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

Lane Burt, P.E., Ember Strategies
LBurt@EmberStrategies.com

May 2022
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.

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

City  →  Owner  ←  Utility

Owner

Decarb Plan
The SDA: Develop and Communicate the Plan

- City
- Utility
- Tenants
- Investors
- Owner
- Decarb Plan
For more info on EBC and the SDA

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

The SDA team is:

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discuss.
send questions via Zoom Q+A

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thank you.