

High Rise / Low Carbon Series: Financing Deep Retrofits

Future proofing buildings from anticipated regulations—from carbon emissions to human health—requires longer term thinking and innovative financing models. Join NYSERDA and the Building Energy Exchange for the next event in our Empire Building Challenge educational series, High Rise / Low Carbon, focusing on long term capital planning and financing deep retrofit work.

Opening Remarks

Greg Hale, Senior Advisor for Energy Efficiency Markets, NYSERDA

Moderator

Sadie McKeown, President, Community Preservation Corporation (CPC)

Speakers

Lane Burt, Managing Principal, Ember Strategies

Grayson Hoffmann, Investment Manager, Norges Bank Investment Management

Erangi Dias, Director of Business Development, NYCEEC

David Davenport, Managing Director, NY Green Bank

Closing Remarks

Sophie Cardona, Senior Project Manager, NYSERDA

May 4, 2022 | 9 to 10:30 am | 1.5 AIA LU
Building Energy Exchange | be-exchange.org



NYSERDA

**be
ex**

building
energy
exchange

Finding the Right Decarb Pathway; The Strategic Decarbonization Assessment (SDA)

Lane Burt, P.E., Ember Strategies

LBurt@EmberStrategies.com

May 2022

EMBER STRATEGIES

START A NEW FIRE.

How's Decarb Going to Go?

- The real estate industry will manage decarb just like it manages everything else.
- **There is a cost of inaction. It is not zero.**
- There is good decarb and **bad decarb**.
- **Marginal cost**, not total cost.

Every Building Needs a Plan

- **Don't decarbonize and then modernize.** Integrate repositioning, amenities, regulatory compliance, etc into the decarb plan.
- Planning is crucial to **avoid missed opportunities** and expensive pitfalls.
- The **art is in the phasing** - the make ready work & floor by floor execution.

Proactive implementation will be more cost effective than reactive decisions made under duress.

What’s wrong with energy audits? Nothing, but we need the right tool for this job.

Distinction	ASHRAE Standard 211; Level 2 Audit	Strategic Decarbonization Assessment
Question answered:	How can this building perform better, today ?	How should we re-engineer this building to perform in the future ?
Financial significance	Small	Big
Primary audience	Facilities/Ops, Engineering	Asset Management
Time horizon	Short ; payback constrained	Long ; full capital cycle, 10+ yrs
Downside avoided	Wasted utility spend	Stranded asset, degraded value/NOI, increased CapEx/TCO

The Strategic Decarbonization Assessment (SDA)

The SDA is a tool to help users **develop and communicate a good decarb plan**.

It supports **comparison** of decarb plan directions (qualitative decarb planning) and **quantification** of the decarb plan.

It compares the cost of the plan to a **reactive baseline** (cost of inaction) in the **future you anticipate** (variable assumptions & scenarios).

EMBER STRATEGIES

START A NEW FIRE.

In Jargon:

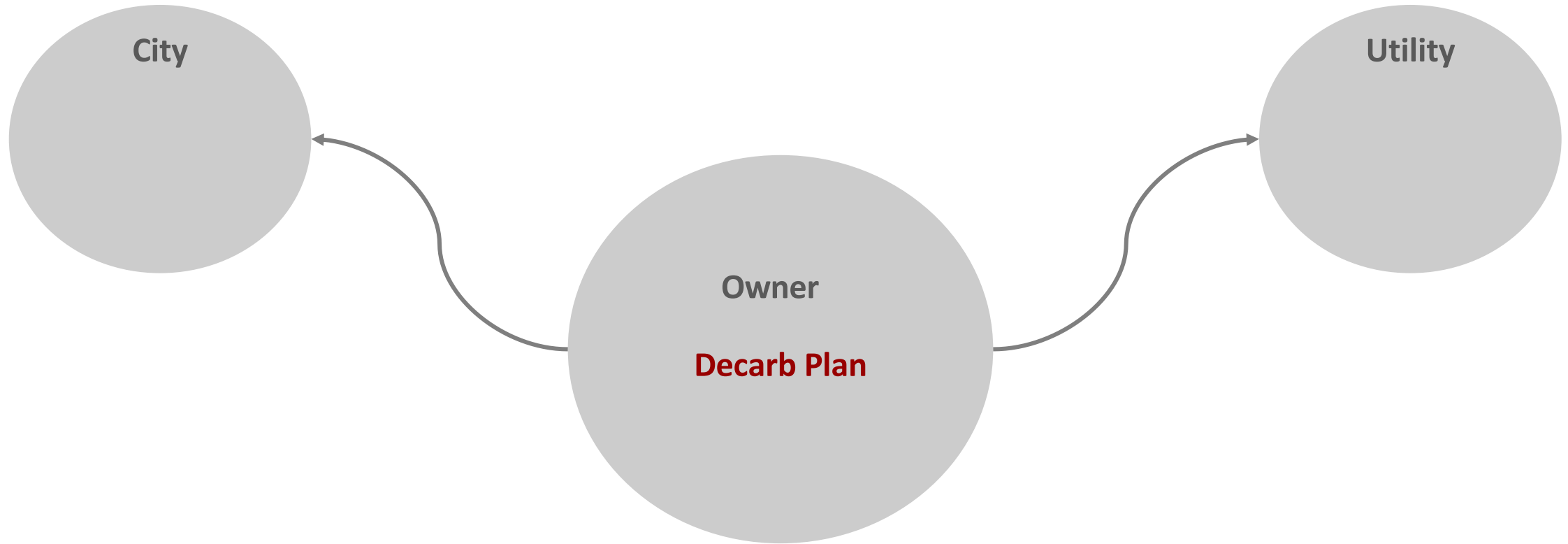
- An energy audit (ASHRAE Standard 211)
 - + A partial Property Condition Assessment (PCA)
 - + A discounted cash-flow (DCF) analysis of different investment scenarios
-

The Strategic Decarbonization Assessment

Core Concepts:

- CapEx and OpEx
- Discount & escalation rates
- Net Present Value (NPV) and Net Present Cost (NPC)
- Sensitivity and Options
- ECMs/EEMs, fines, offsets, EUIs and carbon intensities

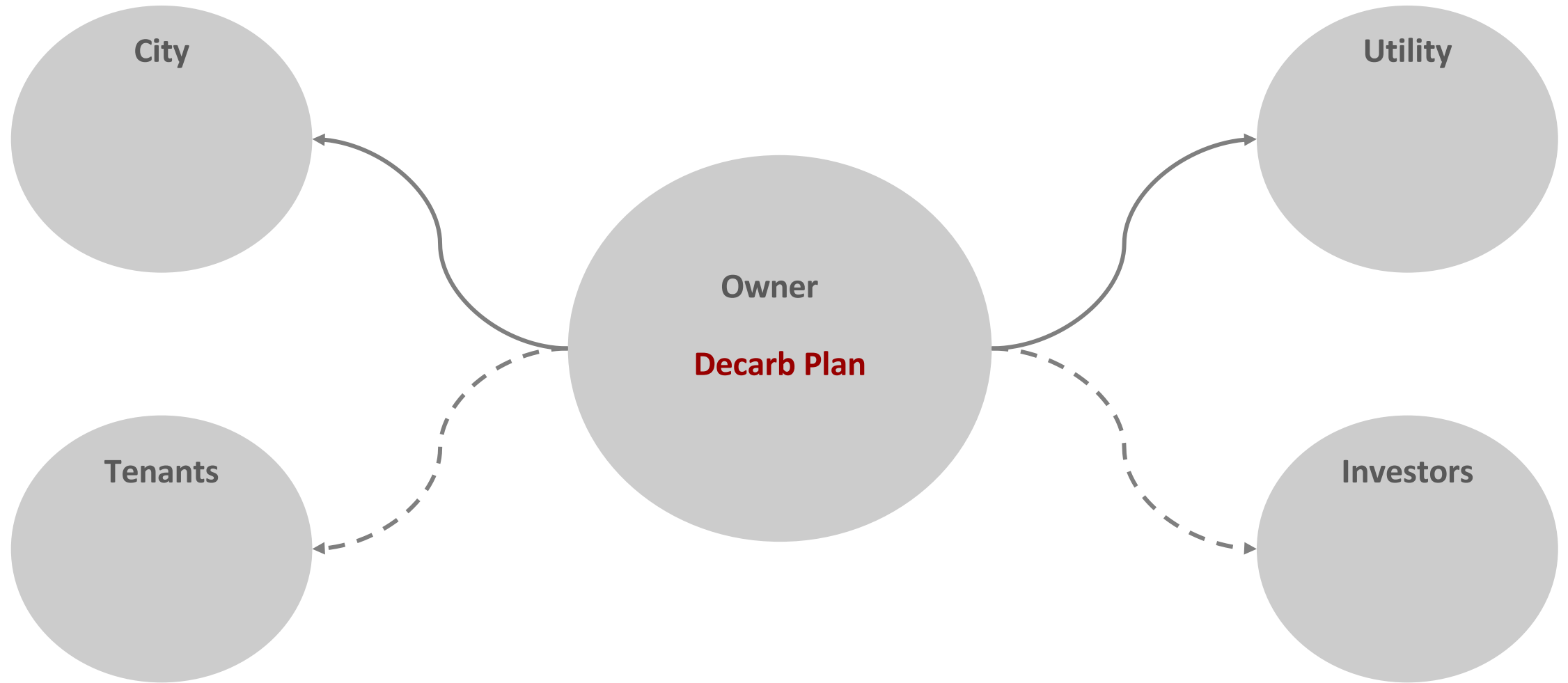
The SDA: Develop and Communicate the Plan



EMBER STRATEGIES

START A NEW FIRE.

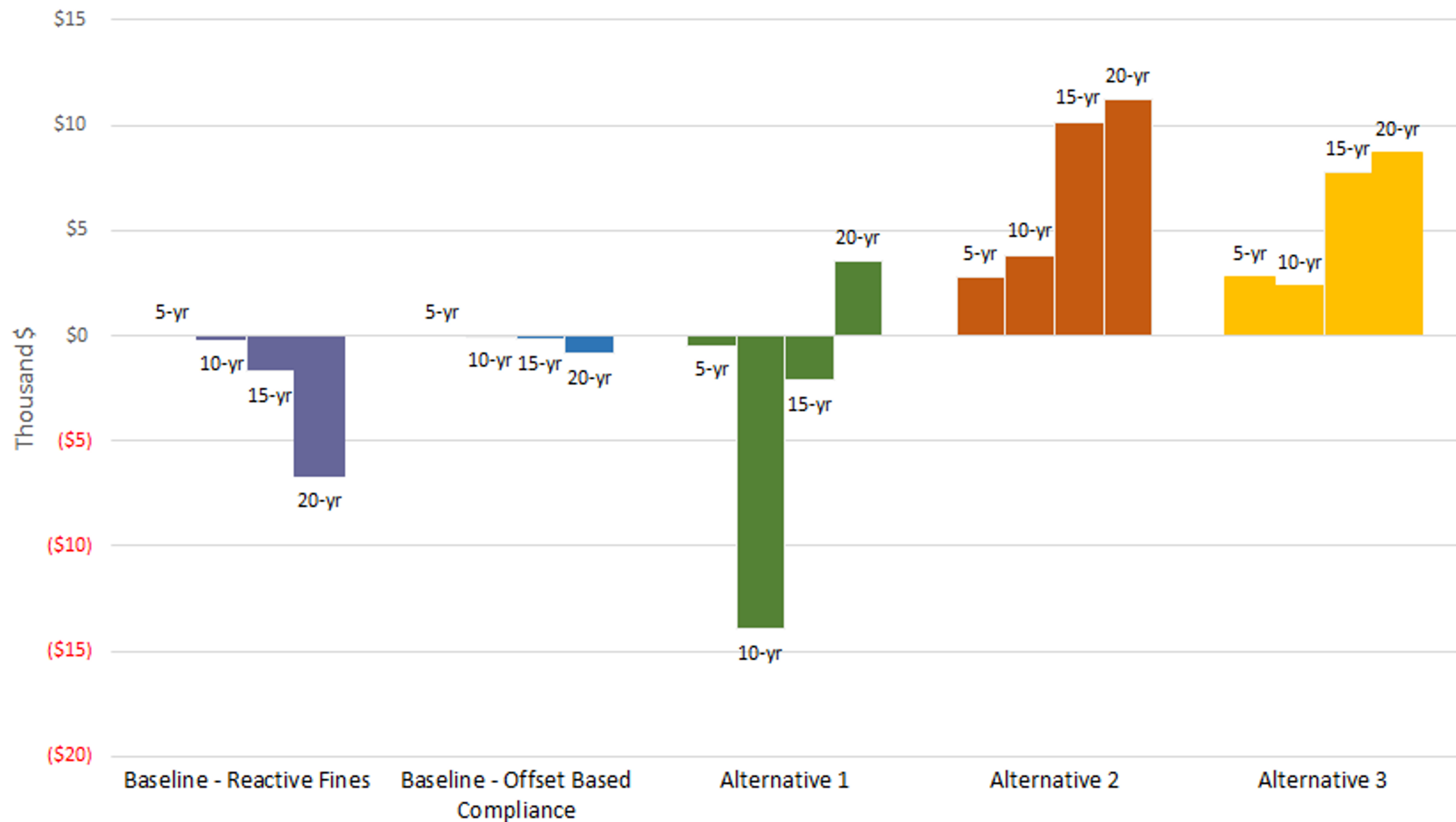
The SDA: Develop and Communicate the Plan



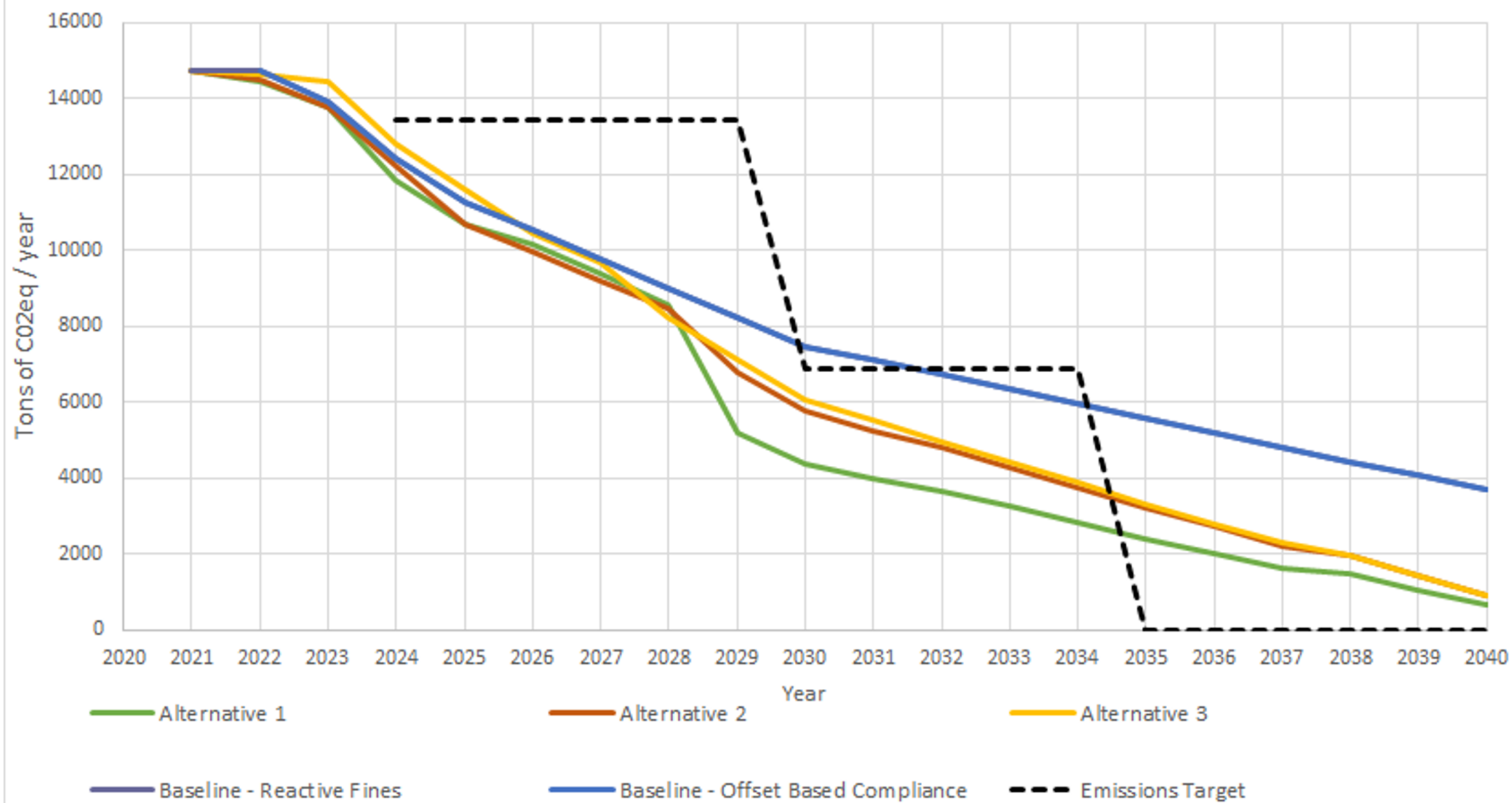
EMBER STRATEGIES

START A NEW FIRE.

Total Relative NPV Compared to Baseline - Varying Time Horizons



Carbon Emissions Per Year (Before Offsets)



For more info on EBC and the SDA

→ See the NYSERDA EBC Knowledge Base and updates on Cohort #2

The SDA team is:

Lane Burt, Ember Strategies,

→ Lburt@emberstrategies.com

Elizabeth Joyce, Arup

→ Elizabeth.joyce@arup.com

Brendan Owens, Blackvest Strategy,

→ Brendan@blackveststrategy.com

Raphael Sperry, Arup

→ Raphael.sperry@arup.com

EMBER STRATEGIES

START A NEW FIRE.

LBURT@EMBERSTRATEGIES.COM





discuss.

send questions via Zoom Q+A

Moderator:

Sadie McKeown, President, Community Preservation Corporation (CPC)

Panelists:

Lane Burt, Managing Principal, Ember Strategies

Grayson Hoffmann, Investment Manager, Norges Bank Investment Management

Erangi Dias, Director of Business Development, NYCEEC

David Davenport, Managing Director, NY Green Bank

thank you.



NYSERDA

**be
ex**

building
energy
exchange