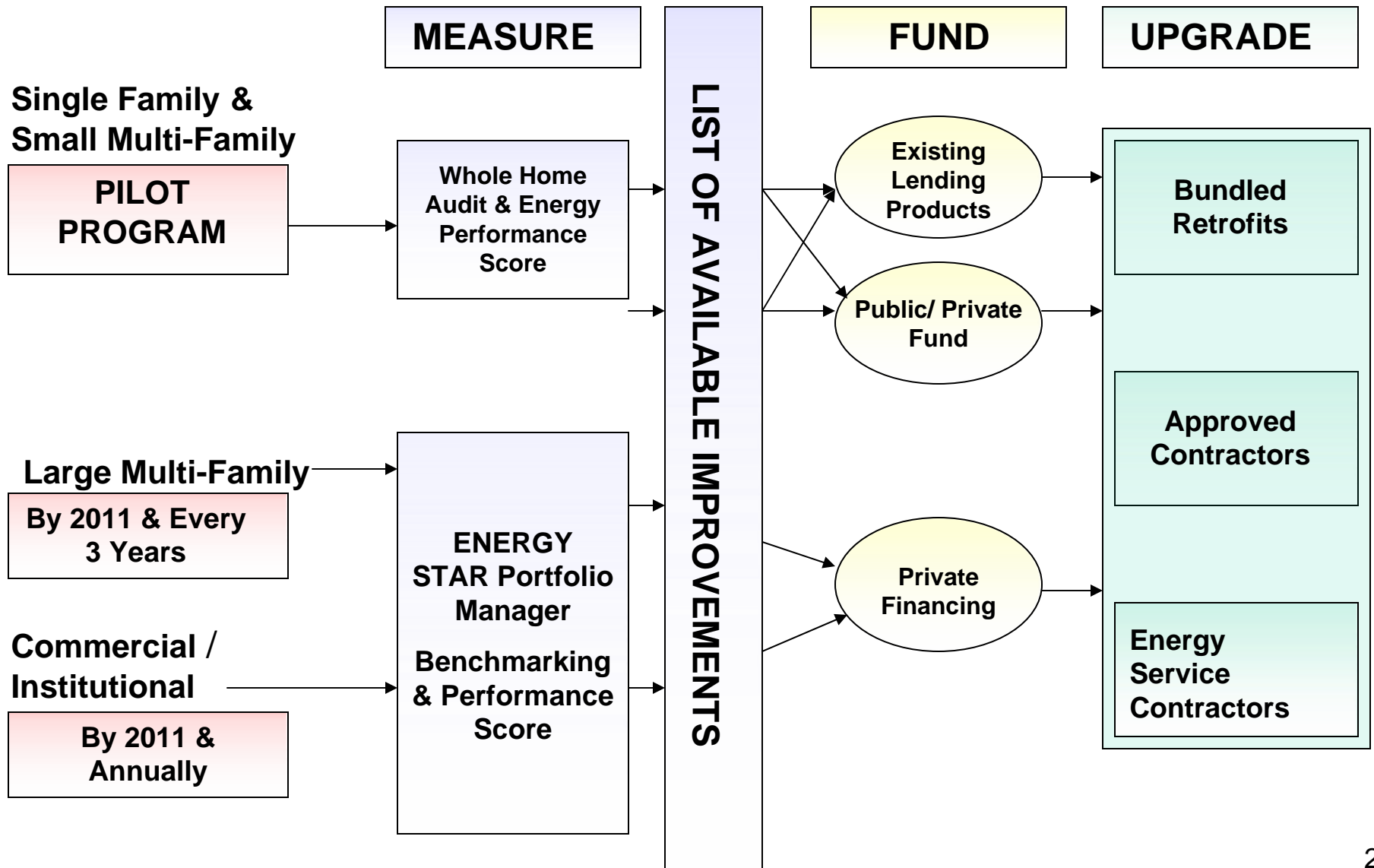


City of Seattle Mayor's Green Building Capital Initiative



Existing Buildings Draft Policy Approach



SECTOR	DISCLOSURE REQUIREMENT
Large Multi-Family	<ul style="list-style-type: none"> ▪ Mandatory disclosure of Energy Star Portfolio Manager benchmarking data ▪ Reported through EPA secure server ▪ Training and technical assistance program offered in partnership with US EPA
Properties ≥ 20 Units 1,260 Buildings 57,500 Units	By 2010 & every three years thereafter
Properties 10 – 20 Units 1,400 Buildings 18,800 Units	By 2011 & every three years thereafter
Properties 5 – 9 Units 3,100 Buildings 17,500 Units	By 2012 & every three years thereafter
Commercial/ Institutional	<ul style="list-style-type: none"> ▪ Mandatory disclosure of Energy Star Portfolio Manager benchmarking data and rating ▪ Reported through EPA secure server ▪ Training and technical assistance program offered in partnership with USEPA, BOMA, IFMA, others.
Properties ≥ 50,000 SF 680 Buildings, 104 million SF	By 2010 & annually thereafter
Properties ≥ 25,000 SF 680 Buildings 23 million SF	By 2011 & annually thereafter
Properties ≥ 10,000 SF 1,650 Buildings 26 million SF	By 2012 & annually thereafter

Portfolio Manager's Statement of Energy Performance



STATEMENT OF ENERGY PERFORMANCE

Sample Facility

Building ID: 123456

For 12-month Period Ending: October 31, 2005¹

Date SEP becomes ineligible: February 28, 2006

Date SEP Generated: November 10, 2005

Facility Being Labeled

Sample Facility
1234 Main Street
Springfield, VA, 10000

Facility Owner

Sample Owner
4567 Peach Ave.
Springfield, VA 10000
555-555-5555

Primary Contact for this Facility

Jane Smith
7890 Columbia Way
Springfield, VA 10000
555-555-5555
jsmith@jsmith.com

Year Built: 1999

Gross Building Area (ft²): 20,000

Energy Performance Rating ² (1-100): 80

Facility Space Use Summary

Space Type	Area (ft ²)	Occupants	Operating Hours	Number of PCs
Garage	5,000	2	40	0
Office (General)	15,000	40	40	40

Site Energy Use Summary

Electricity (kBtu) 123,456
Natural Gas (kBtu)³ 123,456
Total Energy (kBtu) 246,912

Energy Intensity ⁴

Site (kBtu/ft²-yr) 6.3
Source (kBtu/ft²-yr) 19.5

Emissions (based on site energy use)

CO₂ (1000lbs/yr) 263

Indoor Environment Criteria ⁵

Indoor air pollutants controlled? Yes
Adequate ventilation provided? Yes
Thermal conditions met? Yes
Adequate illumination provided? Yes

Notes:

- Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
- The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
- Natural Gas values in units of volume (e.g. cubic feet) are converted to kBtu with adjustments made for elevation based on Facility zip code.
- Values represent energy intensity, annualized to a 365 day calendar.
- Based on meeting ASHRAE Standard 62-1999 for Indoor air quality, ASHRAE Standard 55-1992 for thermal comfort, and IESNA Lighting Handbook for lighting quality.



Tracking Number: SEP20060101000001234

The government estimates the average time needed to fill out this form is 5 hours (includes the time for entering energy data, PE facility inspection, and notarizing the SEP) and welcomes suggestions for reducing this level of effort. Send comments (referencing OMB control number) to the Director, Collection Strategies Division, U.S., EPA (2622T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460.

EPA Form: 5900-16

Site Energy Use Summary

Electricity (kBtu) 123,456

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CO₂ (1000lbs/yr) 263

Based on actual “whole – building” energy performance data

Normalizes for factors that affect energy use intensity:

- Climate/weather
- Size
- Occupancy



Professional Engineer

License Number: 0000001
State: VA
John Doe
1234 Vineyard Lane
Springfield, VA 10000
555-555-7788

Residential Energy Performance Audit Pilot Program

- 5000 Audits in 18 months
- Funded through a partnership with PSE and SCL
- Cost to participant will be \$95 (\$600 Value)
- Utilizing the Energy Performance Score framework:
 - Analysis of home energy performance using state-of-the-art diagnostics, such as a blower door test to measure air leakage
 - Comparison of home energy and carbon score to established benchmarks.
 - Recommended upgrades to improve home's score while also reducing energy costs and increasing comfort and safety.

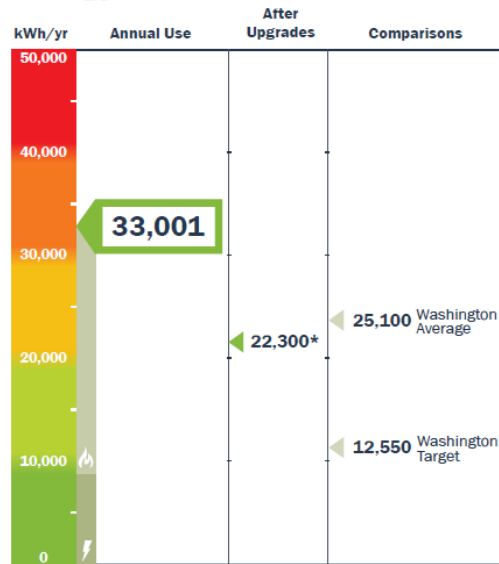
ENERGY PERFORMANCE SCORE



Address: 1234 Rainier Ave., S., Seattle, WA 98144 Reference Number: 410000000

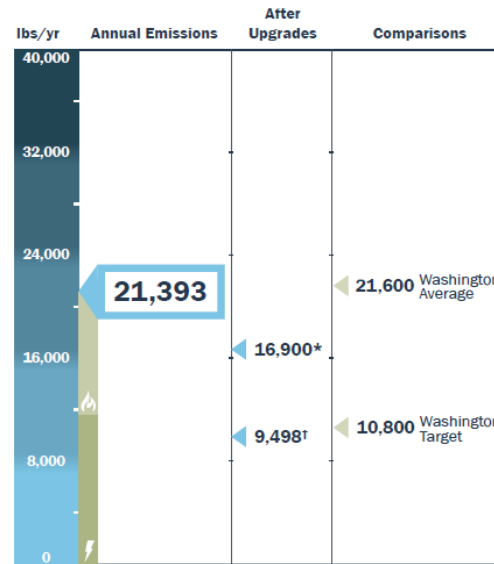
⦿ **Energy Use:** 33,001 kWh/yr **\$1,640**
⦿ **Carbon Emissions:** 21,393 lbs/yr
⚡ **Electric:** 9,011 kWh/yr **\$730**
⚡ **Electric:** 11,895 lbs/yr
🔥 **Natural Gas:** 816 therms/yr **\$910**
🔥 **Natural Gas:** 9,498 lbs/yr

Energy Use



*See Recommended Upgrades

Carbon Emissions



*See Recommended Upgrades

†With energy from renewable sources

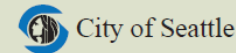
This score measures the total energy use (electricity, natural gas, propane, heating oil) of this home for one year. The lower the score, the less energy required for normal use. Actual consumption and costs may vary.

Measured in kilowatt hours per year (kWh/yr).

This score measures the total carbon emissions based on the annual amounts, types, and sources of fuels used in this home. The lower the score, the less carbon is released into the atmosphere to power this home.

Measured in pounds of carbon per year (lbs/yr).

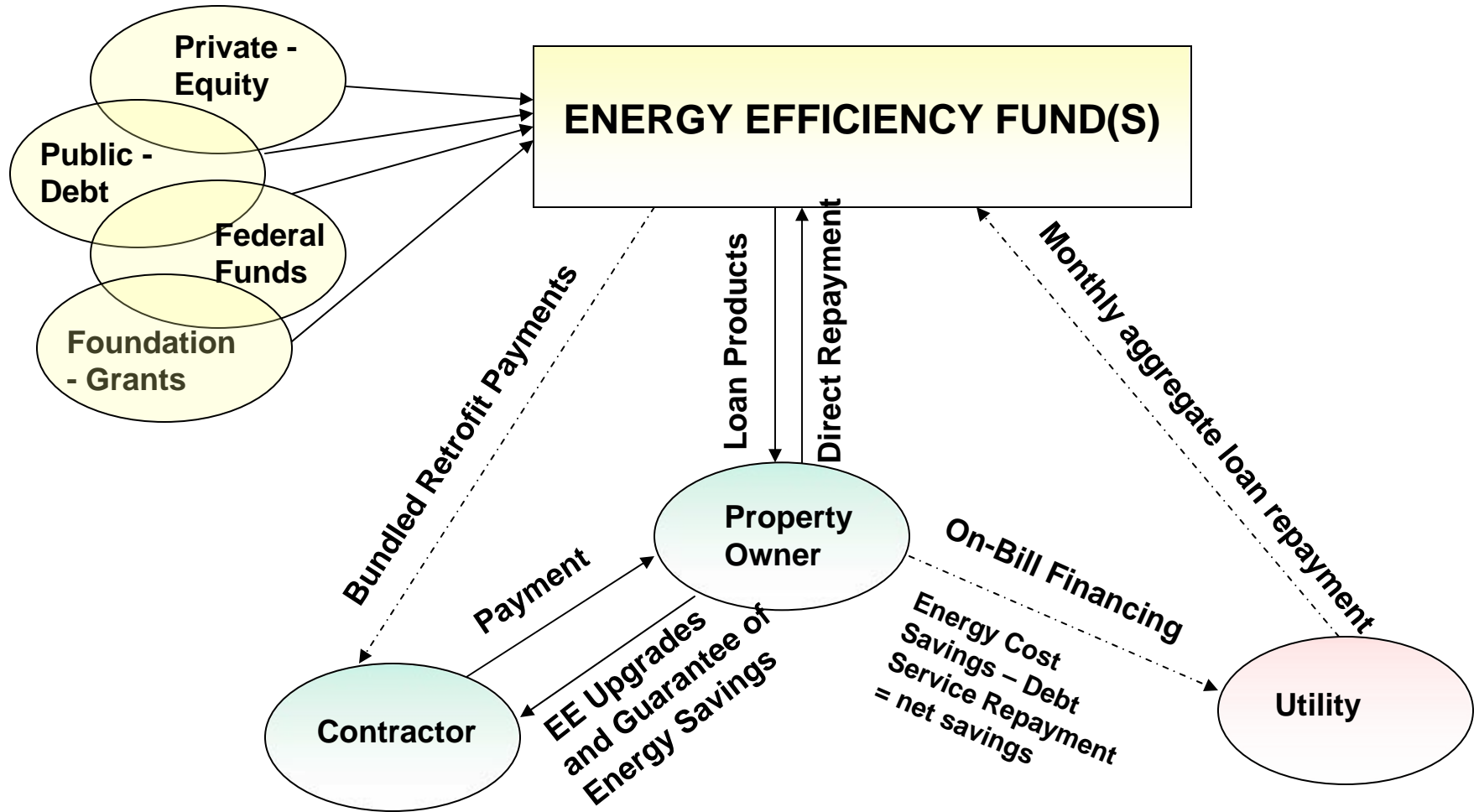
Size : 2,025 s.f. **Audit Date :** 9/17/2008
Type : Single-family **Auditor :** Earth Advantage Institute
Bedrooms : 4 Seattle, WA
Year Built : 1958 E. Storm



Energy Efficiency Financing

- Mayor proposes using \$1.2 M of Federal Energy Efficiency and Conservation Block Grant Dollars to seed a revolving loan program for the residential market
- Continue effort to develop public/private financing pool for residential market
- Will work over the next year with utility and state government partners to identify a workable solution
- Federal Energy Efficiency and Conservation Block Grant dollars may be used to support a revolving loan program
- State Energy Program dollars may also be used for this purpose

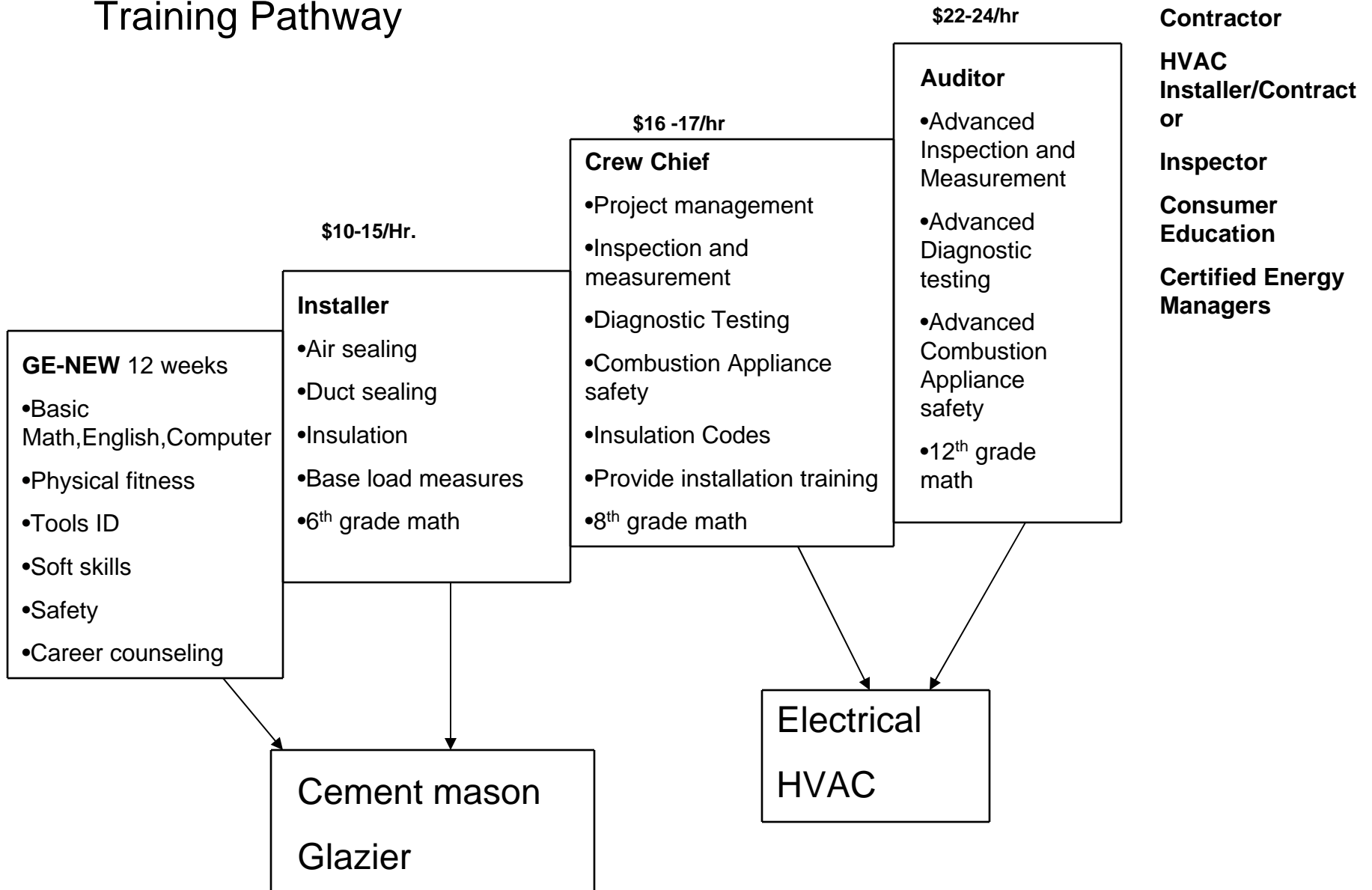
Private Energy Efficiency Financing Pool



Workforce Development

- Certification of auditors
 - Building Performance Institute
 - Utility-specific training
 - Energy Performance Score training
- Standardization of the work
 - Accredited or pre-approved contractors
- Ramping up and expanding existing training programs

Energy Efficiency/Construction Training Pathway



Education & Public Engagement Campaign

- Address Building Performance and Occupant Behavior Including Plug Load
- Leverage Existing Communication Pathways
- Partner with Professional Trade Organizations
- Develop In-Person Outreach Capacity, Including a Citizen Volunteer Program
- Consider a Recognition/Awards Program

Programs for New Buildings

- Near Term (by end of 2009)
 - Green Q priority permitting
 - Innovation Review Board
 - Energy code enhancements
 - Near term neighborhood energy strategies
- Medium Term (by end of 2010)
 - Additional energy code enhancements
 - Long term neighborhood energy strategies
 - Energy efficiency rebate program

Green Q Permitting

- Expedited and facilitated permitting
 - Predictability, with known timeframes
 - Cross departmental team with single point of contact provides opportunity to work closely with design team
- Accountability for all parties
 - Potential penalties if project does not achieve energy targets
 - Consider permit fee rebate if turnaround target is not achieved

Innovation Review Committee

- Embrace innovation and learn from experience
 - Early feedback on project specific or general technology proposals
 - Broader authority to recommend permit approval if no life safety implications
- Expands the role of CCAB
- Accountability for permit applicant
 - Monitoring and disclosure of actual performance
- Small total efficiency gains, but paves the way for future code development

Commercial Energy Code Updates

- Raise base level of acceptable performance to alignment with 2030 Challenge goals
- Near Term steps
 - Advocate for 30% improvement in WA Energy Code
 - Develop pilot program to encourage energy modeling and performance based energy code compliance
 - Current codes near limit achievable through prescriptive approach
 - Promotes whole building approach
 - Allows comparison of energy performance post occupancy (through disclosure) to modeled projections
- Medium Term steps
 - Prepare Seattle code amendments (if necessary) to achieve 2030 Challenge goals
 - Implement performance code based compliance pilot
 - Compare energy performance post occupancy to modeled projections – “you can’t control what you don’t measure”

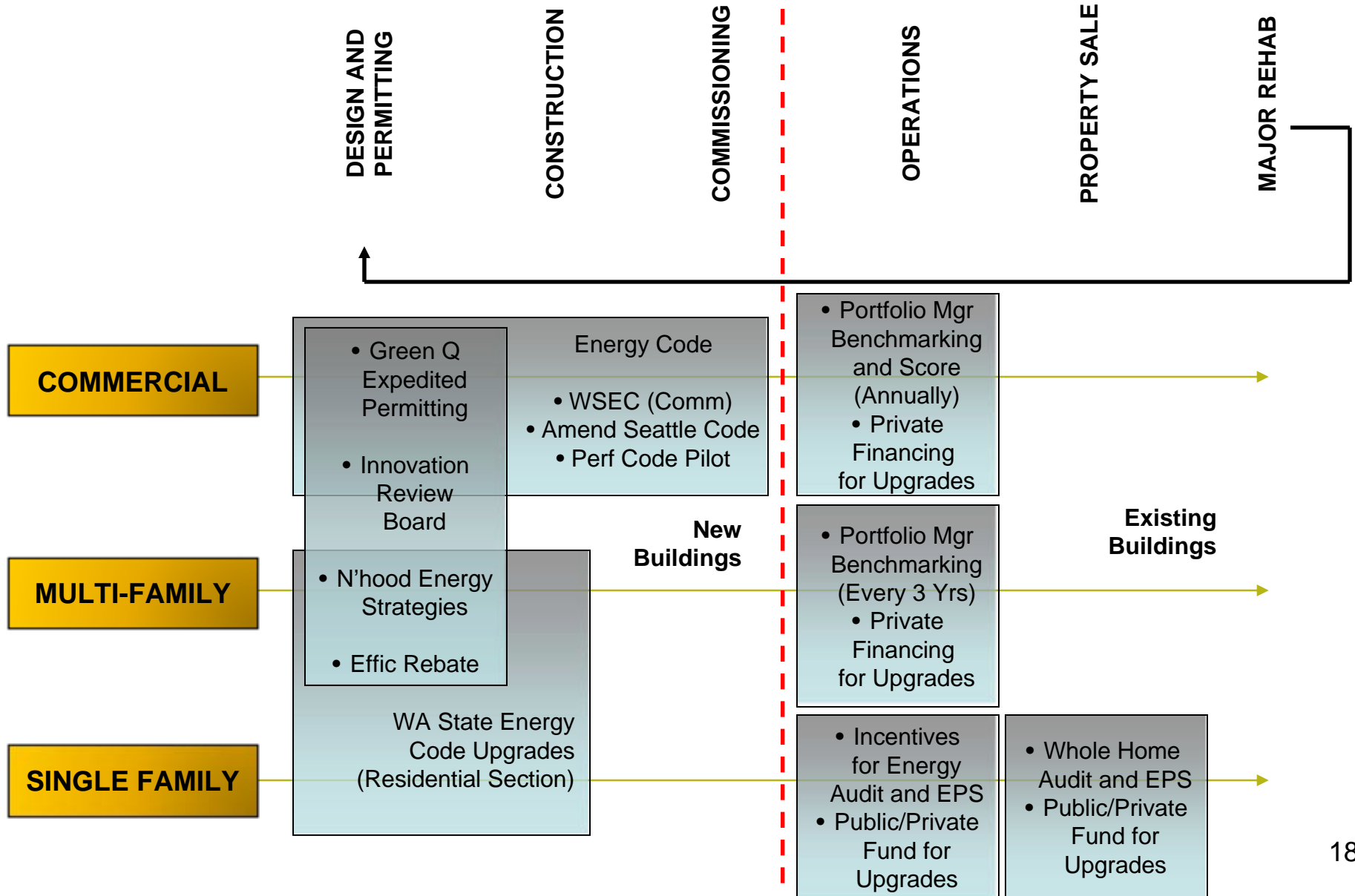
Neighborhood Energy Strategies

- Heat sources should be waste heat, renewables or CHP
- Initial steps:
 - Develop citywide “heat map” to identify areas of greatest potential development activity and large heating sources/loads
 - Incentivize or mandate alternatives to electric resistance heating systems in buildings
- Next steps: neighborhood scale pilot projects
- Long term potential dependent upon solving financing and institutional barriers
- Potential to be ground breaking in achieving energy and carbon reduction targets

Energy Efficiency Rebate

- Self funding three tier program, with no net increase in fees
 - Additional fee charged at time of permitting
 - Fee is waived if anticipated targets for next release of energy code are achieved – “stretch code” targets
 - Incentive rewards for high performance buildings
- Lower incentive bar for low income housing
- Correct identification (and periodic adjustment) of transition points is necessary to balance the program funding
- Will require change in WA State regulations re use of permit fees

Overall Recommendations



End