



TOWN OF TRURO

NEW PUBLIC WORKS FACILITY



Project Update
June 18, 2025

AGENDA



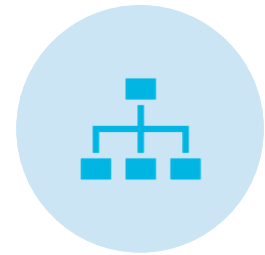
PROJECT SCHEDULE OVERVIEW
COMPLETED & NEXT STEPS



SCHEMATIC DESIGN
BASE VS. ALTERNATES



COST ESTIMATING
CONSTRUCTION + SOFT
= TOTAL PROJECT COSTS



COST-BENEFIT ANALYSIS
MECHANICAL SYSTEMS
ASHPs VS GSHPs

FULL SCHEDULE

WE ARE HERE



PHASE	Study	Concept Design	Schematic Design	Design Development	Construction Documents	Bidding	Annual Town Meeting April 2026
Start Date	✓	✓	March 1, 2025 ✓	Mid June 2025	Early October 2025	Early March 2026	
Deadline	✓	✓	May 30, 2025 ✓	End of September 2025	End of February 2026	End of April 2026	

NEXT STEP

Design Development (DD); June thru September

- Confirm base design versus alternates
- MEP/FP and Structural engineers develop their drawings
- Coordination and problem solving
 - PFAS Cap (HRP) and Salt Shed coordination
 - Water well & water main project coordination
 - Fire tank & pump; sizing and location
 - Septic system
- DD will conclude with another milestone cost estimate

BASE SITE PLAN

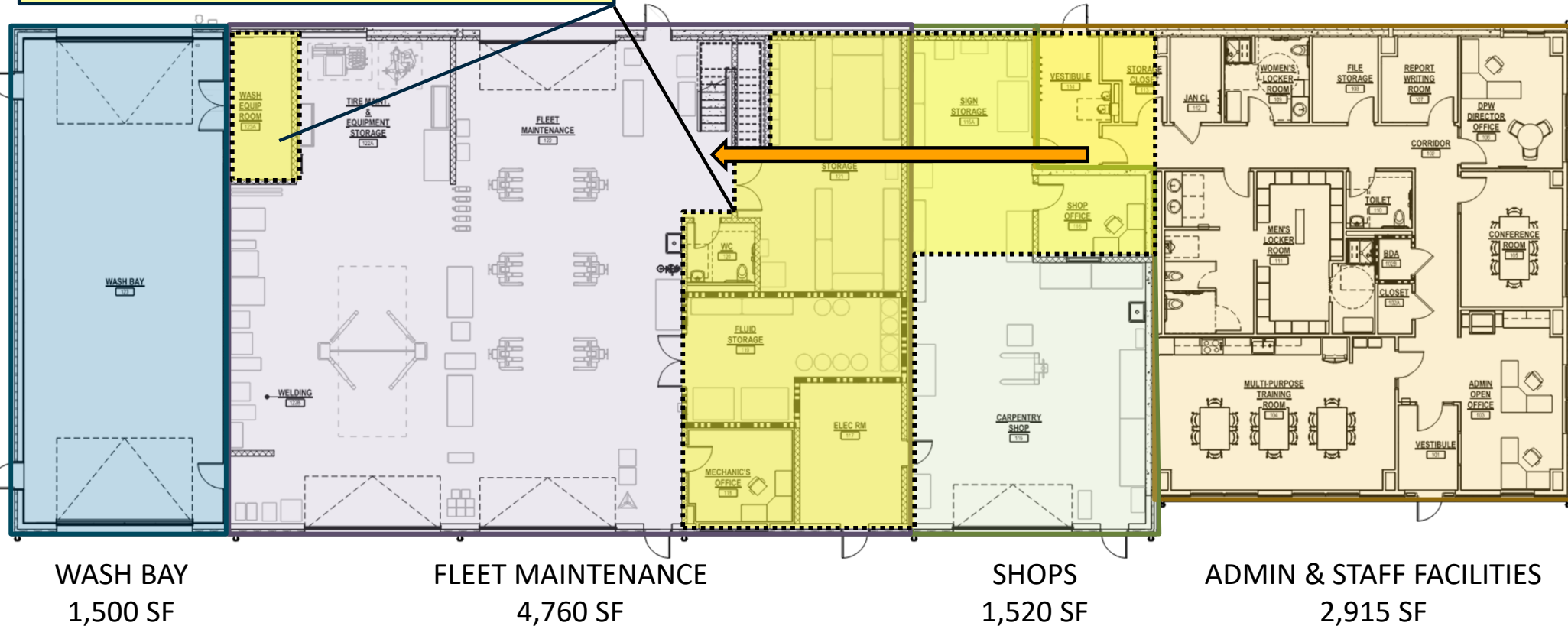


TBD
(meeting with
DEP next week)

Vehicles & Equipment
stored outdoors

BASE FLOOR PLAN = 10,695 SF

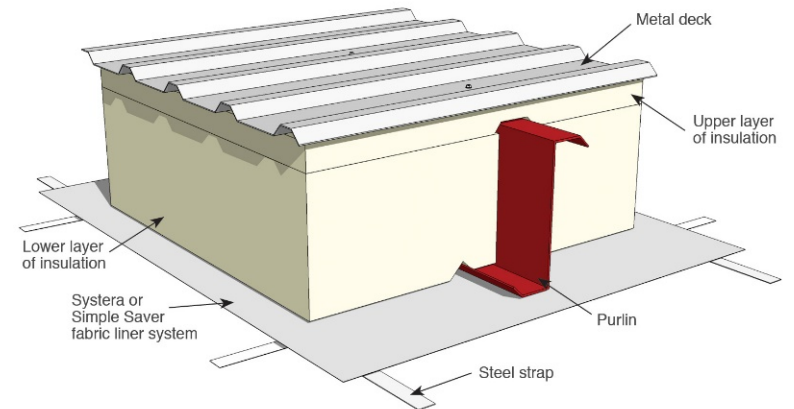
MEZZANINE & EQUIP PLATFORM; 2,200 SF + 140 SF



DESIGN COMPONENTS



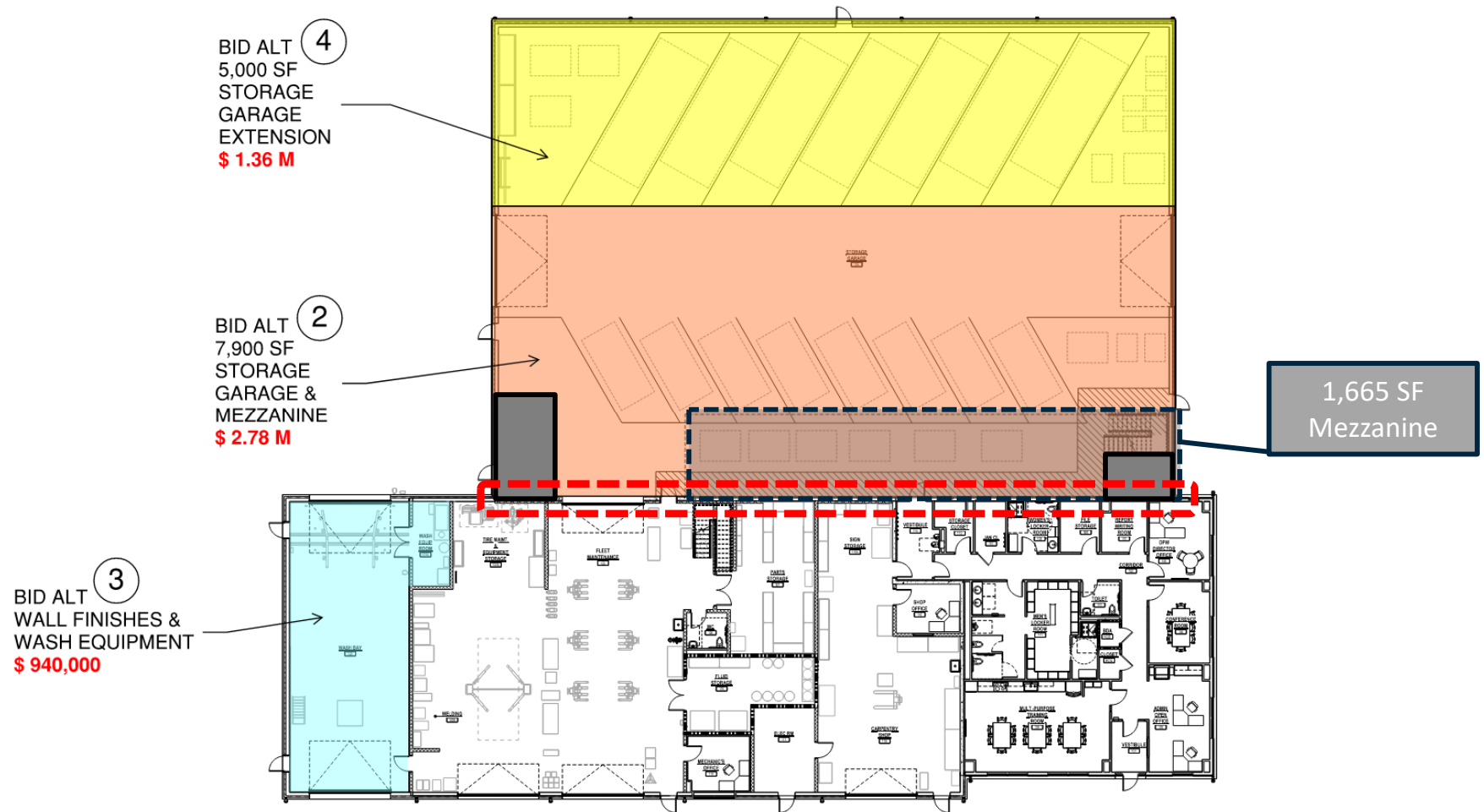
DESIGN COMPONENTS



SITE PLAN WITH ALTERNATES



FLOOR PLAN WITH ALTERNATES



DESIGN COMPONENTS



CONSTRUCTION COSTS

Independent Cost Estimators (Totor Consulting, Inc. & CostPro, Inc.)

- Two separate estimates with different approaches
 - i.e. one applied an Outer Cape Premium to the total construction costs, the other factored the premium into individual unit costs directly
- Schematic-level estimates are derived from a detailed breakdown of construction material and system components.
 - Each item is quantified (as linear feet, square feet, cubic yard, pounds, lump sum, acre, etc.) and multiplied by their respective unit cost.
- 3% mark up for tariffs
- Escalation out to Q1 of 2026, when bids will be received
- The estimates include construction costs for the water well and water main

SOFT COSTS & CONTINGENCIES

- Percentage-based A&E and OPM fees
- Percentage based A&E special services (i.e. incentives assistance)
- Allowance for Owner Contingency for potential scope modifications made by the town
- 5% Construction Contingency for potential unforeseen conditions which may be discovered during construction
- Allowances for items not yet defined/confirmed
 - i.e. Fixtures, Furnishings & Equipment, Commissioning, Utility Backcharges, Temporary Facilities, Moving Costs, etc.
- Also includes allowance for the engineering of the water well & water main

TOTAL PROJECT COSTS

Construction (hard) Costs + Soft Costs and Contingencies = Total Project Costs

	Base Pricing	Base Price + Pricing Alternates
Construction Costs	± \$ 19,500,000	± \$ 25,695,370
Soft Costs & Contingencies **	± \$ 7,217,550	± \$ 7,217,550
Opinion of Probable Total Project Costs	± \$ 26,717,550	± \$ 32,912,920
2024 Appropriation	(\$ 2,800,000)	(\$ 2,800,000)
Total Remaining Appropriation	± \$ 23,917,550	± \$ 30,112,920

** Soft Cost & Contingencies are based on full design and build out for budgeting & planning purposes.

- Alternate 1 – Detached Canopy = \$ 1,105,000
- Alternate 2 – 7,900 SF Storage Garage & 1,665 SF Mezzanines = \$ 2,784,600
- Alternate 3 – Wash Bay Wall Finishes & Vehicle Wash Equipment = \$ 937,100
- Alternate 4 – 5,000 SF Storage Garage = \$ 1,368,670

Total Construction Costs of all Alternates = \$ 6,195,370

COST-BENEFIT ANALYSIS; INPUTS

- The analysis compared two mechanical systems in consideration:

Air Source Heat Pumps (ASHP)

Ground Source Heat Pumps (GSHP)

- The study period for analysis was 30 years
- The following inputs go into the life-cycle cost analysis:

Capital Costs
Incentives & Tax Credits

Energy Consumption
Utility Rates

Solar Energy

Annual Maintenance
Replacement Costs

- The analysis results in a total life-cycle cost over that 30 year timeframe
- The analysis also includes GHG Emissions associated with both systems

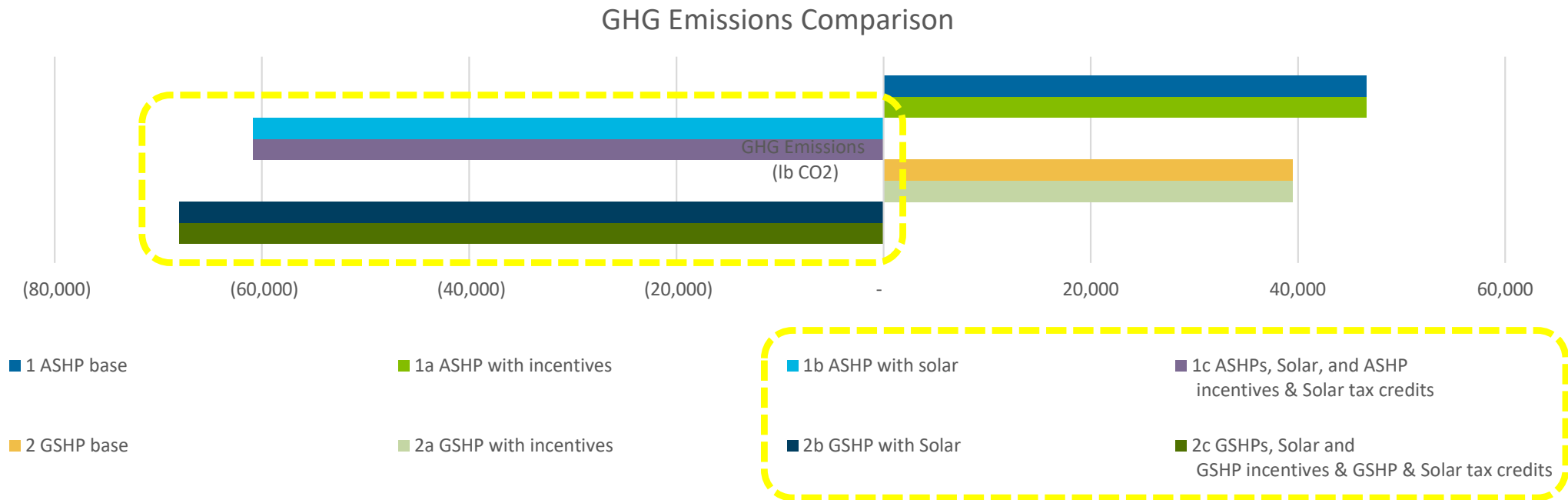
COST-BENEFIT ANALYSIS; FULL BUILD OUT

Option	System	Gross Capital Investment	MassSave Heat Pump Adder Incentive	30% IRA Federal Tax Credit	Net Investment	Annual Elec. Cons. (kWh)	Annual Electric Cost	Combined Utility Cost	Annual Utility \$/s.f.	Annual kBTU/s.f. (EUI)	Annual Maint. Cost	Annual Expense	Total Life-Cycle Costs	GHG Emissions (lb CO2)
1	ASHP	\$ 3,000,000			\$ 3,000,000	86,730	\$ 25,152	\$ 25,152	\$ 1.07	12.5	\$ 15,000	\$ 40,152	\$ 7,703,863	46,591
1a	ASHP with Incentives	\$ 3,000,000	\$ 80,000		\$ 2,920,000	86,730	\$ 25,152	\$ 25,152	\$ 1.07	12.5	\$ 15,000	\$ 40,152	\$ 7,573,189	46,591
1b	ASHP with Incentives & Solar	\$ 3,850,000	\$ 80,000		\$ 3,770,000	(113,270)	\$ (22,654)	\$ (22,654)	\$ (0.96)	(16.4)	\$ 20,000	\$ (2,654)	\$ 6,483,337	(60,849)
1c	ASHPs, Solar, ASHP incentives & Solar Tax Credits	\$ 3,850,000	\$ 80,000	\$ 255,000	\$ 3,515,000	(113,270)	\$ (22,654)	\$ (22,654)	\$ (0.96)	(16.4)	\$ 20,000	\$ (2,654)	\$ 6,066,814	(60,849)
2	GSHP	\$ 4,250,000			\$ 4,250,000	73,460	\$ 21,303	\$ 21,303	\$ 0.90	10.6	\$ 18,000	\$ 39,303	\$ 9,182,237	39,463
2a	GSHP with Incentives	\$ 4,250,000	\$ 135,000		\$ 4,115,000	73,460	\$ 21,303	\$ 21,303	\$ 0.90	10.6	\$ 18,000	\$ 39,303	\$ 8,961,725	39,463
2b	GSHP with Incentives & Solar	\$ 5,100,000	\$ 135,000		\$ 4,965,000	(126,540)	\$ (25,308)	\$ (25,308)	\$ (1.07)	(18.3)	\$ 23,000	\$ (2,308)	\$ 7,948,012	(67,977)
2c	GSHPs, Solar, GSHP Incentives, and GSHP & Solar Tax Credits	\$ 5,100,000	\$ 135,000	\$ 1,530,000	\$ 3,435,000	(126,540)	\$ (25,308)	\$ (25,308)	\$ (1.07)	(18.3)	\$ 23,000	\$ (2,308)	\$ 5,448,876	(67,977)

COST-BENEFIT ANALYSIS; KEY RESULTS

Option	System	Gross Capital Investment	Net Investment	Total Life-Cycle Costs	GHG Emissions (lb CO2)
1	ASHP	\$ 3,000,000	\$ 3,000,000	\$ 7,703,863	46,591
1a	ASHP with Incentives	\$ 3,000,000	\$ 2,920,000	\$ 7,573,189	46,591
1b	ASHP with Incentives & Solar	\$ 3,850,000	\$ 3,770,000	\$ 6,483,337	(60,849)
1c	ASHPs, Solar, ASHP Incentives, and Solar Tax Credits	\$ 3,850,000	\$ 3,515,000	\$ 6,066,814	(60,849)
2	GSHP	\$ 4,250,000	\$ 4,250,000	\$ 9,182,237	39,463
2a	GSHP with Incentives	\$ 4,250,000	\$ 4,115,000	\$ 8,961,725	39,463
2b	GSHP with Incentives & Solar	\$ 5,100,000	\$ 4,965,000	\$ 7,948,012	(67,977)
2c	GSHPs, Solar, GSHP Incentives, and GSHP & Solar Tax Credits	\$ 5,100,000	\$ 3,435,000	\$ 5,448,876	(67,977)

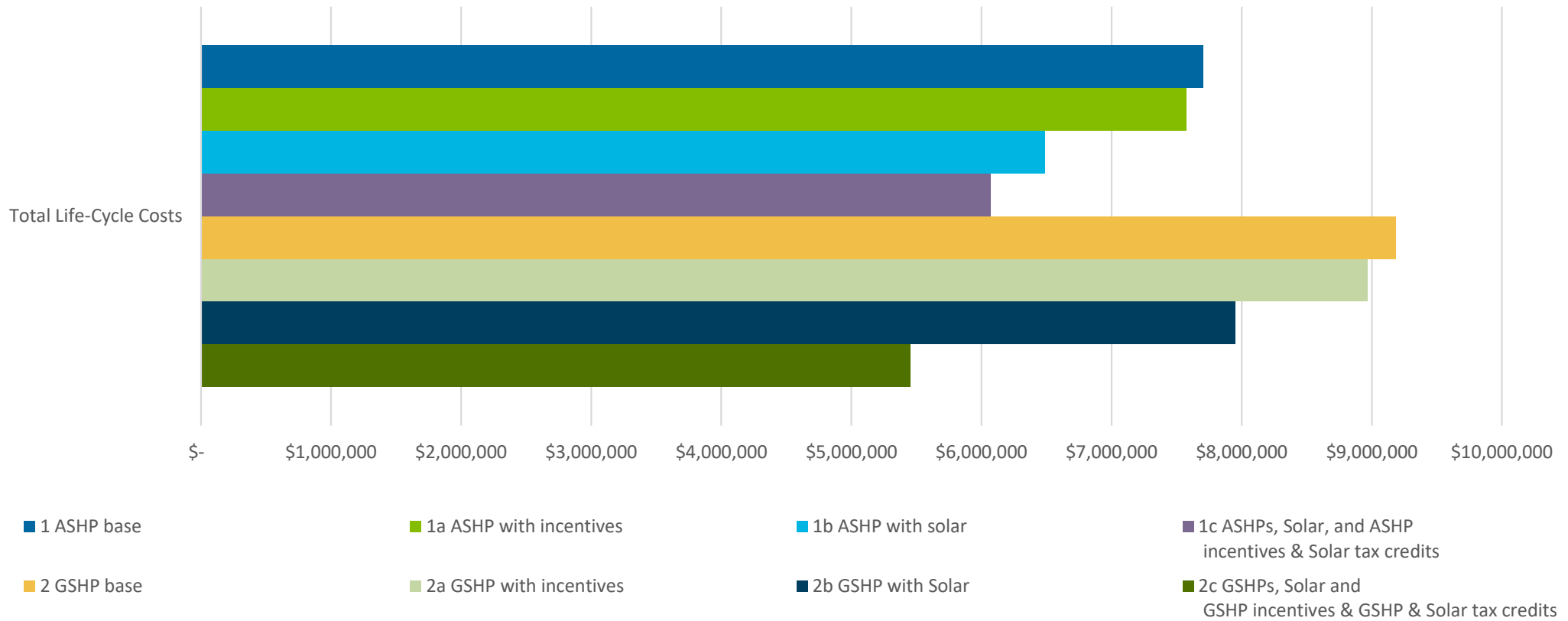
GHG EMISSIONS COMPARISON



60,000 lb CO2 is the equivalent of 3.7 home's energy use for one year

TOTAL LIFE CYCLE COSTS

ASHP vs GSHP over 30 years



OPEN DISCUSSION



Weston & SampsonSM

transform your environment