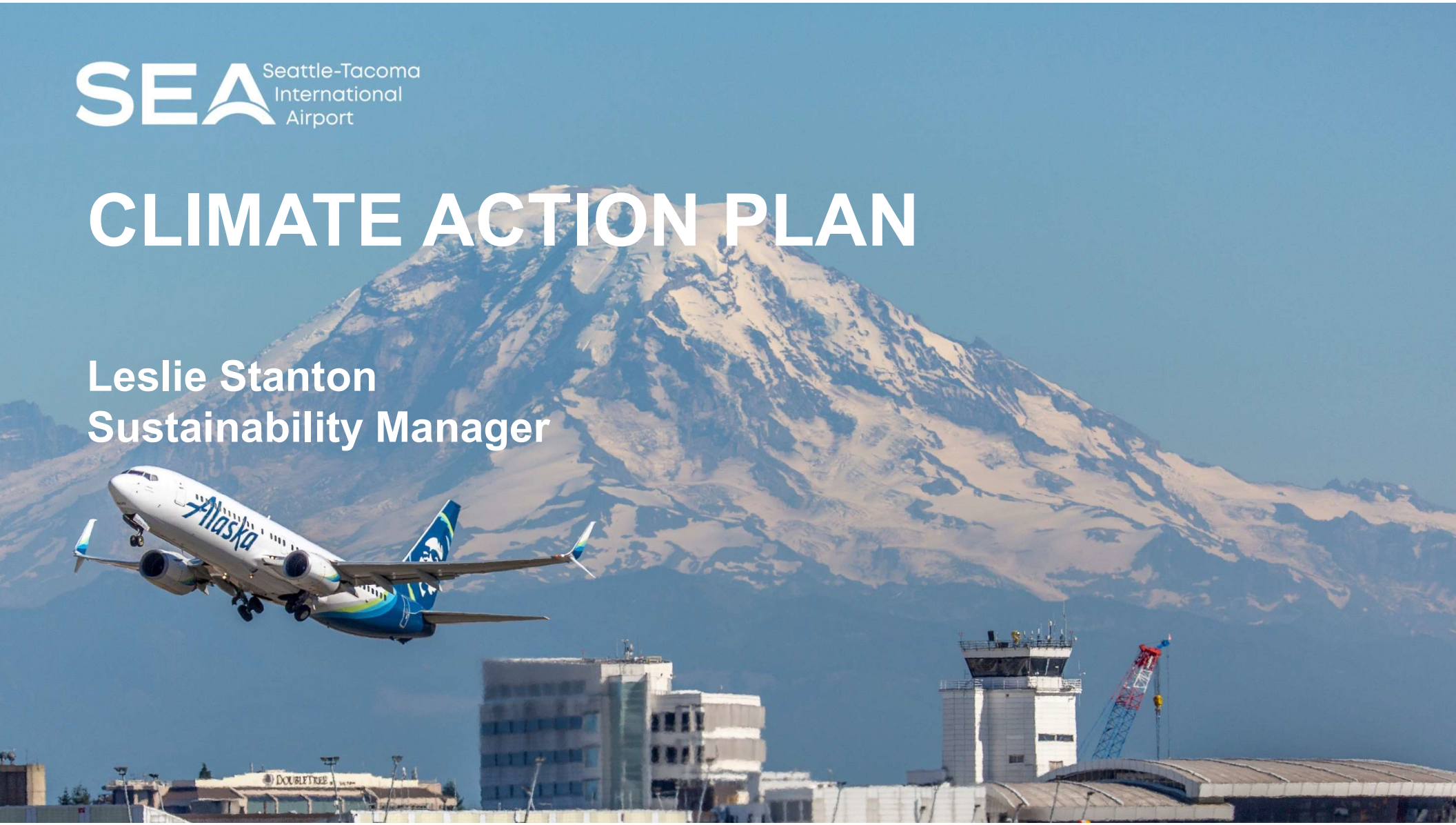
SEA Seattle-Tacoma International Airport

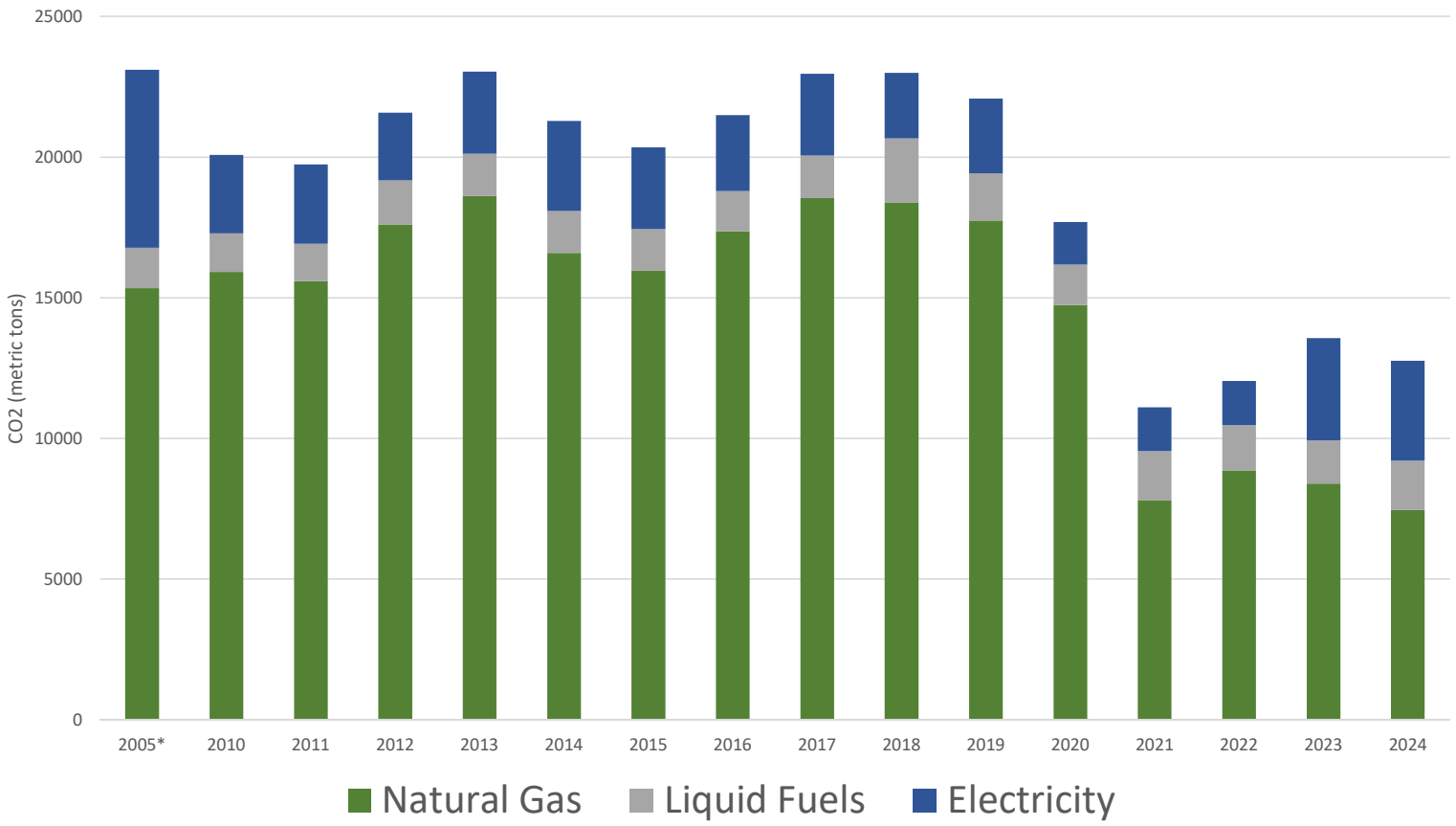
CLIMATE ACTION PLAN

Leslie Stanton
Sustainability Manager

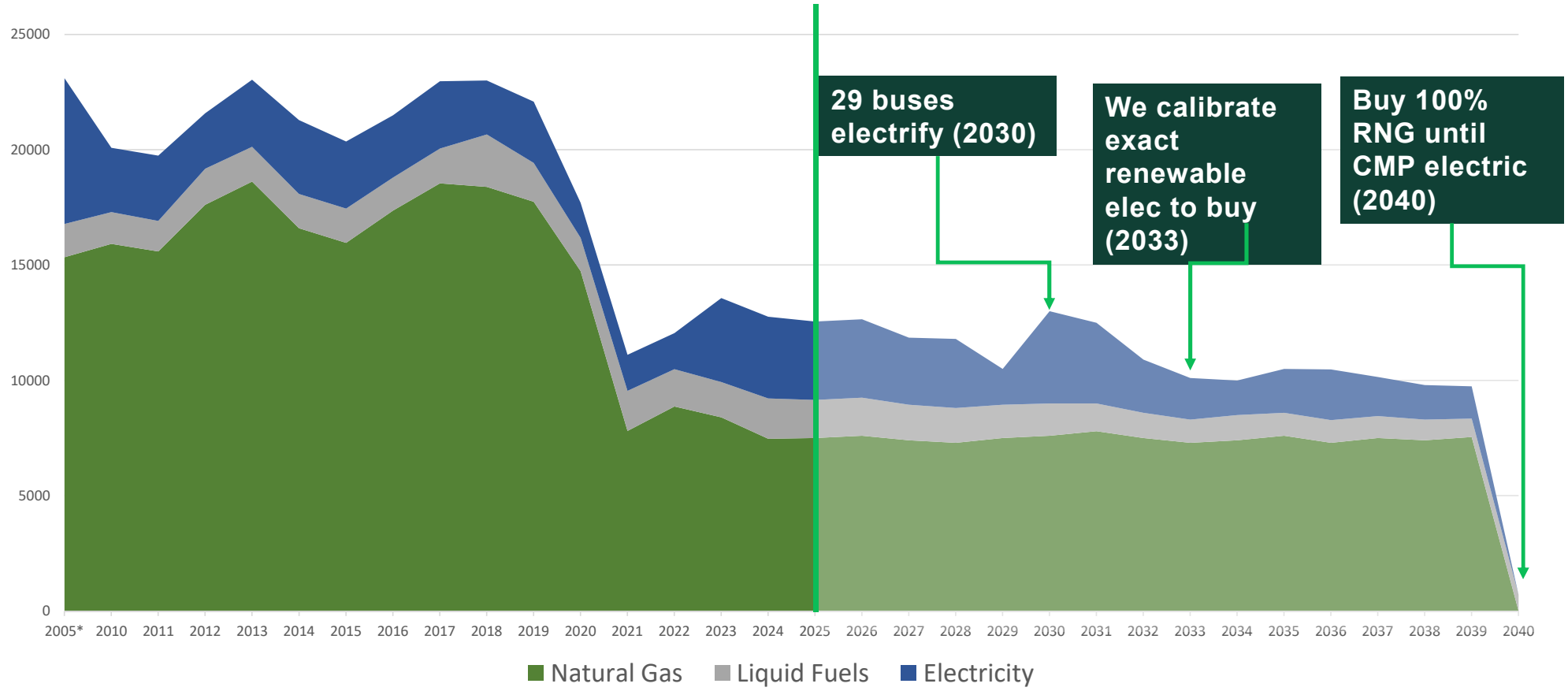


Scope 1 & 2 Emissions

SEA-controlled emissions (scope 1 & 2)



Pathway to Net Zero 2040



Big Lifts – Scope 1 & 2

Electrification
Central Mechanical Plant – switch to electric (exact technology TBD) by approx. 2040*
Smaller Buildings – electrify boilers where opportunities present in SEF or renew/replace
Fleet – replace 29 CNG buses in 2030, continue to electrify other vehicles as fleet renewal allows & build EVSE
Generators – net-zero expanded capacity for new load
Procure renewable electricity or carbon removals where electricity not zero by 2040

Renewable Fuels
Central Mechanical Plant – use 50% RNG until 2039, then use 100% RNG in 2040 and until switch to all-electric occurs
Smaller Buildings – continue to buy 100% RNG until electrification opps present
Fleet – use renewable diesel in all diesel vehicles
Generators – use renewable diesel in existing generators

Efficiency
Terminal – implement efficiency measures identified in Energy Management Plan*
Smaller Buildings – implement efficiency measures identified in Energy Management Plan*
Fleet – right size

* Strategy included in Clean Buildings Performance Standard Compliance

Scope 3 Emissions

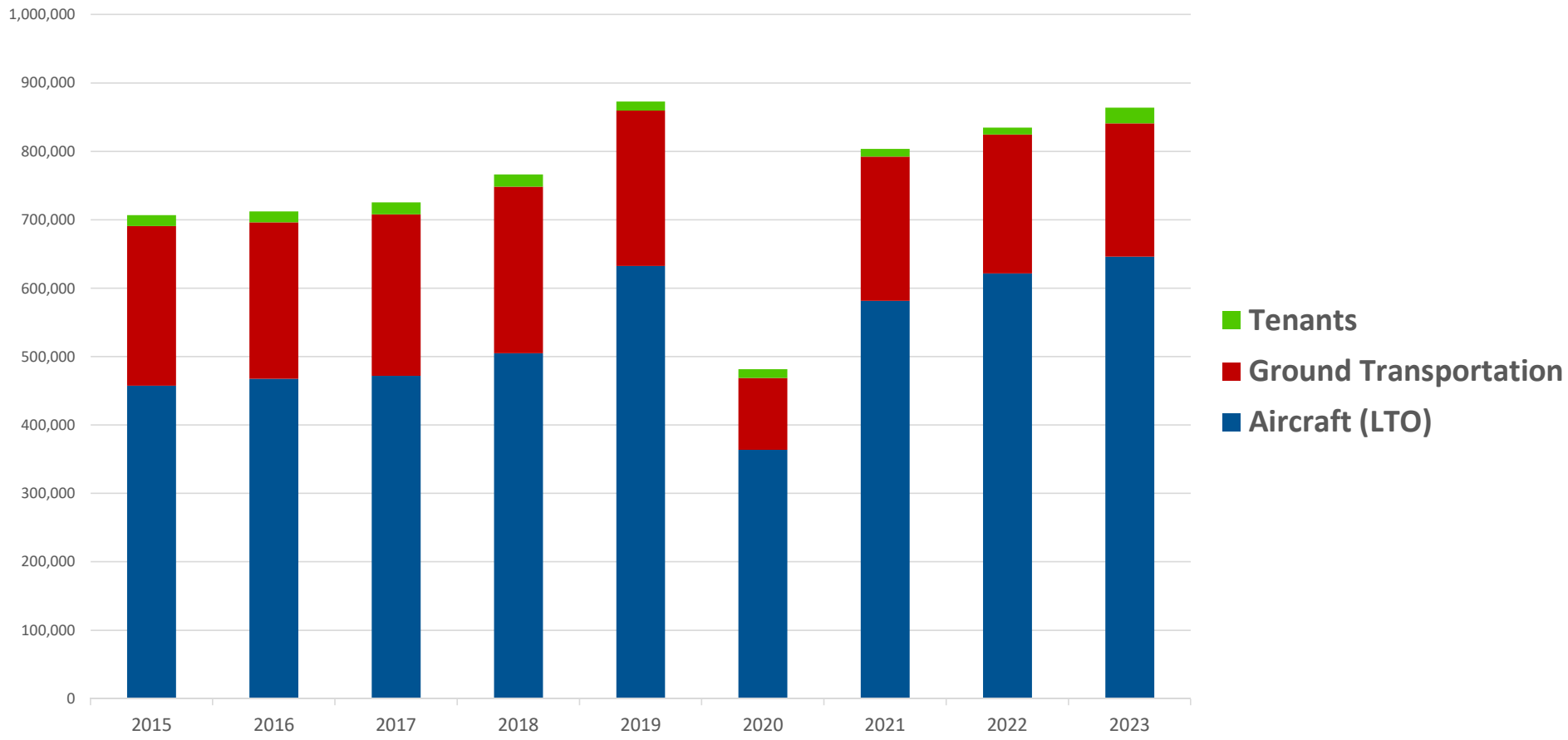
Scope 3 Emissions

Aircraft & Airfield

Ground Transportation

Tenants

Scope 3 SEA Emissions



Big Lifts – Aircraft / Airfield Emissions

Electrification
GSE – build out max PosiCharge infrastructure needed. Develop net-zero GSE policy.
GSE – build out mobile PCA, mobile 400 Hz for hardstand & cargo
Airfield Vehicles – create more incentives, programs to electrify
Cobuses – electrify & provide EVSE
Charging Infrastructure – build out NACS/CCS EVSE for airfield fleet & buses
PCAir – optimize PCAP operations and rebuild gate infrastructure to new specs

Renewable Fuels
SAF – solve pipeline integration infrastructure problem
SAF – policy support at state & federal levels
SAF – airport programs to increase production/use
Renewable Diesel in GSE & airfield vehicles not capable of electrifying (via GSE policy)

Efficiency
Aircraft Taxiing/Hold – reduce hold and taxi times via SAMS initiatives
APU Regulation - monitoring and enforcement
Airfield Vehicles – examine option for consolidated distribution center

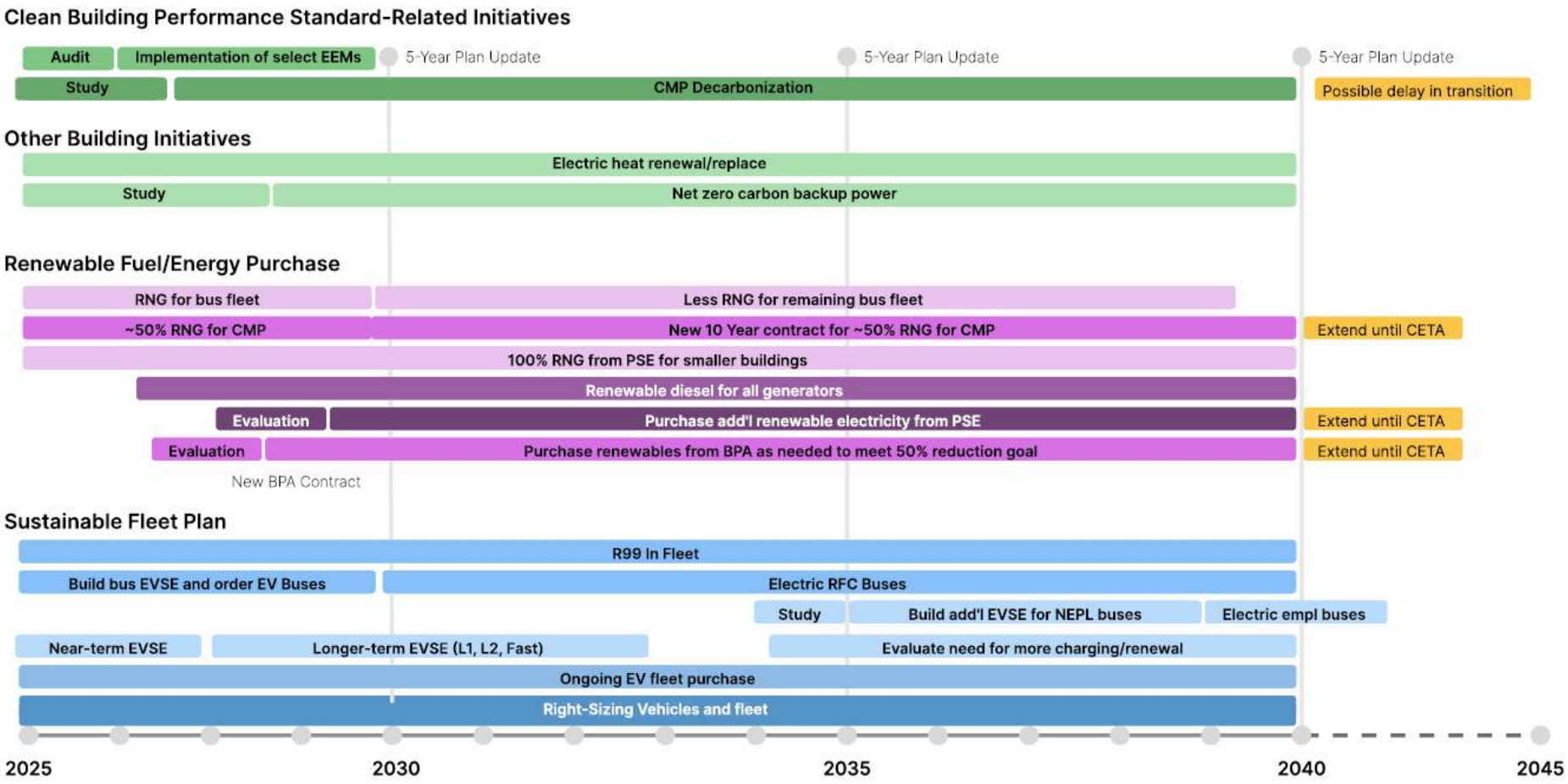
Big Lifts – Ground Transportation

Electrification
TNCs – provide contract incentives & EVSE
Taxis & Limos – provide contract incentives & EVSE
Parking & Hotel Shuttles – pursue policy, contract & EVSE levers
Airporters – pursue policy, contract & EVSE levers
Charter buses & vans – pursue policy, contract & EVSE levers
Rental Cars – ensure sufficient EVSE, incentives
Parking Garage – ensure sufficient EVSE, incentives

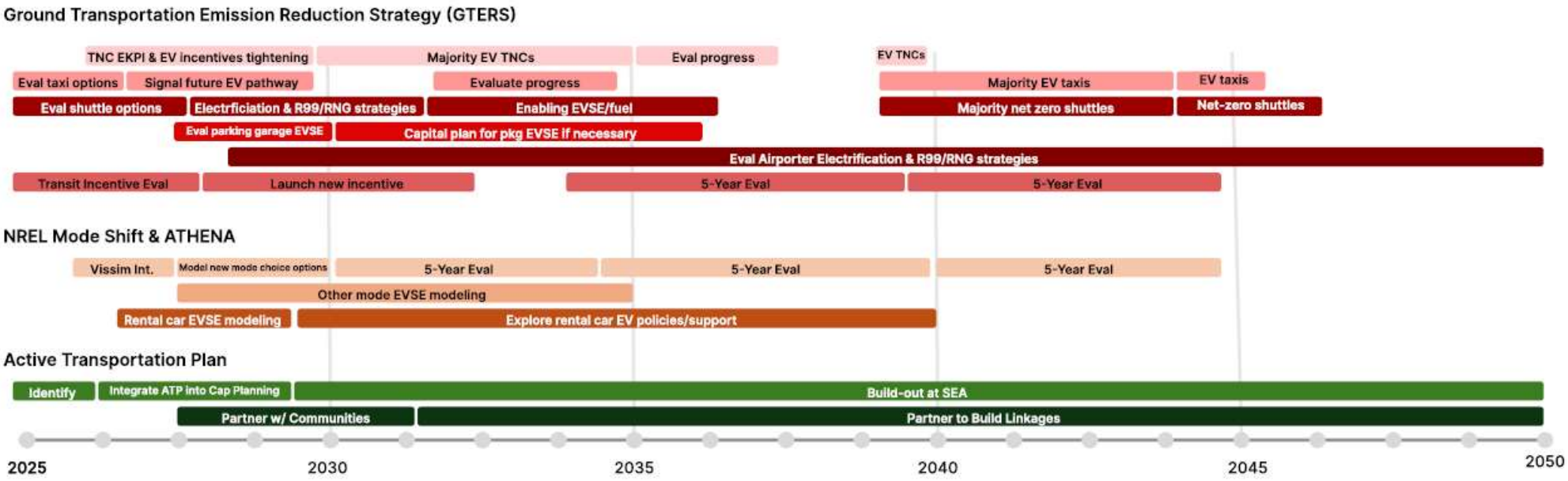
Renewable Fuels
Renewable Diesel – pursue policy, contract & fuel availability levers for hard-to-electrify modes
Parking & Hotel Shuttles - renewable propane & RNG options for converted
Airporters – renewable propane and RNG options for converted vehicles

Efficiency
TNCs – EKPI and rematch
Taxis – improve deadhead issues where possible
Shuttles & Airporters – reduce empty miles where possible
Mode shift – pursue policies to shift passengers to env-friendlier modes
Transit incentives – QR codes, incentives to promote
Active Transportation (more so for tenant commute) – ensure active modes supported, sufficient infrastructure

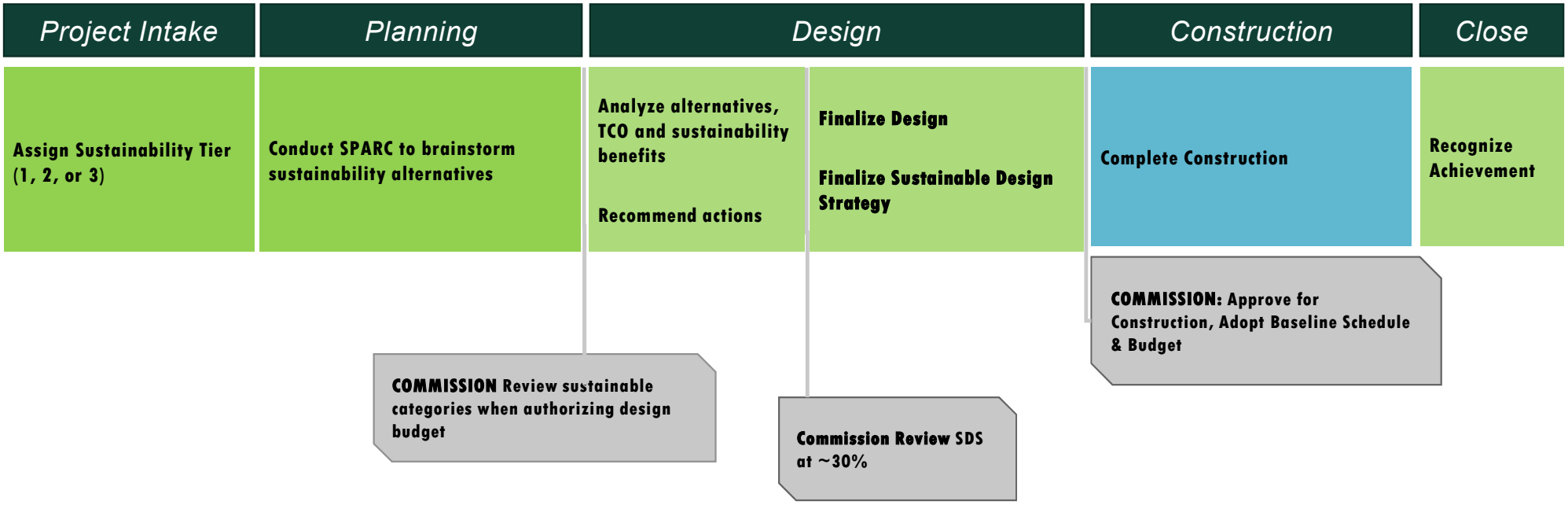
Implementation timeline – Scope 1 & 2 actions



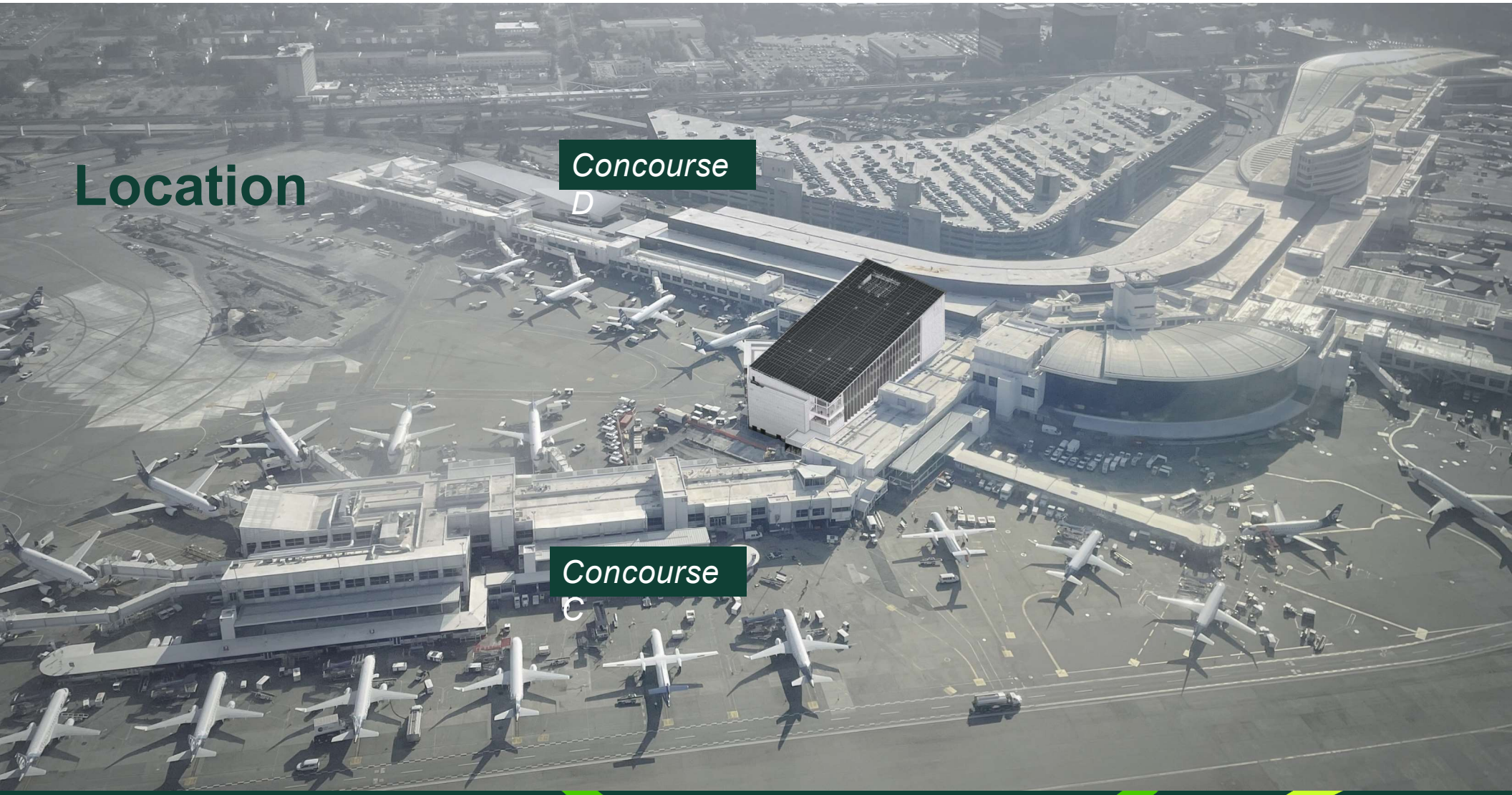
Implementation timeline – Ground Transportation



SEA Construction:
Sustainable Evaluation Framework



Location



C1 Building Expansion: Concept

Project Overview & Sustainability Impacts

Total Project Budget: ~$400M

Increase conditioned space by 145,000 square feet

- Energy increases by 21,000 MMBTU/year
- Carbon increases by 620 tons/year
- Solid waste increases by 488 tons/year
- Increases transportation demand for employees
- No adverse impacts on equity but opportunities to support tenant employees

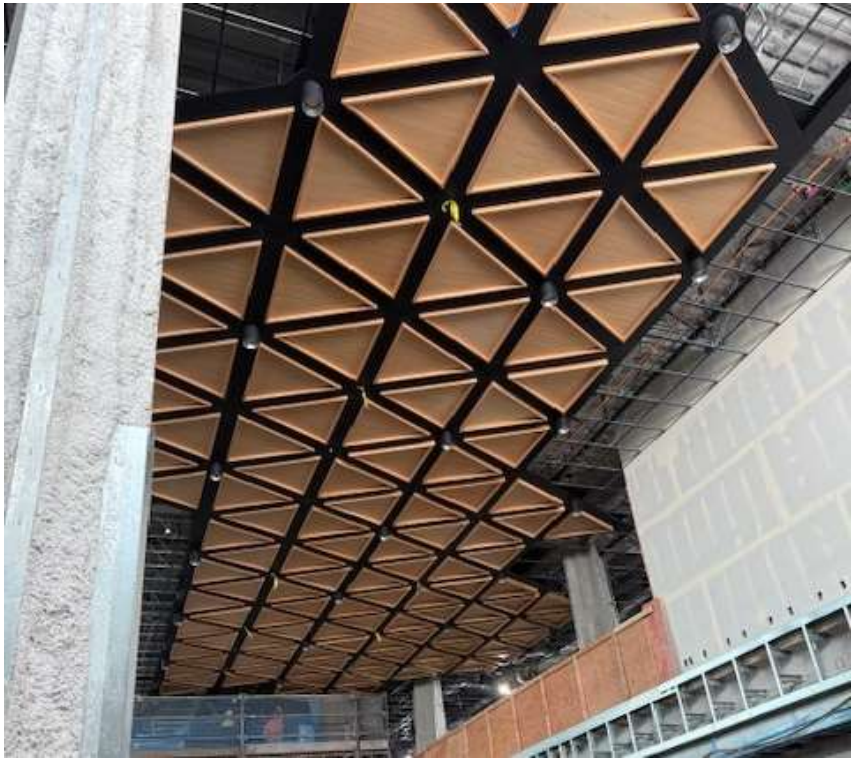
Sustainability Strategies

- Evaluated 34 strategies
  - Identified first cost and total cost of ownership (TCO)
  - Stakeholders: Maintenance, Facilities and Infrastructure (F&I), and Commercial Management
  - Compare to Port standards for baseline
- Staff recommend top 8 strategies
  - Reduce carbon 90% and energy 47%
  - Employee breakroom, signage for transportation, food donation bin, and low flow fixtures
  - Total first cost is $11M and TCO $15M

Carbon, Energy, Resiliency, Risk, and Cost

Option	Total Cost ($M)	Carbon Reduced	Energy Reduced	Resiliency/ Redundancy	Operational Risk
DOAS with active chilled beams	3				
Electric tenant hot water heater	-0.5				
Electric tenant equipment	0.2				
Fossil-fuel-free ready heating	0.3				
Photovoltaic-ready roof	1				
Rooftop photovoltaics	4				
Heat pumps (electric)	6				
TOTAL	**$15M ($11M)**	**610 (~100%)**	**11,700 (56%)**		

Wood Ceiling



Performance Stairs, Escalator, and High Bay Ceiling