

**7.a Budget Detail.** See the attached excel Budget Spreadsheet for a detailed budget breakout by funding type and budget category for each measure as well as the overall proposal.

**7.b Expenditure of Awarded Funds**

King County is the most populous county in Washington State, employs 16,342 staff, and routinely manages a vast diversity and complexity of grants and other forms of governmental assistance. All accounting for grants takes place in King County's automated financial system Oracle E-Business Suite (EBS). It is a fully integrated financial system which includes various sub-ledgers for managing specific functions. All Oracle EBS sub-ledgers interface to the General Ledger. The county has implemented cash management policies, internal controls for cash protection, grant-funded operations, and other assets. King County's internal controls and required financial reports are audited annually by the Washington State Auditor's Office. In addition, King County is subject to an annual federal single audit that is a comprehensive audit required for all entities that receive over \$750K in federal funds in a year.

The King County Office of Performance, Strategy, and Budget (PSB) which resides in the Executive Department, oversees management and reporting of the County's \$437 million allocation of federal COVID-19 recovery funding from the American Recovery Act Plan – Coronavirus Local Fiscal Recovery Fund. The PSB Grants Team will dedicate a Grant Manager to this project to assist with oversight, reporting, contracting, invoicing and award modifications, and federal compliance. King County will meet regularly with its collaboration partners to review subaward and subcontract responsibilities. County staff will perform risk assessments of its subaward partners as required by 2 CFR 200. The county will assign additional contractual monitoring and oversight requirements based on the risk assessment process and provide training resources as needed to ensure that federal requirements are met.

**7.c Reasonableness of Costs**

General Notes

**All measures propose personnel;** general Personnel, Fringe, Supplies, and Other notes are as follows:

*Personnel.* All personnel costs are estimated from the specific wages of the position classification, using the same labor calculator as used for overall County budgeting. This calculator includes projections for 2025 – 2029, with an estimated annual labor cost increase of 3.2% for 2025- onward. For the year of 2029, funding assumes  $\frac{3}{4}$  of the year is funded by the proposal, as the grant period of performance ends five years from award start, currently projected for 10/1/24 and thus projected to end 10/1/29.

*Fringe Benefits.* Fringe Benefits are calculated at 34% (rounded from 34.05%). The percentage for each benefit component is based on historical averages for county employees, namely Payroll Tax (7.65%), Medical Insurance (16.4%) and Retirement (10%).

*Supplies.* New staff have a one-time \$400 monitor charge and a charge of \$684/year for Office 365.

*Other.* Per King County IT, all staff have an annual laptop lease charge of \$780.

Administration

*Personnel.* Program Administration includes two positions under Personnel. This includes one CPRG Compliance Manager, classified as an Executive Analyst II, to lead on grants reporting, invoicing, reporting, and assisting with procurement to ensure it meets grant funding obligations. This proposal also budgets Building Decarbonization Program Manager funding, classified as a Project-Program Manager (PPM) IV. This position would lead overall program design; support staff hiring; coordinate between measures; staff the CPRG governance committee; and provide additional capacity should it be required to support one of the PPMs leading individual Proposal Measures. Given the existing position

and diverse tasks, this measure anticipates PPM IV funding. This position is externally funded through 2025, so proposal funds are proposed to begin in 2026.

*Other.* This proposal includes stipends for 12 community workshops, anticipating 20 attendees per meeting with a \$150 stipend per meeting attendance. 12 meetings x 20 attendees per meeting = 240 individual attendee stipends; multiply this by \$150 = \$36,000. This proposal also includes translation and interpretation services of \$7,200 for each round of meetings; this covers 2 interpreters/meeting at \$400/interpreter (\$800 total) x 4 meetings = \$3,200, plus \$4,000 for translation services per round.

### **Measure #1 Multifamily Program**

*Personnel.* The Multifamily Program includes one position under Personnel, classified as a PPM IV. This position will manage contracts, including a large benchmarking and technical assistance initiative. Given the number of buildings and program complexity, it is projected a PPM IV position is warranted. Please also see General Notes at the beginning of 7.c. for notes on Personnel, Fringe, Supplies and Other costs.

*Contractual.* There are two anticipated items in the Contract budget category.

1. Multifamily Program Contract. This program anticipates the Multifamily Program contractor will include electrification & weatherization subcontracts. The proposed scope would include program design support; stipends for contractor selection committee community participants; outreach and engagement with CBO partners; wrap-around customer support for applications, site visits, and installations; site assessments, financial modeling, as well as scope and spec development; contractor recruitment; and construction management. As this contract will conduct installation work, line-item cost estimates include electrification and administration; direct funding for weatherization is anticipated from the IRA HOMES rebates, as detailed below.

– *Electrification Costs.* These funds would electrify 50 NOAH buildings, providing direct installation of heat pumps, HPWHS, and possibly electric induction stoves. Cost estimates draw on the [Berkeley Funding Gap Analysis for Residential Building Decarbonization](#). While updated in 2023, the initial analysis was conducted 2021 – 2022 (pg. 4). As such, cost estimates (p. 25) are updated assuming a January 2022 baseline to February 2024 using the US Bureau of Labor Statistics (BLS) Consumer Price Index (CPI) Inflation [Calculator](#). The baseline cost in the [Berkeley](#) study is \$20,405 for electrification in low-rise multifamily units; this cost in February, 2024 is \$22,522 per the BLS CPI [calculator](#); assuming 10 units per building means a per-building price of \$225,226. Assuming no installs in year 1 (2025) means installs would begin in 2026. Adding 6% to the February 2024 price, to account for 2 years of inflation at 3% per year, yields a projected electrification price per multifamily building with 10 units of \$238,740 in 2026. Adding 3% per year for 2027 and 2028 results in costs of \$245,496 and \$252,253, respectively. Per year install cost-estimates are as follows:

- Year 2 (2026): 6 buildings at \$238,740/building = \$1,432,437
- Year 3 (2027): 24 buildings at \$245,496/building = \$5,891,912
- Year 4 (2028): 20 buildings at \$252,253/building = \$5,045,062

– *Weatherization.* This contract would fund weatherization and air-sealing of 35 NOAH buildings, with the remainder funded through HOMES rebates; note that no funds are proposed towards any upgrade using IRA rebates, as this is disallowed per IRA guidance.<sup>1</sup> Using a baseline cost from the above-referenced [Berkeley](#) study of \$2,475 for energy efficiency in low-rise multifamily units, this

---

<sup>1</sup> HOMES rebates will provide a \$4,000 per unit for projects that model a 20% energy savings. Multifamily weatherization projects can achieve 17% – 38% energy savings, though moderate climates typically achieve 23% and will likely qualify. HOMES rebates, see DOE, “Inflation Reduction Act Home Energy Rebates,” Updated October 13, 2023 (V.1.1). [\[LINK\]](#). Pg 13 (PDF Pg 18). For range of savings, see: ACEEE, “Understanding Multifamily Home Energy Efficiency Potential,” 2020. [\[LINK\]](#); and MacArthur Foundation, “Cost Savings from Energy Retrofits in Multifamily Buildings,” 2020. [\[LINK\]](#); for higher moderate achievements, see “Impacts of Weatherizing Low-Income Multifamily Buildings.” [\[LINK\]](#). pg. 24. Accessed 3/22/24.

amount was updated to a February, 2024 of \$2,732 using the BLS CPI [calculator](#); assuming 10 units per building means a per-building price of \$27,320. Assuming no installs in year 1 (2025) means installs would begin in 2026. Adding 6% to the February 2024 price, to account for 2 years of inflation at 3% per year, yields a projected electrification price per multifamily building with 10 units of \$28,959 in 2026. Adding 3% per year for 2027 and 2028 results in costs of \$29,779 and \$30,599, respectively. Per year install cost-estimates are as follows:

- Year 2 (2026): 6 buildings at \$28,959/building = \$173,755
- Year 3 (2027): 24 buildings at \$29,779/building = \$714,691
- Year 4 (2028): 5 buildings at \$30,599/building = \$152,992

– *Administration*. Administration cost estimates are adapted from an application to conduct a smaller (5-building) pilot version of this same program type under the Washington State University Community Energy Efficiency Program ([CEEP](#)). The operator has run similar programs in the Midwest and had developed local cost projections after a year-long study, so these were considered the most reliable source for this new local program model. Costs were adjusted for inflation by 3% per year.

- Year 1. For the first year, \$48,410 is allocated to support program design; help secure, guide, and provide stipends for community member participation in design; development and adaptation of outreach materials prior to anticipated launch in 2026.

Subsequent years include one-time costs, ongoing general support, and per-building support. Per-building, a baseline cost of \$15,200 was multiplied by 3%/year for costs of \$16,112, \$16,568 and \$17,024 in years 2, 3 and 4 respectively; this addresses site-assessments, modeling, scoping and construction management. For ongoing general support, a baseline cost of \$45,000 was multiplied by 3%/year for costs of \$47,700, \$49,050 and \$50,400 in years 2, 3 and 4 respectively; this addresses ongoing CBO engagement, ongoing outreach, and regular project management meetings.

- Year 2. The projected cost is \$238,572. This includes a one-time launch cost of \$94,200, expanded CBO engagement (on top of the standard engagement), launching outreach activities, selecting and securing broad initial contacts and program participation, as well as vetting and selecting contractors. In addition to this cost, this adds \$47,700 for ongoing support and \$96,672 for building retrofits (6 buildings x \$16,112/building).
- Year 3. The projected cost is \$446,682. This includes \$49,050 for ongoing support and \$397,632 for building retrofits (24 buildings x \$16,568/building).
- Year 4. The projected costs is \$390,880. This includes \$50,400 for ongoing support and \$340,480 for building retrofits (20 buildings x \$17,024/building).

Adding administration, electrification and weatherization yields the following line item costs:

- Year 1: \$0 electrification and \$48,410 administration = \$48,410.
- Year 2: \$1,432,437 electrification + \$173,755 weatherize. + \$238,572 admin. = \$1,844,765.
- Year 3: \$5,891,912 electrification + \$714,691 weatherize + \$446,682 admin. = \$7,053,285.
- Year 4: \$5,045,062 electrification + \$152,992 weatherize + \$390,880 admin. = \$5,588,934.

2. Benchmarking and Technical Assistance Contract(s). This Contract includes two elements, namely benchmarking for 130 buildings, and technical support for 25 of those buildings to pursue externally funded electrification and weatherization. Both elements used consultant quotes for cost estimates. For benchmarking, the scope would be for contracted consultants to create an Energy Star Portfolio Manager (ESPM) account; review plans to determine floor areas and other characteristics needed for ESPM; coordinate utility data connections; transition account to building owner for long-term management; review accounts in next 6 months to ensure data connections are retained. For these services, consultant contacts estimated \$2,000 to \$3,000 per building in 2024; an average of \$2,500

was then multiplied by 3%/year for a per-building cost of \$2,575, \$2,650 and \$2,725 in years 1, 2 and 3 respectively, and were multiplied by estimated building numbers as follows:

- Year 1 (2025): 20 buildings x \$2,575/building = \$51,500.
- Year 2 (2026): 70 buildings x \$2,650/building = \$185,500.
- Year 3 (2027): 40 buildings x \$2,725/building = \$109,000.

For technical assistance, the scope would be for contracted consultants to conduct site visit(s) and energy audits; utility coordination or short-term metering to assess adding electric load capacity; modeling energy and utility cost savings with recommended improvement measures; develop design narratives and basic concept plans that could be provided to independent contractors to obtain cost estimates; and to assist owners in vetting cost estimates. Consultant contacts estimated \$400 to \$700 per unit in 2024, though noted the cost per unit would be lower with larger buildings or if there were a lot of the same types or size of buildings evaluated. It is anticipated the program would serve larger multifamily buildings than the NOAH program, and would include subsidized buildings. Responding to an email inquiry, staff at the Washington state Housing Finance Commission reported the average subsidized affordable housing building in their portfolio averaged 94 – 100 units. Given the larger unit number and probable high similarity, a \$500/unit base price was selected; assuming 100 units/building, this is a \$50,000/building base price. Multiplied by 3%/year for a per-building cost of \$53,000 and \$54,500 in years 2 and 3, respectively. Multiplied by estimated building numbers results in the following estimates:

- Year 2 (2026): 11 buildings x \$53,000/building = \$583,000.
- Year 3 (2027): 14 buildings x \$54,500/building = \$763,000.

Adding Administration and electrification costs yields the following line-item costs per year:

- Year 1. Adding \$51,500 benchmarking and \$0 assistance = \$51,500.
- Year 2. Adding \$185,500 benchmarking and \$583,000 assistance = \$768,500.
- Year 3. Adding \$109,000 benchmarking and \$763,000 assistance = \$872,000.

*Other.* There are three anticipated items in the Other budget category, in addition to Other items related to personnel equipment leasing.

1. HPWH rebate, Participant Support Costs. This item anticipates rebates for 300 heat pump water heaters (HPWHs). Using a baseline cost of \$3,500 from a [2021 Multifamily HPWH analysis](#) (see pg 66/PDF pg 75), this amount assumed a January 2022 cost baseline and was updated to a February, 2024 cost estimate of \$3,863 using the BLS CPI [calculator](#). Assuming no installs in year 1 means installs would begin in 2026. Adding 6% to the February 2024 price, to account for 2 years of inflation at 3% per year, yields a projected HPWH cost of \$4,095 in year 2. Adding 3% per year results in costs of \$4,463 and \$4,999 for years 3 and 4, respectively. Per year cost-estimates are:
  - Year 2 (2026): 30 HPWHs at \$3,863 /home = \$122,843
  - Year 3 (2027): 160 HPWHs at \$4,463/home = \$714,130
  - Year 4 (2028): 110 HPWHs at \$4,999/home = \$549,880

*Notes for Other 2 & 3:* These line items fund efforts in both Measure #1 Multifamily and Measure #2 Community Programs. The allocation per measure is based on a ratio of the combined budgets of the two programs (approximately \$40.5M), of which the Multifamily Program is approximately 45%.

2. C3 Workforce Development (Part), Subaward. This subaward provides services under both the Measure #1 Multifamily and Measure #2 Community Programs. Subaward cost estimates include two elements, namely funding for the Coalition for Climate Careers (C3) to will provide recruitment, oversight and management services for workforce program participants outside of King County, and for participant stipends outside of King County. This program anticipates approximately 203 hours of work in year 1 under Measure #1 (2025, to establish the multi-county a training program and

outreach package), with 432 hours of work in years 2, 3, and 4, to implement the program, recruit, manage workforce participants and provide wrap-around services. At \$150/hour, this leads to projected costs of \$30,500 in year 1, and \$64,800 in years 2 – 4. In addition, of the targeted 115 workforce development positions of this proposal, 58 participants will be recruited outside King County between Measures #1 and #2, with 26 positions in Measure #1 Multifamily Program (the other 32 are under Measure #2). The program anticipates 8, 9 and 9 participants in years 2, 3, and 4 respectively, with stipends of \$6,000 each; this is based on a calculation of 240 hours of training, multiplied by a wage of \$25/hour, with funds also helping cover childcare and transportation expenses. Adding C3 oversight and stipends yields the following costs per year:

- Year 1. Adding \$30,500 for C3 workforce oversight and \$0 for stipends = \$30,500.
  - Year 2. Adding \$68,400 for C3 workforce oversight and \$48,000 for stipends = \$112,800.
  - Year 3. Adding \$68,400 for C3 workforce oversight and \$54,000 for stipends = \$118,800
  - Year 4. Adding \$68,400 for C3 workforce oversight and \$54,000 for stipends = \$118,800
3. Workforce Development Stipends. These stipends are for participants that complete the workforce development program in King County; recruitment and oversight of participants will be provided through the existing, funded King County [YouthSource](#) program. Of the targeted 115 workforce development positions of this proposal, 57 participants will be recruited in King County between Measures #1 and #2, with 26 positions in Measure #1 Multifamily Program (the other 31 are under Measure #2), with participants provided a stipend of \$6,000. The per year stipends allocations are:
- Year 2 (2026): 8 participants at \$6,000 stipend/person = \$48,000
  - Year 3 (2027): 9 participants at \$6,000 stipend/person = \$54,000
  - Year 4 (2028): 9 participants at \$6,000 stipend/person = \$54,000

### **Measure #2 Community Program**

*Personnel.* The Community Program includes one position under Personnel, classified as a PPM IV. This position will manage several contracts, including an installation program, community technical assistance, and a grants program. Given program complexity, a PPM IV position is warranted.

*Contractual.* There are four anticipated items in the Contract budget category.

1. Family Care Program Administration Contract. Administration cost estimates used the actual costs of the King County [Energize!](#) Pilot program to install 150 heat pumps in single family homes. For the initial tranche of 120 homes under Energize!, contracted administration has cost \$2,675 per home. The proposed scope would include supporting RFQ criteria for contractors; stipends for selection committee community participants; outreach and engagement with CBO partners; and wrap-around customer support for applications, site visits, and installations. Although this program anticipates a similar number of homes, additional work is anticipated per home with weatherization and HPWH installations. As such, a 35% overhead was applied to the initial Energize! administration cost, with an estimate of \$3,615/home for program administration, or a total cost of \$542,250.
  - Year 1. For the first year, \$60,000 is allocated to support up to 3 RFQ processes (heat pumps, HPWHs, weatherization) estimated at \$15,000 support per RFQ; the contractor is anticipated to help refine RFQ scopes, guide point allocation for equity criteria, and help secure, guide, and provide stipends for community member participation in the selection panels. An additional \$15,000 is anticipated for adaptation of outreach materials prior to anticipated launch in 2026.
  - Years 2 – 4. Subtracting year 1 costs yields a contract remainder of \$482,250. Costs were divided into remaining years based on estimated level of effort to complete contract deliverables. As such, the estimated level of effort (i.e., spend-down) per year is as follows:
    - Year 2 (2026): 30% spend-down, or \$144,675



## ACCELERATING EQUITABLE BUILDING DECARBONIZATION THROUGHOUT THE BUILDING LIFECYCLE

### Attachment: 7. Budget Narrative Appendix

- Year 3 (2027): 45% spend-down, or \$217,013
- Year 4 (2028): 25% spend-down, or \$120,562

*Notes for Contractual 2 & 3:* The Electrification and Weatherization contracts draw initial cost estimates from the [Berkeley Funding Gap Analysis for Residential Building Decarbonization](#). While updated 2023, the initial analysis was conducted 2021 – 2022 (pg. 4). As such, costs (p. 25) were updated assuming a January 2022 baseline to February 2024 using the BLS CPI Inflation [Calculator](#).

2. Electrification Contract(s). This contract would electrify 150 Family Care operations in single-family buildings, providing direct installation of heat pumps, HPWHS, and possibly electric induction stoves. Using a baseline cost from the above-referenced [Berkeley](#) study of \$33,970 for electrification, this amount was updated to a February, 2024 of \$37,495 using the BLS CPI [calculator](#). Assuming no installs in year 1 (2025) means installs would begin in 2026. Adding 6% to the February 2024 price, to account for 2 years of inflation at 3% per year, yields a projected electrification price per house of \$39,745 in 2026. Adding 3% per year for 2027 and 2028 results in costs of \$40,940 and \$42,130, respectively. Per year install cost-estimates are as follows:

- Year 2 (2026): 20 homes at \$39,745/home = \$794,900
- Year 3 (2027): 100 homes at \$40,940/home = \$4,094,000
- Year 4 (2028): 30 homes at \$42,130/home = \$1,263,900

Electrification Contract note: It is anticipated that funding would not be provided to upgrade knob-and-tube replacement given its cost. Also, electric panel upgrades may be required for some homes, though the IRA rebate for this improvement is anticipated to cover this cost (est. \$1,500); no funds are proposed towards any upgrade using IRA rebates, as this is disallowed per IRA guidance.

3. Weatherization Contract(s). This contract would weatherize and air-seal 150 Family Care operations in single-family buildings. Using a baseline cost from the above-referenced [Berkeley](#) study of \$5,170 for energy efficiency, this amount was updated to a February, 2024 of \$6,048 using the BLS CPI [calculator](#). Assuming no installs in year 1 (2025) means installs would begin in 2026. Adding 6% to the February 2024 price, to account for 2 years of inflation at 3% per year, yields a projected weatherization price per house of \$6,050 in 2026. Adding 3% per year for 2027 and 2028 results in costs of \$6,230 and \$6,410, respectively. Per year install cost-estimates are as follows:

- Year 2 (2026): 20 homes at \$6,050/home = \$121,000
- Year 3 (2027): 100 homes at \$6,230/home = \$623,000
- Year 4 (2028): 30 homes at \$6,410/home = \$192,300

4. Technical Assistance Contract. This Contract would support applications to the Community grants program for non-public buildings. Technical assistance costs are estimated as 30% of the projected award costs under Other item #2 below, with the following costs by year:

- Year 3 (2027): 30% x \$3,500,000 = \$1,050,000
- Year 4 (2028): 30% x \$600,000 = \$180,000

The technical assistance provided may vary depending on the type of buildings and grantees that anticipate applying for the program and that are awarded funds. It is possible that private electrification contractors will provide project cost estimates for free as part of the bidding process for simpler building types. More complicated building types may require technical assistance to provide engineering or cost estimates. Applicants from different backgrounds may require interpretation services to understand program offerings or complete application materials. Conversely, some programs may require support for project implementation, such as securing appropriate permits or quality assurance with contractors. Although assistance may be required for financial or rebate analysis, it is anticipated this need will be met by coordinating with utilities on rebates or by added capacity through proposal measure #5. Financing Program. It is anticipated that

the RFQ for this contract will have a broad scope for the above possible services, with work orders executed to support the specific needs of potential or selected applicants.

*Other.* There are five anticipated items in the Other budget category, in addition to Other items related to personnel equipment leasing.

1. Family Care, Minor Home Repair Rebates, Participant Support Costs. This item anticipates providing home repair rebates for 150 Family Care operations in single-family buildings. Using a baseline cost from the [Berkeley](#) study (see Notes in Contractual) of \$10,125 for home repairs, this amount was updated to a February, 2024 of \$11,175 using the BLS CPI [calculator](#). Assuming no installs in year 1 (2025) means installs would begin in 2026. Adding 6% to the February 2024 price, to account for 2 years of inflation at 3% per year, yields a projected home repair rebate price per house of \$11,846 in 2026. Adding 3% per year for 2027 and 2028 results in costs of \$12,200 and \$12,555, respectively. Per year rebate cost-estimates are as follows:
  - Year 2 (2026): 20 homes at \$11,845/home = \$236,900
  - Year 3 (2027): 100 homes at \$12,200/home = \$1,220,000
  - Year 4 (2028): 30 homes at \$12,555/home = \$376,650
2. Community Grants, Non-Public Buildings, Participant Support Costs. As noted in the application, these awards will fund 75% to 100% of project costs, up to a \$80k or \$100k cap, outside or inside CEJST/EJScreen census geographies, respectively. These caps were set after reviewing the City of Seattle Building Energy Efficiency and Electrification Costing Analysis ([BEEECA](#)), which provides localized cost estimates based on projects built between 2018 and 2020. A cost estimate is provided for the most common anticipated proposed project type with these funds, namely a, “Heat Pump RTU with VHE DOAS/ HRV.”<sup>2</sup> This type of project would, “Replace existing gas-fired roof-top units (RTUs) with new packaged heat pumps. Install very high-efficiency, dedicated outside air system (VHE DOAS), and integrate with existing or new ductwork for ventilation of occupied zones. Provide auxiliary electric heat as needed.” The cost estimate for this project type is \$15 – \$18 per square foot (sf); other common anticipated projects (boiler upgrades or replacements) are quoted with lower typical costs. The median U.S. commercial building is 5,400 sf;<sup>3</sup> multiplied by the per-sf project cost, this indicates a typical projected total project cost of \$81,000 – \$97,200. For conservative cost projections, it was assumed that all projects proposed would fall in CEJST/EJScreen census geographies, with the maximum \$100k allocation; 41 project awards are anticipated, for a total of \$4,100,000 in awards. Although grantee awards are anticipated in year 2 (2026), it is projected that most applicants may still need to complete designs or permitting, given that the grantee pool is likely smaller community applicants with little probable private construction experience. Additionally, grant program design may allocate more time in 2026 to ensure adequate technical assistance to grantees. As such, 35 projects (85% of grant funds) are projected in year 3 (2027) or \$3,500,000 total, with 6 projects (15% of grant funds) are projected in year 4 (2028) or \$600,000. In contrast to the below Other item #3, it is projected these retrofit needs can be met primarily with off-the-shelf heat pump systems, and hence would be issued as participant support costs.
3. Community Grants, Public Building, Competitive Subaward. As noted in the application, these awards will fund 30% to 50% of project costs, up to a \$300k or \$500k cap, outside or inside CEJST/EJScreen census geographies, respectively. These caps were set after reviewing example City of Seattle retrofit cost projections in its municipal building decarbonization strategy, which combined facility audits (ASHRAE 1.5), building electrification consultant recommendations ([Ecotope](#)), and third party constructability team cost estimates for mechanical systems and building

<sup>2</sup> OSE, “Seattle Building Energy Efficiency and Electrification Costing Analysis,” July 2022. [\[LINK\]](#). Accessed 2/22/24. Pg 13.

<sup>3</sup> EIA, “2018 CBECS Building Characteristics Highlights,” Revised September 2022. [\[LINK\]](#). Accessed 1/23/2024. Pg 9.

envelope upgrades. For moderately sized projects (i.e., libraries), the mean average retrofit cost was \$1.3M, and the median was \$1.2M. The maximum cost-coverage of 50% was set for this measure as public entities have other funding pools to draw on for capital projects, while also recognizing that electrification may not occur without external funding support. For conservative cost projections, it was assumed that all projects proposed would fall in CEJST/EJScreen census geographies, with the maximum \$500k allocation; 14 project awards are anticipated, for a total of \$7,000,000 in awards. It was also projected that two applicants would have funding, designs and permitting complete to proceed with construction in year 2 (2026), resulting in the \$1,000,000 allocation. The remaining awards are projected to require additional time to complete project preparations, with all remaining funding projected for expenditure in year 3 (2027).

*Notes for Other 4 & 5:* These line items fund efforts in both Measure #1 Multifamily and Measure #2 Community Programs. The allocation per measure is based on a ratio of the combined budgets of the two programs (approximately \$40.5M), of which the Community Program is approximately 55%.

4. C3 Workforce Development (Part), Subaward. This subaward provides services under both the Measure #1 Multifamily and Measure #2 Community Programs. Subaward cost estimates include two elements, namely funding for C3 to will provide recruitment, oversight and management services for workforce program participants outside of King County, and for participant stipends outside of King County. This program anticipates approximately 250 hours of work in year 1 under Measure #1 (2025, to establish the multi-county a training program and outreach package), with 528 hours of work in years 2, 3, and 4, to implement the program, recruit, manage workforce participants and provide wrap-around services. At \$150/hour, this leads to projected costs of \$37,500 in year 1, and \$79,200 in years 2 – 4. In addition, of the targeted 115 workforce development positions of this proposal, 58 participants will be recruited outside King County between Measures #1 and #2, with 32 positions in Measure #1 Multifamily Program (the other 26 are under Measure #2). The program anticipates 10, 11 and 11 participants in years 2, 3, and 4 respectively, with stipends of \$6,000 each; this is based on a calculation of 240 hours of training, multiplied by a wage of \$25/hour, with funds also helping cover childcare and transportation expenses. Adding C3 oversight and stipends yields the following costs per year:
  - Year 1. Adding \$37,500 for C3 workforce oversight and \$0 for stipends = \$37,500.
  - Year 2. Adding \$79,200 for C3 workforce oversight and \$60,000 for stipends = \$139,200.
  - Year 3. Adding \$79,200 for C3 workforce oversight and \$66,000 for stipends = \$145,200
  - Year 4. Adding \$79,200 for C3 workforce oversight and \$66,000 for stipends = \$145,200
5. Workforce Development Stipends. These stipends are for participants that complete the workforce development program in King County; recruitment and oversight of participants will be provided though the existing, funded King County [YouthSource](#) program. Of the targeted 115 workforce development positions of this proposal, 57 participants will be recruited in King County between Measures #1 and #2, with 31 positions in Measure #2 Community Program (the other 26 are under measure #1), with participants provided a stipend of \$6,000. The per year stipends allocations are:
  - Year 2 (2026): 9 participants at \$6,000 stipend/person = \$54,000
  - Year 3 (2027): 11 participants at \$6,000 stipend/person = \$66,000
  - Year 4 (2028): 11 participants at \$6,000 stipend/person = \$66,000

**Measure #3 Embodied Carbon Program**

*Personnel.* The Embodied Carbon Program includes one position under Personnel, classified as a PPM IV. Embodied carbon policies can be complex to develop, and require extensive and sometimes challenging stakeholder interactions. Additionally, developing and guiding building codes through the adoption process requires a breadth of skills. As such, it is believed a PPM IV is warranted.



*Contractual.* Contractual costs anticipate contracting to support design of the capital embodied carbon program, initial code drafting for private construction projects, outreach and stakeholder support, supporting program and code launch, and helping to County establish systems and staff training for compliance tracking. Cost estimates are for 3 primary elements, namely supporting a county capital program, supporting codes for private construction, and implementation support. Costs were adapted from initial consultant quotes for scoped items, including a 2023 expenditure of \$70,000 to help a NE utility embodied carbon capital program (which was estimated as probably low for a county program). For a county capital program, this proposal added a 25% increase a County capital program which, adding 3% per year for inflation, was rounded to \$95,000; \$40,000 is anticipated in year 1 and \$55,000 anticipated in year 2. For code development for private construction, a 35% increase was added to the \$70,000 quote in anticipation of a large outreach process; adding 3% per year for inflation, this process is estimated at \$125,000; \$65,000 is anticipated in year 2 and \$40,000 anticipated in year 3. Implementation support after capital and code implementation is anticipated at \$45,000 in year 3 including training module development, and \$30,000 in year 4 for support in the transition period.

- Year 1: \$40,000 for capital program = \$40,000.
- Year 2: Adding \$55,000 for capital program and \$65,000 for codes = \$120,000.
- Year 3: Adding \$40,000 for codes and \$45,000 for implementation support = \$80,000
- Year 4: \$30,000 for implementation support = \$30,000.

#### **Measure #4 Circular Lumber Program**

*Personnel.* Circular Lumber includes one position under Personnel, classified as a PPM III. Although this position will manage contracts, a smaller number of grant awards are anticipated, such that a PPM IV position is not warranted. However, this position will likely need to work with and support, several CBOs and local business applicants. As such, it is anticipated that skills beyond a PPM II are required.

*Supplies.* This budget category will provide supplies to support establishing distribution sites for salvaged wood on three existing County- or City of Seattle-owned properties. The individual unit cost of anticipated equipment is under \$5,000 each and hence is classified as supplies per EPA [guidance](#). Anticipated items have a range of potential costs, such as lumber racking (\$50 to \$3,500) and planers (\$450 to \$4,000), and hence are categorized as miscellaneous equipment.

*Contractual.* There are four anticipated items in the Contract budget category.

1. Product Testing, Assembly Contract. This would cover costs of a mass timber manufacturer receiving finger-jointed salvaged lumber and constructing mock-up panel for product testing rounds with universities (the testing itself would be a subaward; see Other category). Assumes two testing rounds per year, covering two \$10,000 payments (or \$20,000 total) in years 2 – 5 (2026 to 2029).
2. EPD Technical Assistance Contract. As noted in the application under 1.a Measure Details, the state Department of Commerce recently applied for funds to develop a structural wood EPD generator tool, anticipated for launch in mid-2025. As this program anticipates working with smaller salvaged wood manufacturers, some degree of consultant assistance is anticipated to help operators train and get comfortable using the EPD generator tool. This program anticipates 160 hours of work in year 1 (2025, to develop a training product and outreach package), with 320 hours of work in years 2 and 3 (2026 and 2027) respectively, to deliver trainings and individual operator assistance if needed. At \$150/hour, this leads to projected costs of \$24,000 in year 1, and \$48,000 in years 2 and 3.
3. CBO Workforce Development Partnership Contract(s). Although it is anticipated the program will secure CBO partners, the operational arm providing these services may be established as for-profit businesses and thus require securing services through competitive procurement. The scope of these operations will be to establish a training location, likely leasing a small warehouse (about the size of a 2- or 3-car garage) and provide training for new deconstruction crews. Training will be for 1-2

crews per year, with 5 – 6 persons per crew, and will also provide tools and equipment to each crew (scaffolding, equipment). The contract anticipates one primary contractor with one sub-contractor providing additional training operations. In year 1 (2025), funding is anticipated to address initial operational expenses such as leasing, purchasing equipment, and developing training modules. In years 2 – 3 (2026, 2027) it is estimated that labor, leasing and equipment will cost roughly \$50,000 per crew training, with 2 crews trained/year (\$100,000 annually), and 1 crew in 2028 (\$50,000).

4. Deconstruction Workforce Training, Administration Contract. This proposal includes a contract to administer the three deconstruction workforce trainings independent of the above, with one training proposed per years 1 – 3 (2025, 2026, 2027). This training would build on a previous training in 2023, which had an administration cost of \$40,000. Year 1 is projected at \$40,000, with \$1,000 and \$1,500 added to Years 2 and 3 to address inflation (\$41,000 and \$41,500 respectively).

*Other.* There are four anticipated items in the Other budget category, in addition to Other items related to personnel equipment leasing.

1. Product Testing, Subaward. This item anticipates conducting testing with regional universities to test and certify products for use in building construction; facility testing would be coordinated with University of Washington, Washington State University and Oregon State University. Testing usually requires submittal of several panels for destructive testing (panel assembly would be a separate process; see Contract category). Each round of testing can cost between \$20,000 to \$40,000 per round. For conservative cost assumptions, item cost estimates assume two testing rounds per year, at \$40,000 for each testing round (or \$80,000 total) in years 2 – 5 (2026 to 2029).
2. Processor Grants, Participant Support Costs. This item anticipates funding to help 3 processors establish operations near the SLW. Funding would primarily cover equipment and supplies purchasing, such as nail guns, planers, chop saws, and potentially qualifying transport vehicles. These funds anticipate 2-year grants to 3 awardees, with 3 allocations in years 2 and 3 (2026, 2027) of \$75,000 each (\$225,000 total each year).
3. Manufacturer Grants, Participant Support Costs. This item anticipates funding to help establish, or expand operations, to achieve 4 – 8 manufacturers using salvaged wood products, with a focus on [MWBEs](#) and CBOs. Funding would primarily cover equipment and supplies purchasing, including potential qualifying transport vehicles. Manufacturer operations can be costly, though some smaller operations – such as finger-jointed stud assembly – cost less to establish, or about \$100,000 startup costs. Grant funding would be limited to half of startup costs, or a maximum allocation of \$50,000 in this example. Funding projections used this amount as the smaller baseline award for this item. The proposed allocation is \$500,000 per year in years 2 and 3 (2026 and 2027) for this item. This could fund either two \$250,000 grants per year, with four manufacturer grantees total; alternatively, it could fund 6 grants of \$150,000 and 2 grants of \$50,000, for a total of 8 grantees.
4. Workforce development trainee stipends. This proposal includes stipends for participants in the three deconstruction workforce trainings (see #4 under Contracts), building on the structure of a past training in 2023. One training is proposed per years 1 – 3 (2025, 2026, 2027). The training will provide attendees with a stipend of \$3,000; this is based on a calculation of 3 weeks of training at 40 hours a week (120 hours total), multiplied by a wage of \$25/hour. Each training anticipates 15 attendees would receive the training;  $15 * \$3,000 = \$45,000$  per training for stipends.

#### **Measure #5 Financing Program**

*Personnel.* The Financing Program includes one position under Personnel, classified as a PPM III. Although this position will not manage contractors, this individual will require a baseline level of fiscal expertise or experience, such that it is anticipated that a PPM III position will be required.