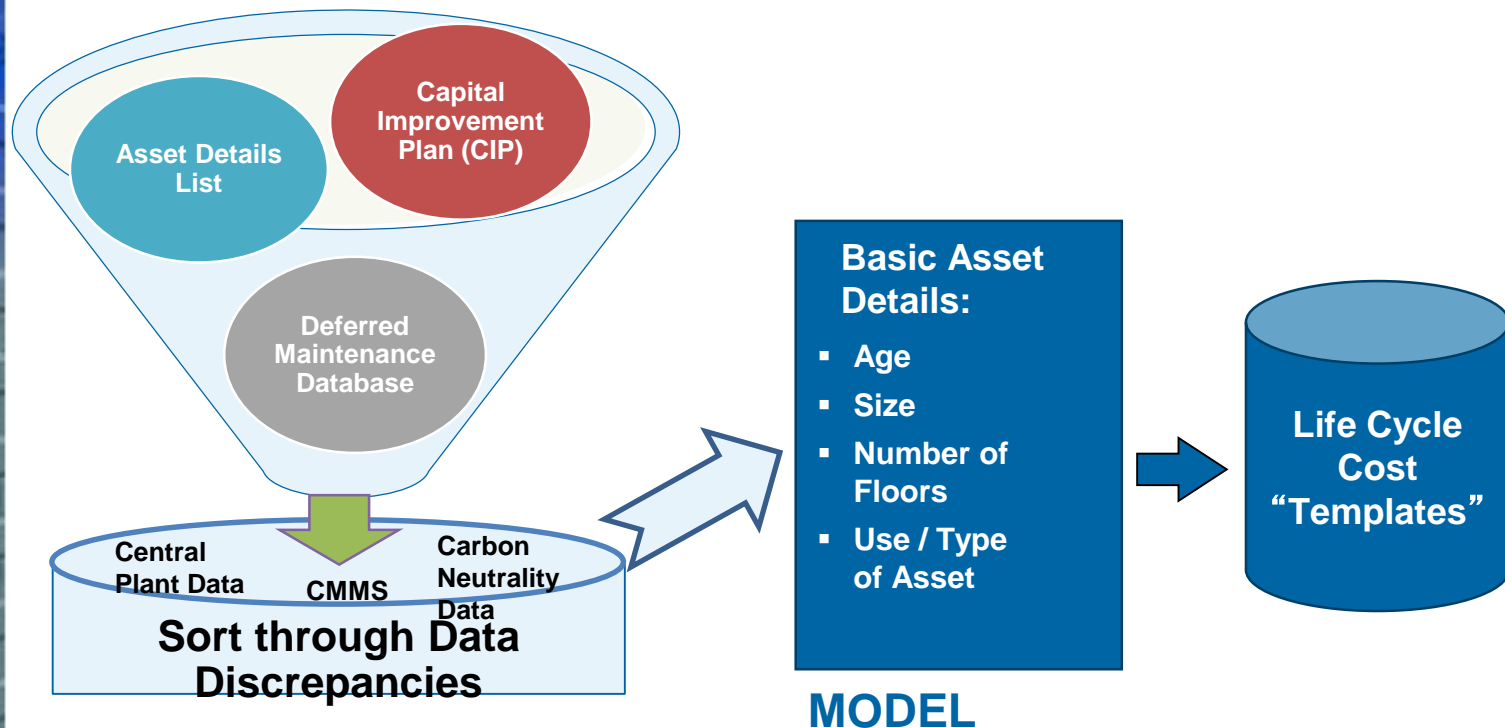
- Financial / Capital Planning Dashboards
- Maintenance & Service Request mapping
- Energy use and optimization
- Measure Selection Roadmap



# Data Development

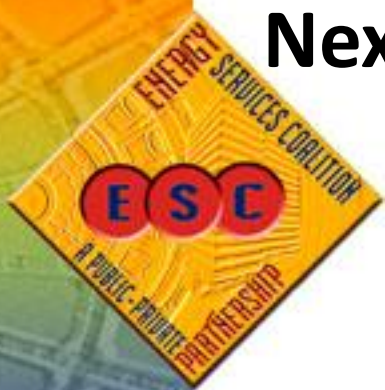


- Disparate data sources with conflicting information
- Incorporate Life Cycle Predictive Analytics





# Next Generation Dashboards / Analytics



- Energy Analytics and Performance
- Life Cycle Needs
- Financial / Risk Base Analytics
- Utilization / Capacity Analytics

**Customer ABC**  
 Utilization Review  
 Fiscal 2016-2017  
 Prepared: Jan 2016  
 For: Executive Management

Utilization Rating:	
Good	> 79%
Fair	70% to 79%
Poor	50 to 69%
Critical	< 50%

FCI (Facility Condition Index) Rating:	
Good FCI Rating	= Less Than 5%
Fair FCI Rating	5% to 10%
Poor FCI Rating	10% to 30%
Critical FCI Rating	Greater Than 30%
Prohibitive to Repair	65% or Greater

ADE (Average Daily Utilization 2016-17)	OTG (On the Ground Capacity) 2016-2017	% Utilization - Current Year
273	282	97%
167	235	71%
219	282	78%
135	141	96%
201	306	66%
421	921	46%

Facilities Criteria			
Site Expansion Potential	FCI (Facility Condition Index) 2015 to 2019	FCI (Facility Condition Index) 2020 to 2024	FCI (Facility Condition Index) 2025 to 2029
219	19%	44%	67%
0	8%	18%	39%
-215	26%	43%	62%
-178	5%	12%	33%
397	22%	48%	73%
2473	18%	37%	44%

2015 to 2019 Cumulative (Includes building & site costs)	2020 to 2024 Cumulative (Includes building & site costs)	2025 to 2029 Cumulative (Includes building & site costs)
\$ 873,612	\$ 2,060,328	\$ 3,132,213
\$ 262,969	\$ 560,566	\$ 1,219,951
\$ 1,108,606	\$ 1,883,480	\$ 2,926,879
\$ 151,150	\$ 327,295	\$ 914,577
\$ 1,002,154	\$ 2,205,969	\$ 3,234,735
\$ 3,447,256	\$ 6,964,453	\$ 8,409,835

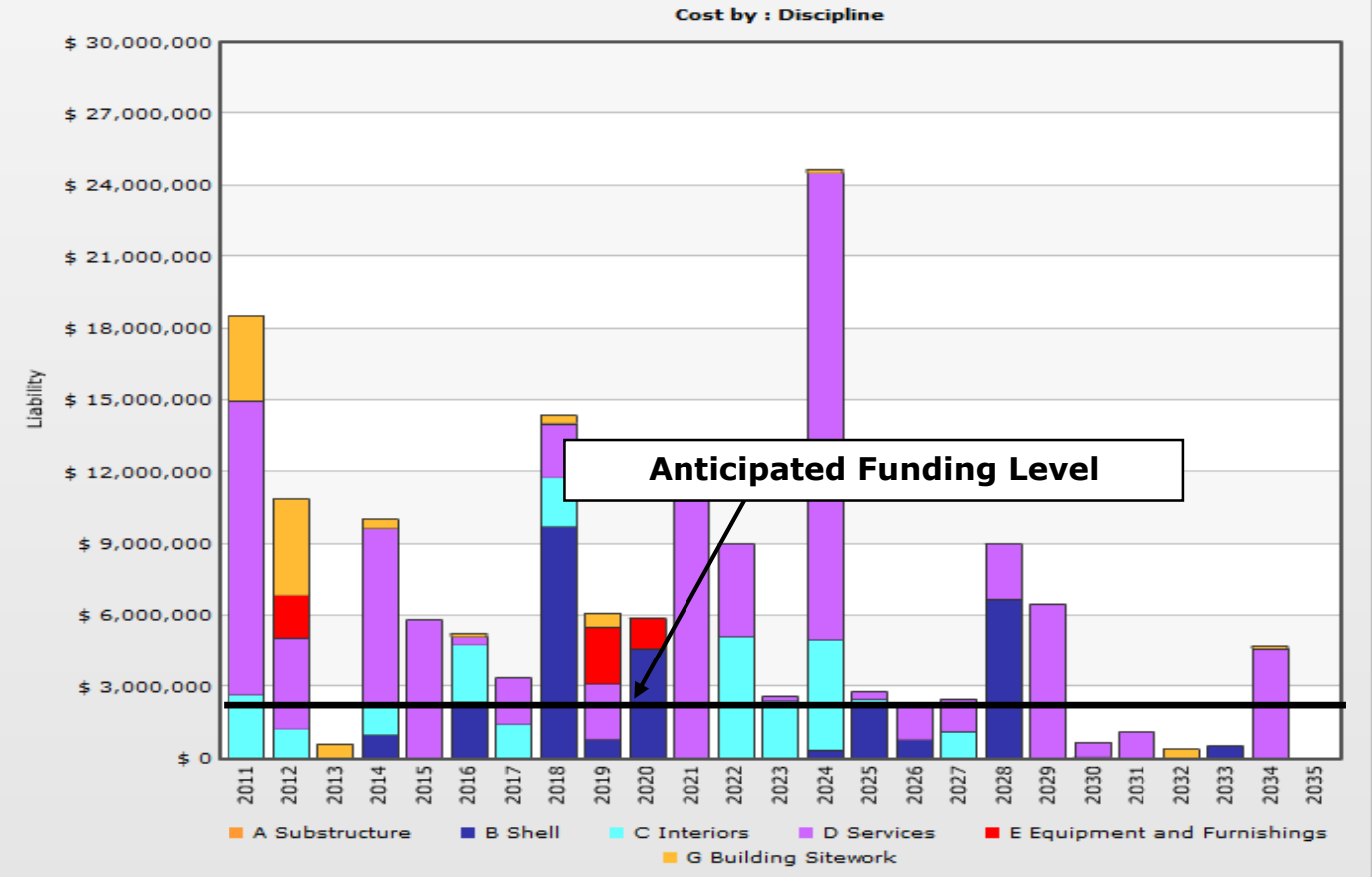
Area 1 Campus Area 1			
Building	Fcn	OTG	% Utilization
Building A	Fcn A	273	97%
Building B	Fcn A	167	71%
Building C	Fcn B	219	78%
Building D	Fcn B	135	96%
Building E	Fcn C	201	66%
Building F	Fcn D	421	46%

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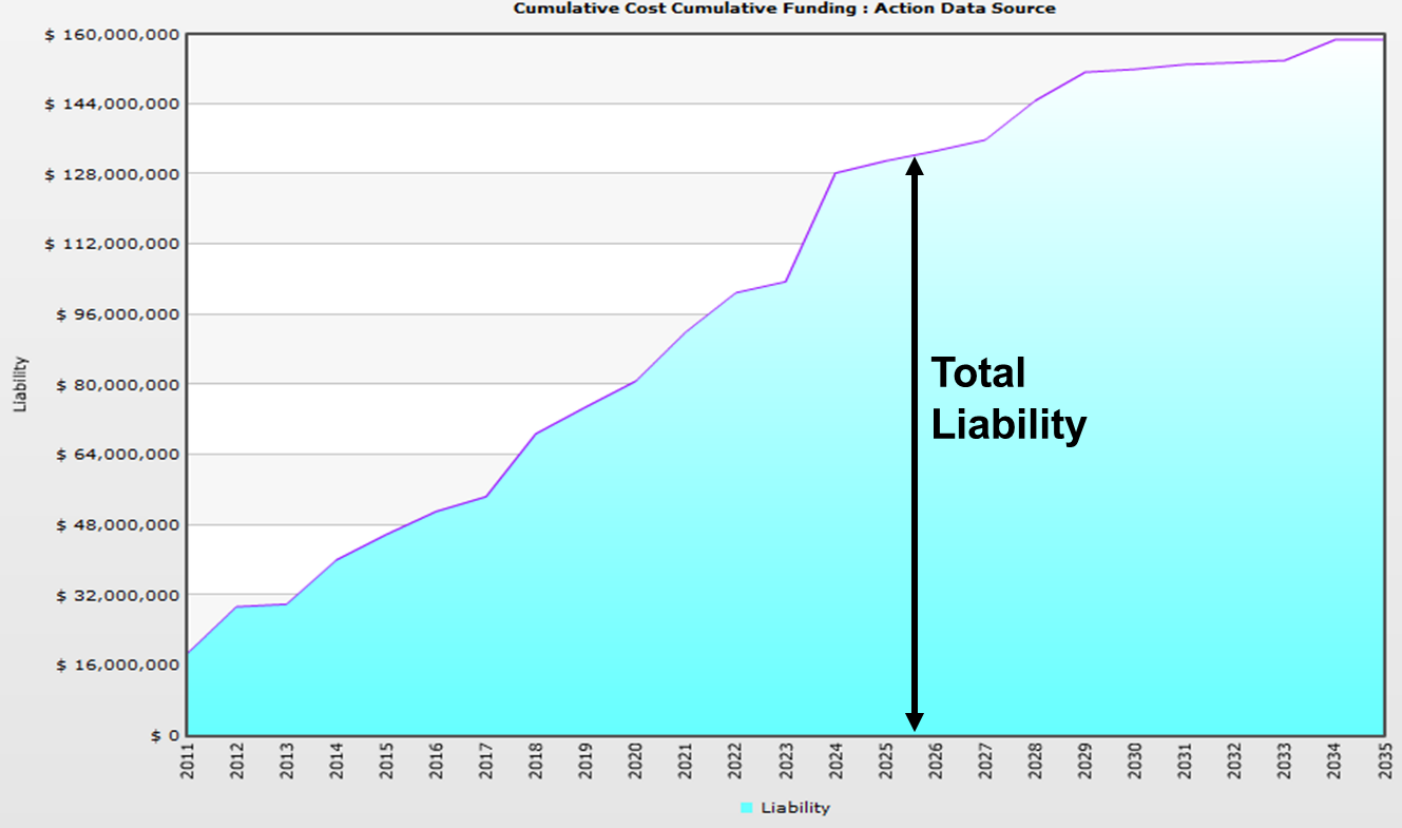
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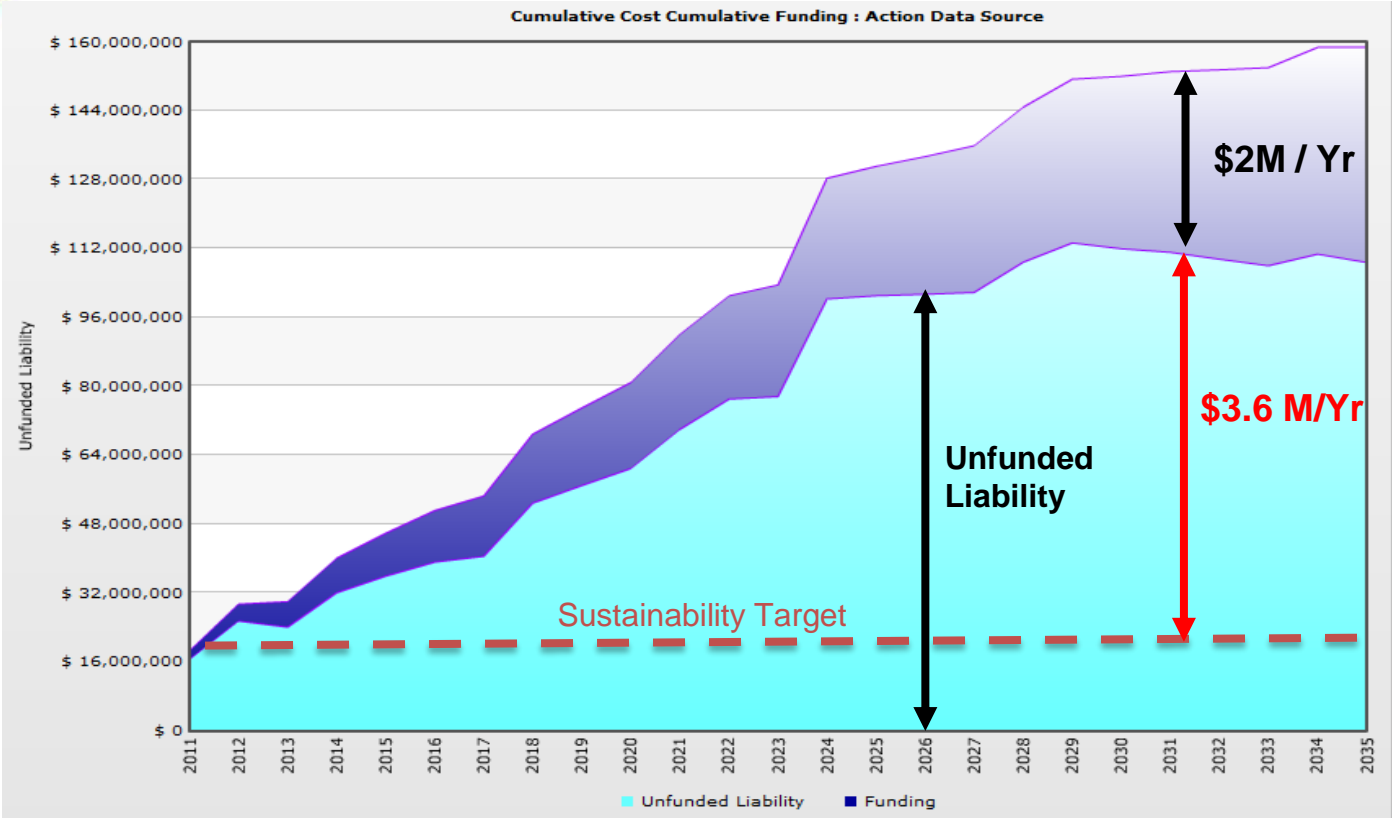
# Projected Capital Needs



# Projected Total Liability



# Unfunded Liability





# Capital Creation Strategies™

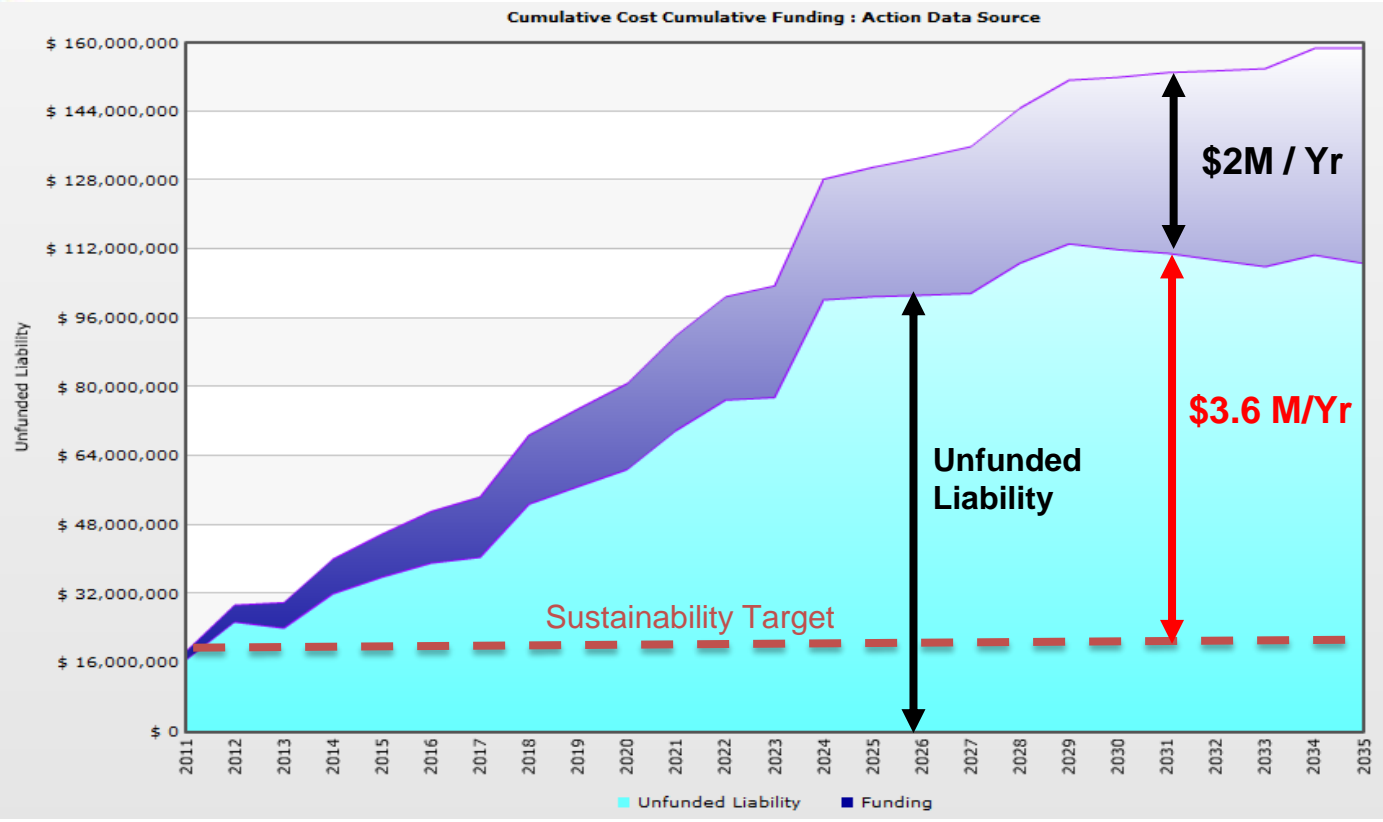


## Leveraged and Bundled Capital Creation Strategies™:

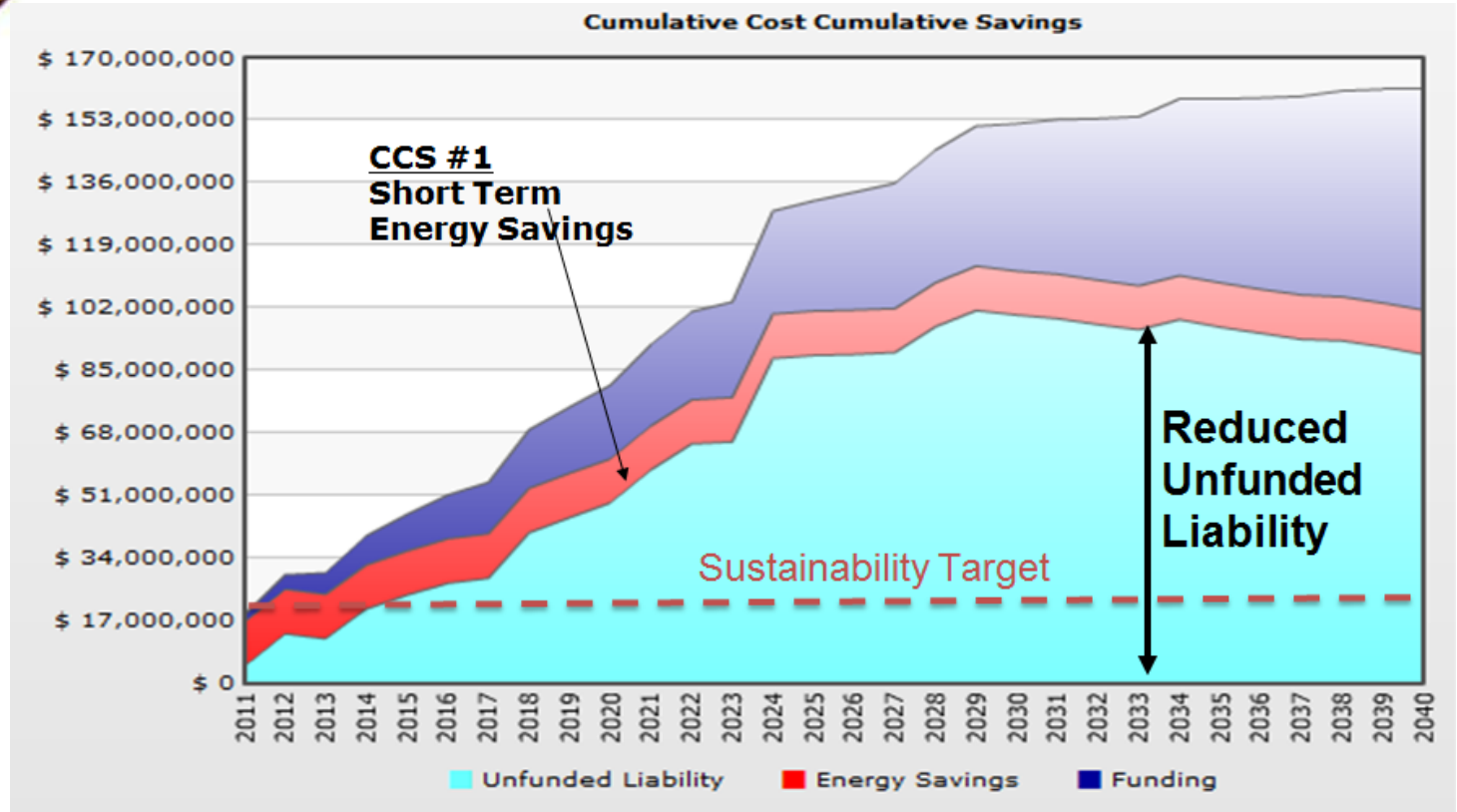
- ✓ Energy Conservation
- ✓ Deep Retrofits
- ✓ Renewable Solutions
- ✓ Maintenance Optimization
- ✓ Consolidation Strategies
- ✓ Redevelopment Strategies:



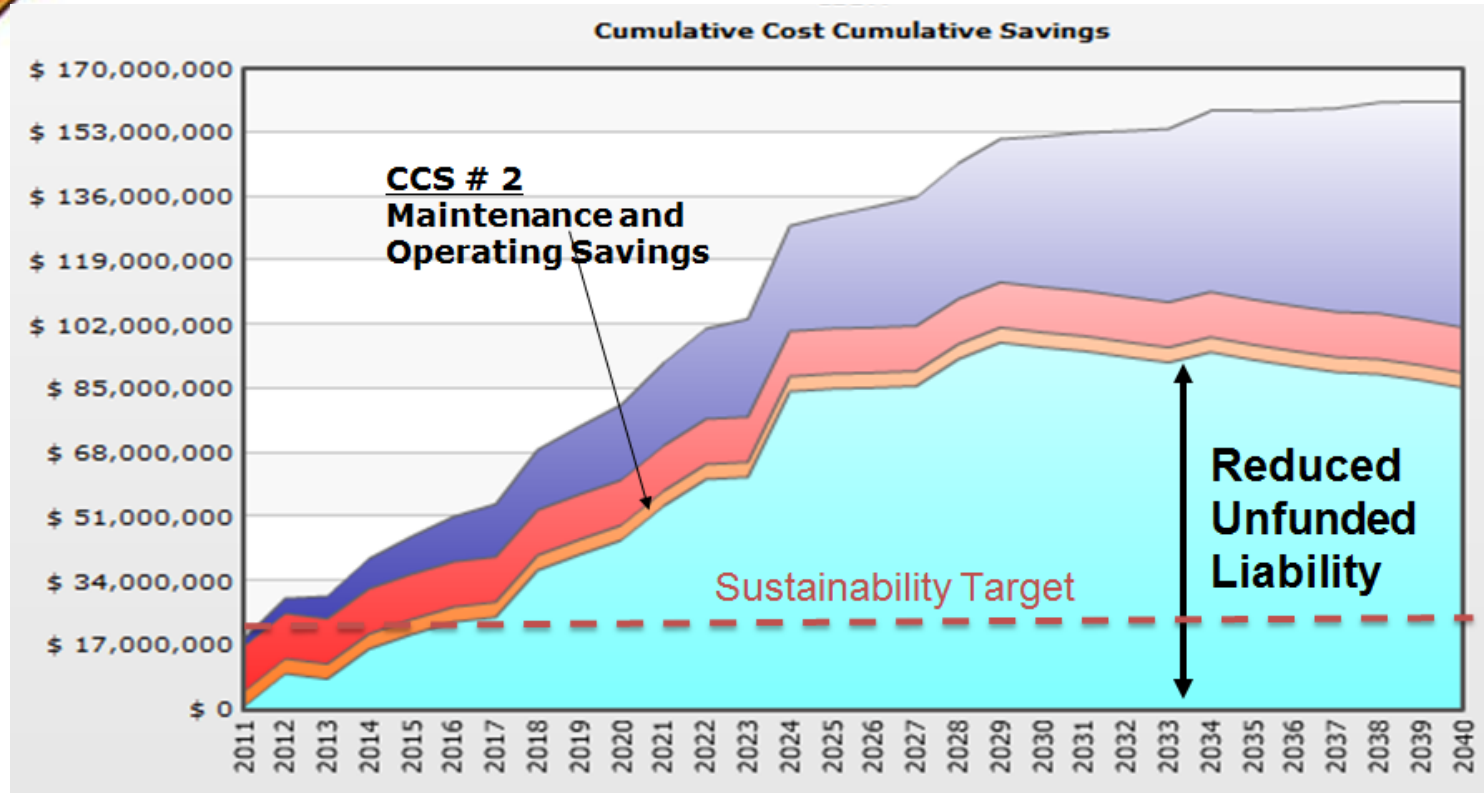
# Unfunded Liability



# Capital Creation Strategy

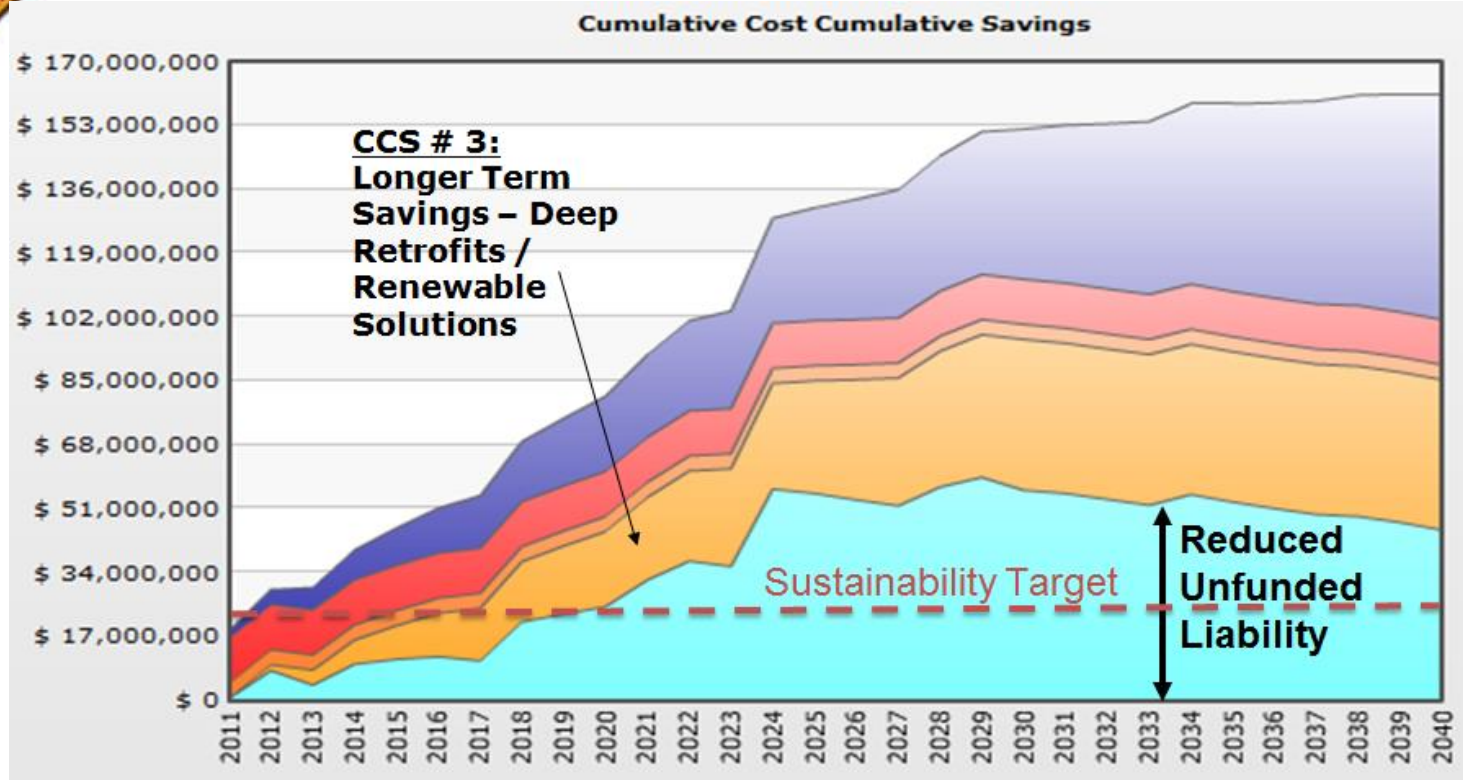


# Capital Creation Strategy

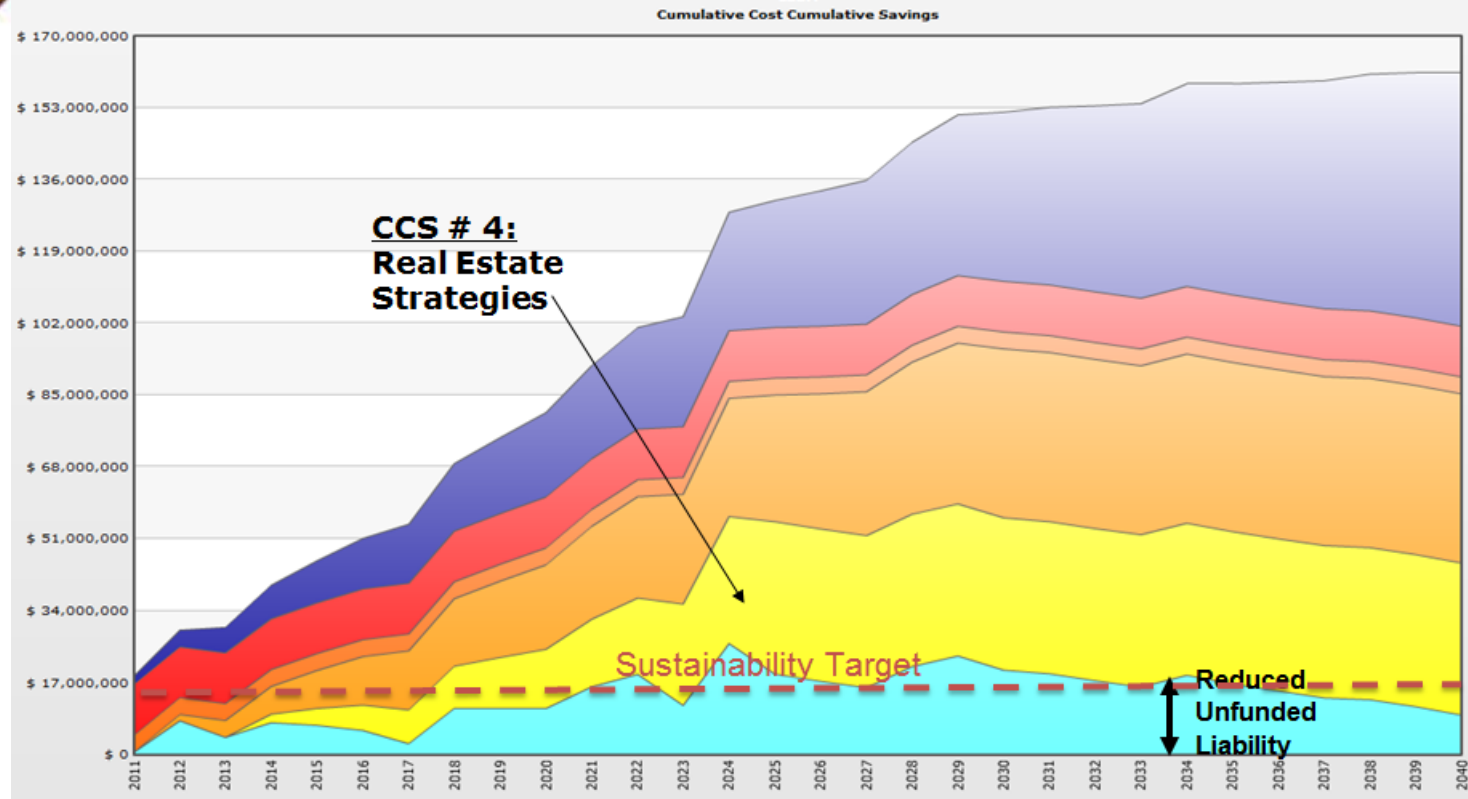




# Capital Creation Strategy



# Capital Creation Strategy





# THANK YOU!

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