

# Procuring High Efficiency Building Equipment

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Environmental  
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## Review of Draft Report

# Project Overview

- Developing procurement requirements for high efficiency building equipment (EO 17-20, item 3.D.)
  - Energy and Water
  - Include considerations of other product sustainability criteria
- Multi-step process
  - Identifying equipment, certifications/standards
  - Writing requirements and guidelines
- DAS, ODOE, DEQ
- Deadline: June 2019 (FY '20)



# Process

- Identify building equipment
  - Basis: federal program categories: GPC and FEMP
  - Stakeholder input: state agencies/individuals
- 10 categories (~150 products)
  - Appliances
  - Biomedical/lab
  - Cleaning
  - Electronics/IT
  - Food Service
  - HVACR
  - Lighting
  - Plumbing
  - Vehicles/products
  - Other



# Process

- Identify efficiency standards/program recommendations
  - Federal: DOE/FEMP
  - State: Oregon (Codes, Multi-State Appliance Standard Collaborative, SEED)
  - Industry: ASHRAE (90.1)
  - Programs (e.g., Oregon Energy Trust)
- Identify product certifications for high efficiency during usage
- Identify multi-attribute sustainability certifications (life cycle based)
  - High efficiency, and:
  - Other sustainability attributes, such as:
    - Lower toxic chemicals (manufacturing, usage, end-of-life)
    - Best management practices for disposal (end-of-life)
    - No conflict minerals (material extraction - social impact)



ESST		Energy Eff*	Water Eff	Performance	RoHS	Sense	Energy Eff	Water Eff	Performance	Energy Star	Energy Eff	RoHS	Other Toxics
Food Service (comm)													
	Dishwashers (Commercial)	Y	Y				Energy Star						
	Fryers (Commercial)	Y					Energy Star						
	Griddles (Commercial)	Y					Energy Star						
	Hot Food Holding Cabinets	Y					Energy Star						
	Ice Machines, Air-Cooled	Y	Y				Energy Star						
	Ice Machines, Water-Cooled						Y						
	Ovens (Commercial: convection)	Y					Energy Star						
	Pre-rinse spray valves					Y*		WaterSense					
	Refrigerated Beverage Dispensers	Y		Y			Energy Star						
	Refrigeration cabinet, walk-in												
	Refrigerators and Freezers	Y					Energy Star						
	Steam Cookers	Y					Energy Star						
VACR													
	Air conditioner, commercial						Y						
	Air conditioner, mini-split												
	Air conditioner, residential	Y					Energy Star						
	Boilers (Commercial)	Y		Y			Y						
	Boilers (Residential)	Y/ME		Y			Energy Star						
	Ceiling Fans (Residential)	Y/ME		Y			Energy Star						
	Central Air Conditioning	Y					Energy Star						
	Central Air, High Performance												
	Chiller compressor, variable speed												
	Chiller, variable speed												
	Control system, chiller												
	Cooler, indirect evaporative												
	Cooling Tower/Evaporative												
	Electric Chillers, Air-Cooled						Y						



# Filtering

- Goal for purchasing high efficiency building equipment
  - Energy and water efficient
  - Includes other sustainability criteria
- ENERGY STAR & WaterSense (or equivalent efficiencies): **minimum efficiency standards**
  - EPA programs
  - Exceed Federal minimum standards
  - Cover wide range of building equipment
  - 3<sup>rd</sup> party certified
  - Compliance shown to save energy and \$\$
- Sustainability specifications (eco-labels)
  - 3<sup>rd</sup> party verified (preferred)
  - Available in US





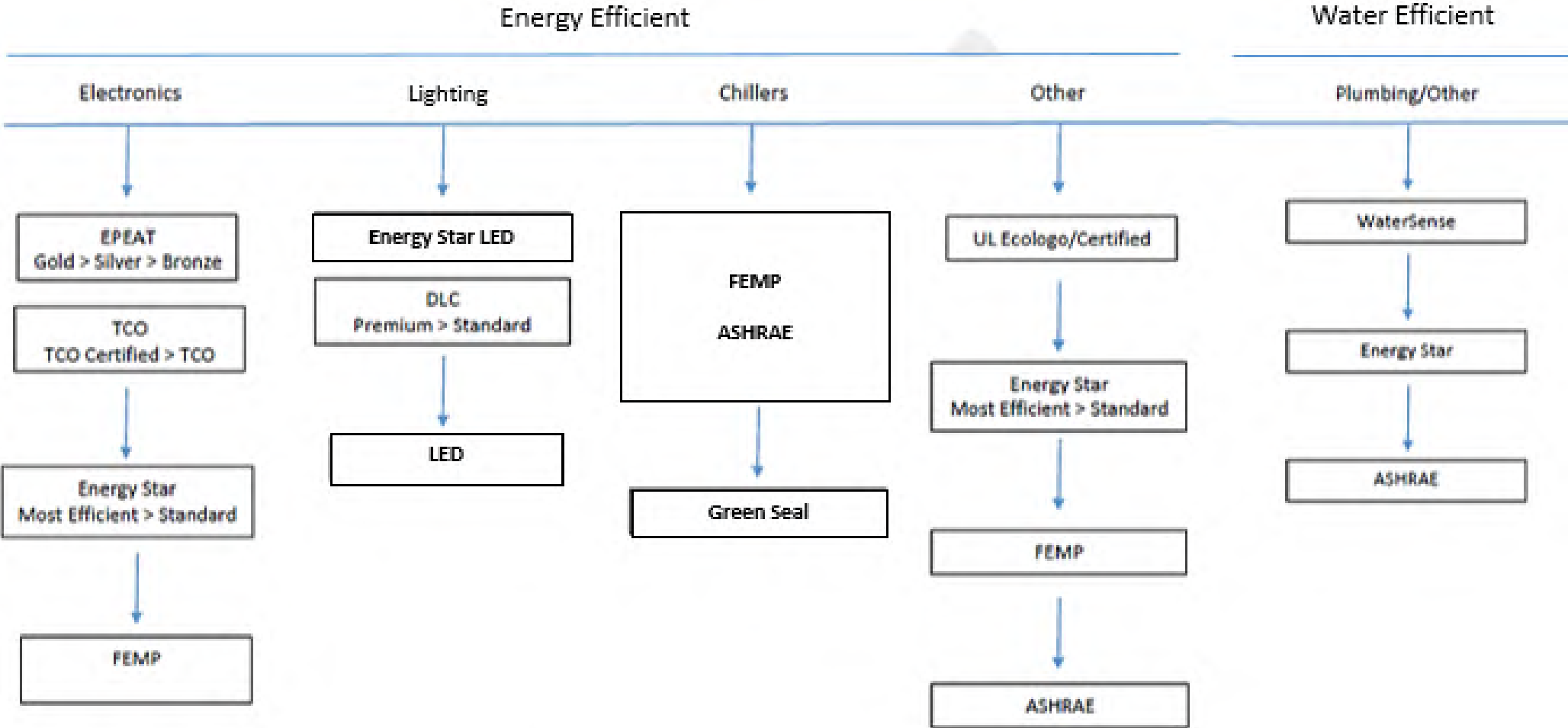
# Develop Selection Guidelines

- Compliant with
  - ENERGY STAR & WaterSense (or equivalent)
  - Sustainability criteria (eco-labels)
    - Multi-attribute priority
    - 3<sup>rd</sup> party verified priority
  - Product/category based, not universal
- Purchasing selection tree: prioritization/preference guidelines
  - Standards
  - Eco-labels





# Selection Tree – Under Development



# Other Procurement Considerations

- Cost
  - Total cost (vs upfront cost)
- Facility design



# Integrating into Procurement

- Policy
  - Statewide policy under SPP Program
- Training
  - Certified Training
    - Sustainable Procurement
    - Fundamentals
    - Contract Administration
- Procurement Resources
  - Procurement Manual
  - Templated Language
  - Price agreements
- Justification for use of non-certified products
- Metrics
  - Projected energy and water savings



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# Selecting High Efficiency Equipment

- Fewer attributes  $\geq$  Energy Star/WaterSense or equivalent, *DLC* (lighting) for example
- Otherwise certifications  $>$  federal/state/national efficiency standards, such as *Green Seal*
- Otherwise federal/state/national efficiency standards
  - Federal standards:  $>$  60 products (4 categories)
  - State (Oregon): 8 products
  - National standard: ANSI/ASHRAE/ICC/USGBC/IES 189.1

