



ENERGY PERFORMANCE CONTRACTING IMPLEMENTATION SERVICES

MAY 11, 2022

SCOTT MORRISSEY
SENIOR VICE PRESIDENT, SUSTAINABILITY





100 MILLION ANNUAL PASSENGERS

- SUSTAINABILITY & RESILIENCY • EQUITY, DIVERSITY & INCLUSION
- CONTINUOUS STAKEHOLDER INPUT/FEEDBACK • ENHANCING THE CUSTOMER EXPERIENCE

PILLAR 1



**POWERING
OUR PEOPLE**

PILLAR 2



**GROWING OUR
INFRASTRUCTURE**

PILLAR 3



**MAINTAINING
WHAT WE HAVE**

PILLAR 4



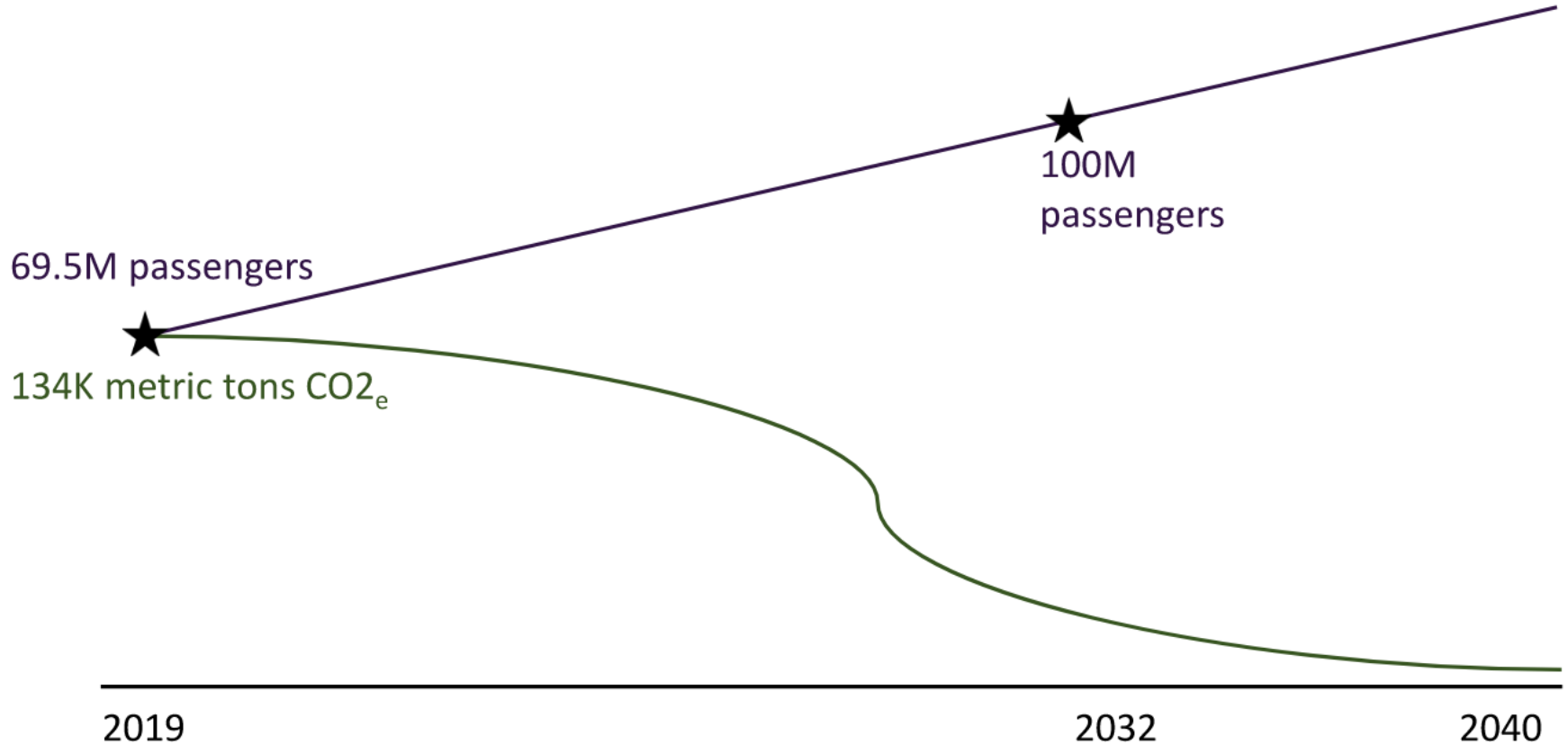
**EXPANDING OUR
GLOBAL CONNECTIONS**

REQUESTED COUNCIL ACTION



- Approve the Energy Performance Implementation Agreement with McKinstry Essention, LLC for \$83,016,250 and for 7 years.

DECOUPLING GROWTH FROM IMPACTS



DEN SUSTAINABILITY GOALS



Energy Usage

2017 Baseline: 1,094,707,000 kbtu

BASELINE

20% Reduction
Goal by 2025: 218,941,000 kbtu

GOAL

**Project
Reduction: 217,335,000 kbtu**

**99% of Goal
Achieved**

GHG Emissions

2017 Baseline: 157,000 metric tons

BASELINE

33% Reduction
Goal by 2027: 47,100 metric tons

GOAL

**Project
Reduction: 30,278 metric tons**

**64% of Goal
Achieved**

Water Usage

2017 Baseline: 442,000 kgal

BASELINE

35% Reduction
Goal by 2035: 154,700 kgal

GOAL

**Project
Reduction: 123,300 kgal**

**81% of Goal
Achieved**

- Energy Performance Contracting program is supported by the Colorado Energy Office to reduce the risks associated with deep energy and water efficiency improvements
- Comprehensive audit performed on over 8 million square feet of DEN facilities
- Audit identified over 60 possible savings opportunities that were reviewed and prioritized to seven measures by DEN
- 25,000 hours spent on the audit, with over 25 auditors and engineers
- Level of effort is necessary to ensure performance guarantee and maximum-price guarantee with no change orders



Lighting

- 38,100 LED lamp replacements, retrofits, and new fixtures

Water

- 932 toilet flush valve retrofits
- 285 urinal flush valve retrofits
- 715 flow restrictors on faucets
- 61 low flow showerheads

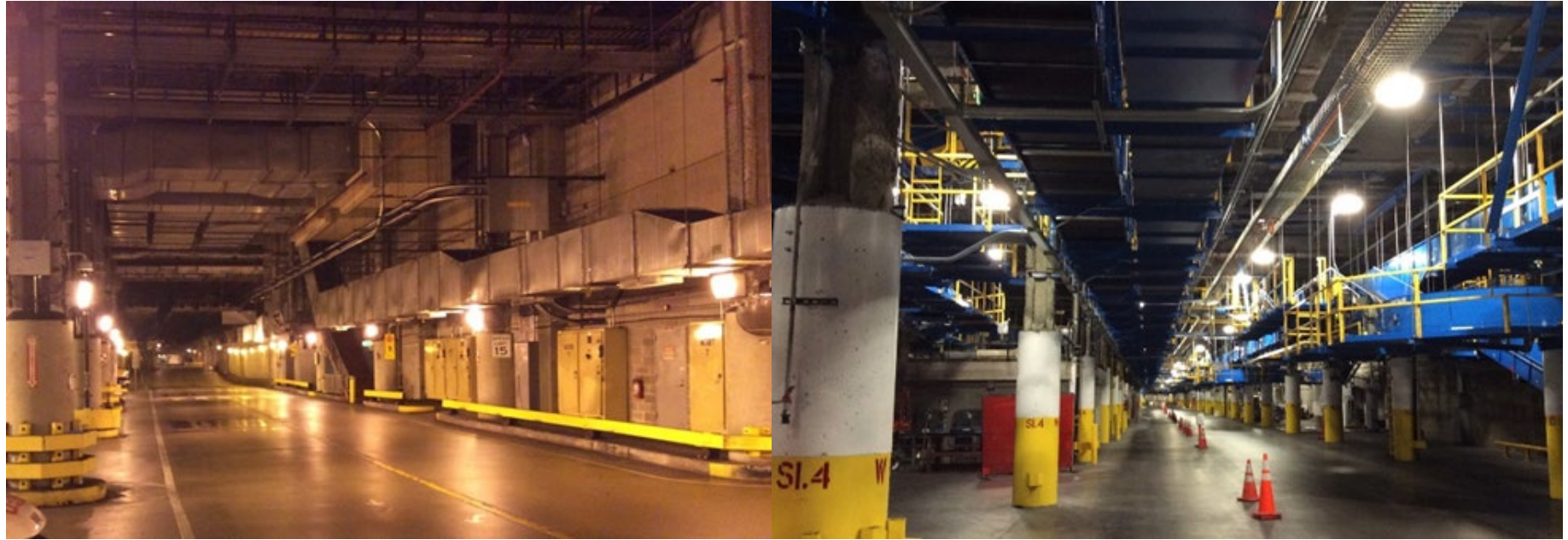
Energy Controls Management System

- Replace and optimize building controls system in Concourse A, Concourse C, Airport Office Building, and Terminal

Cooling Tower Sub-meter

- Reduces sewer charges by \$130,000 annually

LIGHTING BENEFITS



PROJECT SUMMARY



Energy Conservation Measure (ECM)	Total Cost
LED Lighting Retrofits	\$22,355,807
Domestic Water Upgrades	\$377,828
Cooling Tower Sub-meter	\$62,280
EMCS Controls Replacement & Optimization - AOB	\$57,238,055
EMCS Controls Replacement & Optimization - Concourse A	
EMCS Controls Replacement & Optimization - Concourse C	
EMCS Controls Replacement & Optimization - Terminal	
Add Stand-alone Units to EMCS	
Optimized Control of Basement MAUs	
Replace Wet Well Piping Under Central Utility Plant	\$303,127
Sky Spark Fault Detection System	\$156,000
Contingency	2,755,224
Mechanical Repairs	\$860,910
Utility Rebates	(\$1,524,064)
3 years Measurement & Verification	\$431,082
Grand Total	\$83,016,250
Construction Period Savings	\$6,467,596
Annual Utility Savings	\$3,677,421
Annual Maintenance Savings	\$714,679
Simple Payback	17 years

PROJECT OUTCOMES

19.6%

Energy Savings

28.3%

Water Reduction

30,278
metric tons

Annual CO_{2e}
Reduction

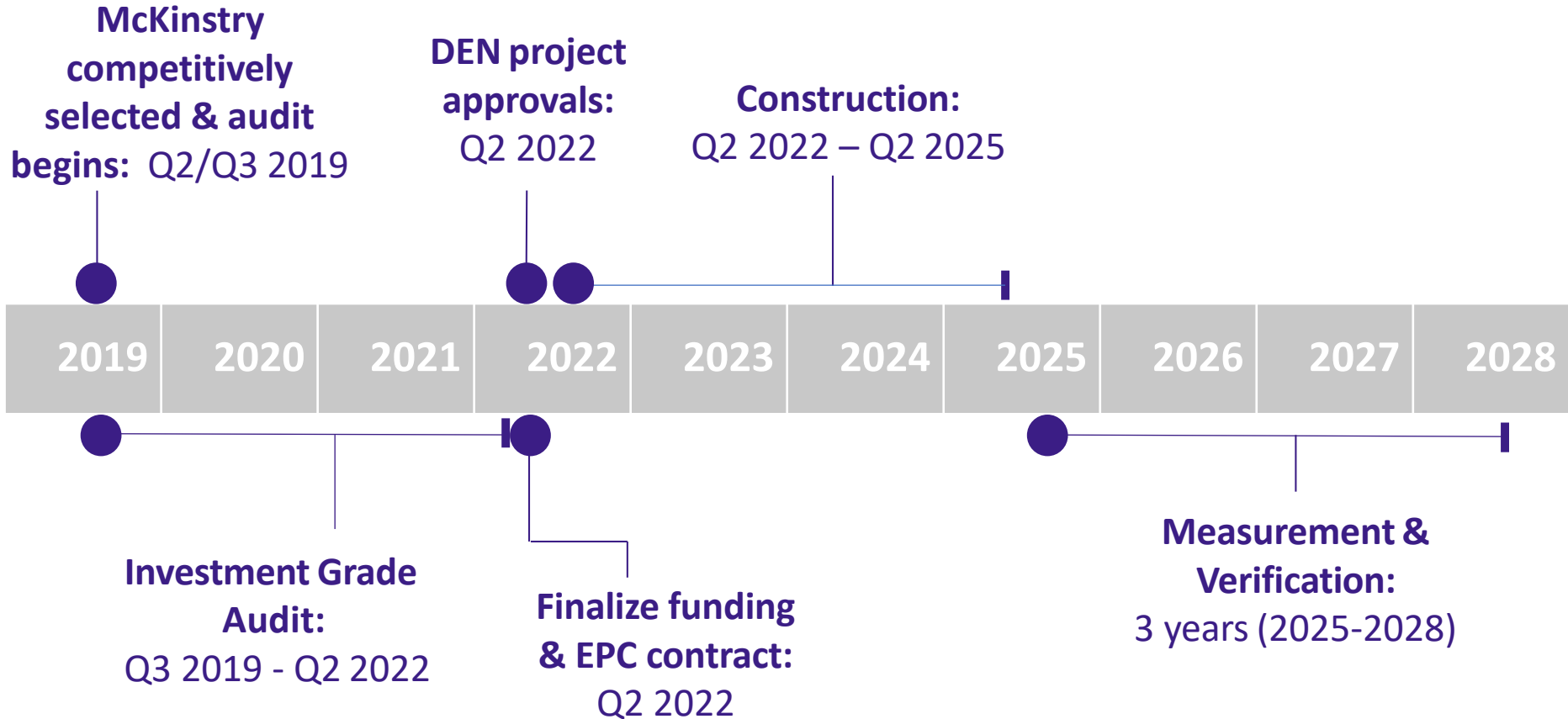
M/WBE PROJECT APPROACH



- McKinstry is mentoring a certified MBE mechanical subcontractor
- Working with DEN Maintenance and McKinstry, the subcontractor will inspect mechanical systems ahead of construction to identify and replace inoperable components to ensure scheduled work is completed as planned
- This project will put a minimum of \$17M back into the Denver M/WBE contracting community

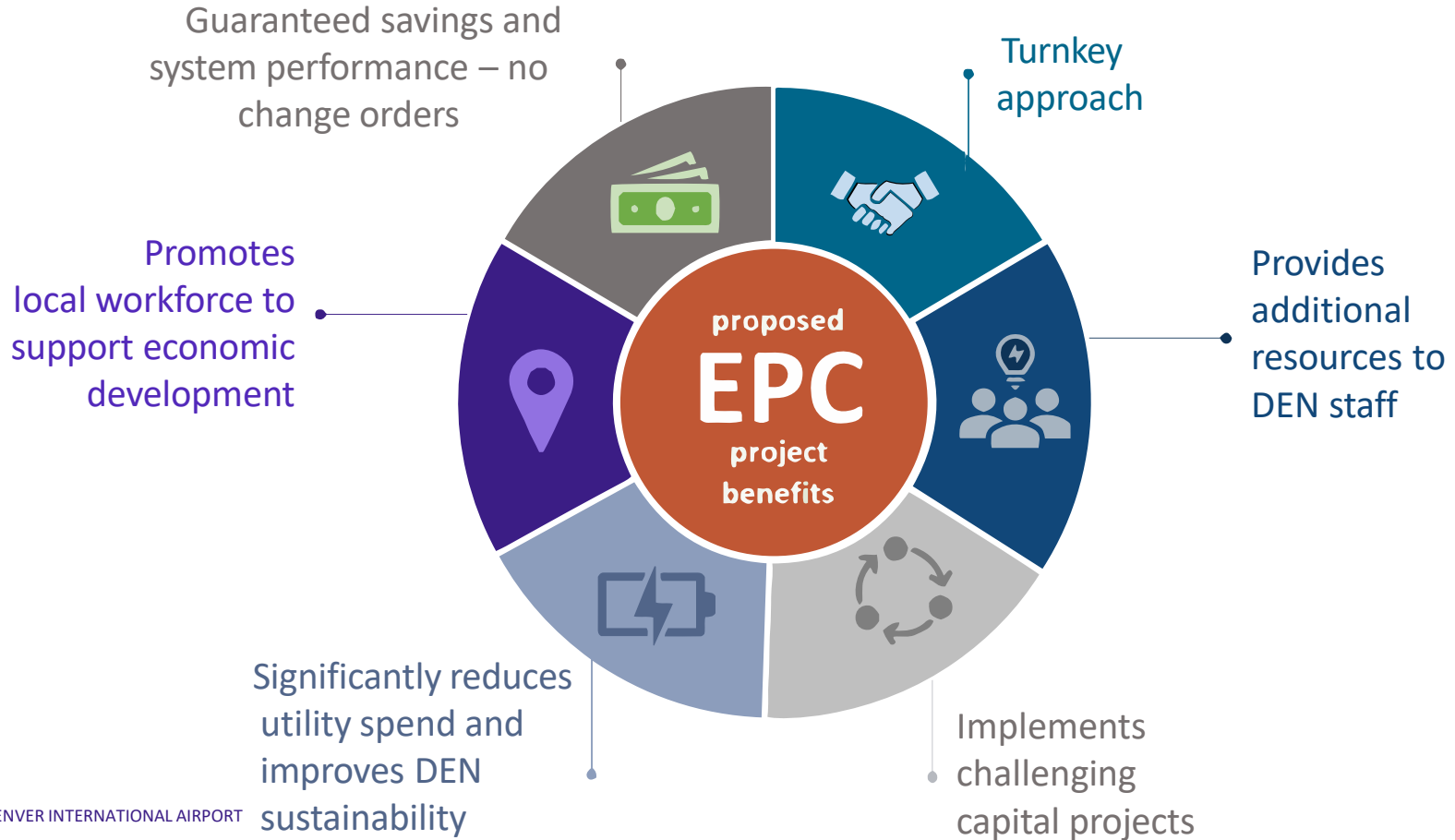
Total EPC Project Investment:	\$83M
M/WBE Goal:	18%
Anticipated M/WBE Awards:	21%

PROJECT TIMELINE



- Selected Contractor: McKinstry Essention, LLC
- DEN conducted a competitive RFP (201842039) for Investment Grade Energy Audit and Energy Performance Contract Implementation Services
- One contract was initially issued for the energy audit to maintain flexibility if DEN decided to not move forward with the EPC project
- EPC project implementation is based on the results of the comprehensive audit and the energy and water savings would not be guaranteed by any other firm
- Duration: 7 years (including Construction + Measurement & Verification)
- Amount: \$83,016,250
- M/WBE Goal: 18%
- Subcontractors include Certified Balancing & Commissioning, Intermountain Electric, Johnson Controls, LEI Companies, Murphy Companies, United Piping & Metal, Midnight Metals, FINN Balancing, ECO Engineering, H2O Applied Technologies

PROJECT BENEFITS



Questions?

