		INCLUDE IN CONTRACTOR AFFIDAVITS | | v	INCLUDE IN CONTRACTOR AFFIDAVITS | | v	INCLUDE IN CONTRACTOR AFFIDAVITS | | v
ENERGY EFFICIENCY MEASURES			**Blue=eligible for EnergySmart Rebates only Yellow=eligible for Denver Energy Challenge Rebates only Green=eligible for both**	
Category	**Measure**	**Minimum Efficiency / Certification Requirements**	**Measure Names for Elevations Reporting**	**Units For Elevations Reporting**
Energy Assessment, System Optimization	**Energy Assessment / Energy Audit**	Perform an ASHRAE Level 2 or Level 3 per ASHRAE Procedures for Commercial Building Energy Audits. Provide Audit Report for verification. Energy audit report must include oversight by a Professional Engineer and Audit Report must be stamped.	Assessment (Loan Program)	jobs
	(Re/Retro)Commissioning	Commissioning new mechanical systems or Recommissioning/Retrocommissioning of older systems. Commissioning services must be performed by a Certified Commissioning Authority with either a CxA, CCP, CxAP, or CPMP and follow the minimum requirements of ASHRAE Guideline 0, ACG Commissioning Guideline, or BCA New Construction Building Commissioning Best Practice. Final Documentation must be submitted as a verification of services.	(Re/Retro)Commissioning	jobs
Energy Management	**Energy Use Monitoring**	Recommend paring with a funded improvement. 12 months min. of data from before the improvement, for ongoing comparison during loan lifetime. Data may be tracked in EnergyStar Portfolio Manager. Energy Use Monitoring systems must comply with ASHRAE Standard 189.1 2011 7.3.3 Energy Consumption Management. The Energy Use Monitoring system must be web based, accessible, and controllable through standard web browsers for buildings over 50,000 square feet, and is strongly recommended for smaller buildings when financially feasible.	Energy Use Monitoring	jobs
	Submetering	Recommend pairing with other funded improvements. Allows individual tenants to monitor energy use and pay only for what they use. Systems must comply with ASHRAE Standard 189.1 2011 7.3.3 Energy Consumption Management or ASTM E1464 - 92(2005) Standard Guide for Developing Energy Monitoring Protocols for Commercial and Institutional Buildings or Facilities.	Submetering	jobs
	System Level Metering	Systems must comply with ASHRAE Standard 189.1 2011 7.3.3 Energy Consumption Management or ASTM E1464 - 92(2005) Standard Guide for Developing Energy Monitoring Protocols for Commercial and Institutional Buildings or Facilities.	System Level Metering	jobs
	Energy Management Systems /Direct Digital Control (DDC)	Computer-based Building Automation System with preventative maintenance program or contract. Energy Management Systems must comply with ASHRAE Standard 189.1 2011 7.3.3 Energy Consumption Management DDC system must be an open protocol language such as native BACnet or LonWorks.	Energy Management Systems /Direct Digital Control (DDC)	jobs
	Automated Controls	May include occupancy and CO2 sensors, lighting and daylighting controls. May include passive infrared (PIR), ultrasonic (US), and dual-technology (DT) types. Appropriate range for space should be selected and installed (long-range for corridors should be highlighted for verification of appropriate range in the space specifically).	Wall mount occupancy sensor	sensor
			Ceiling or fixture mount occupancy sensor	sensor
		Sensor: Closed-loop, fixture- or single zone ceiling-mount, low voltage indoor photosensor (powered by supplied power pack) capable of detecting changes in light levels to raise/lower lighting in response to changing daylight levels (control range of 20-60 footcandles). Sensor to be mounted in between 6'-12' from daylight window, at least 4' from pendant or indirect fixtures. Can be: - Full continuous dimming:100% - 10% or lower, or - Multilevel dimming: One control step between 50% and 70% of design lighting power and another control step not greater than 35% (including off) of design power. Ballast: 0-10V Dimming ballast, full range continuous dimming OR bi-level ballast. Ballast must be suitable for use with specified lamp type (T8, T5/HO, 4-pin CFL), programmed start operation, 120V and 277V input line voltage.	Dimming daylighting sensor per fixture	fixtures controlled
		Sensor: Closed-loop, fixture- or single zone ceiling-mount, low voltage indoor photosensor (powered by supplied power pack) capable of detecting changes in light levels to turn lights on/off in response to specifed ambient light level setpoint (control range of 1-1400 FC). Sensor to be mounted in between 6'-12' from daylight window, at least 4' from pendant or indirect fixtures. Ballast: High efficiency electronic ballast.	Non-dimming daylighting sensor per fixture	fixtures controlled
		Open-loop, exterior mounted photocell (north-facing) connected to exterior lighting circuits/relays to switch lights on for dusk to dawn operation and off when daylight level setpoint is sensed (control range of 1-15 FC).	Photocell for exterior fixtures	sensor
	Manufacturing Process Efficiency	Custom evaluation of performance proposal.	Manufacturing Process Efficiency	jobs
		Replace T12 / early T8 / incandescent / magnetic ballast systems. New system must use efficient T8 lamping and have high efficiency electronic ballasts meeting the required ballast factor.	4' or less - 3-4 lamps, Normal or High BF (>0.85)	units
			4' or less or U-bend - 1-2 lamps, Low BF (<= 0.85)	units
			4' or less or U-bend - 1-2 lamps, Normal or High BF (>0.85)	units
			4' or less or U-bend - 3-4 lamps, Low BF (<=0.85)	units

Lighting	**Fluorescent T8 systems**		5'-8' fixtures - 1-2 lamp cross sections, Low BF (<=0.85)	units
			5'-8' fixtures - 1-2 lamp cross sections, Normal or High BF (>0.85)	units
			5'-8' fixtures - 3-4 lamp cross sections, Low BF (<=0.85)	units
			5'-8' fixtures - 3-4 lamp cross sections, Normal or High BF (>0.85)	units
		Replace T12 / early T8/ normal outuput (32 watt) T8 4 foot or U-bend with low wattage 28 watt or less T8 lamping.	Low-wattage - 4 foot or U-bend, 28W or less	units
		Retrofit reflector kit must have a total luminaire optical efficiency of 85% or higher. So savings are not double counted, deemed savings can only be applied when the instllation of the reflector kit results in an additional lamp being removed (beyond what was applied for through the delamping incentive). In otherwords, the reflector kit must result in at least two lamps being removed, acheiving the lower value in the range of de-lamping inventive (i.e. one lamp remaining post installation in the 1-2 catagory, or 3 lamps remaining post installation in the 3-4 catagory.)	Reflector kits	units
	Fluorescent T5 systems	Replace T12 / early T8s / incandescent systems / magnetic ballasts. New system must use T5/T5HO lamping and have high efficiency electronic ballasts.	T5 replace T12 or incandescent - 4' or less - 1-2 lamps	units
			T5 replace T12 or incandescent - 4' or less - 3-4 lamps	units
	Electronic Ballasts	Replace magnetic / normal-high ballast factor electronic ballasts with high-efficiency ballasts, with low ballast factor required (BF<=0.85).		units
	High Bay Fluorescent fixtures	Must have high efficiency electronic ballasts. 800 series lamps recommended, but not required.	High Bay: HID 175-250W to 2/3-lamps T5HO, 4-lamp T8	units
			High Bay: HID 310-400W to 3-lamp T8VHO, 4/6-lamp T5HO, 6/8-lamp T8	units
			High Bay: HID 750W to 6-lamp T8VHO, 8-lamp T5HO, 12/16-lamp T8	units
			High Bay: HID 1000W to 8-lamp T8VHO, 10-lamp T5HO, 18/20-lamp T8	units
	Ceramic/Pulse-Start / Metal Halide	Must replace incandescent, halogen, mercury vapor, or high pressure sodium.	Ceramic Metal Halide 150W or less	units
			Ceramic Metal Halide 151W - 250W	units
			Ceramic Metal Halide 251W or greater	units
			Ceramic Metal Halide 25W integrated ceramic metal halide lamps	units
			Metal Halide 151W - 250W	units
			Metal Halide 251W or greater	units
			Pulse Start Metal Halide 175W or less	units
			Pulse Start Metal Halide176W - 319W	units
			Pulse Start Metal Halide 320W - 749W	units
			Pulse Start Metal Halide 750W or greater	units
	Compact Fluorescent (CFL)	Must replace incandescent systems. New systems must be pin-based, only retrofit fixtures can use GU24 based conversion kit.	CFL <19W (pin-based)	
			CFL 19W - 32W (hardwired or pin based)	units
			CFL 33W or greater (hardwired or pin based)	units
			Industrial Multi-CFL	units
	LED or LEC Exit Signs	Replace incandescent or flourescent exit signs. LEC/LED exit sign must not exceed 5W per face.	EXIT sign - LEC replace incandescent or CFL	units
			EXIT sign - LED replace CFL (greater than 15W)	units
	LED Energy Star Lamps	Replace incandescent or halogen lamps with LED lamps that use 3-6 times less energy. For example, a 20W LED lamp can replace a 60-120W incandescent lamp. Use Energy Star table, (http://www.energystar.gov/index.cfm?c=cfls.pr_cfls_lumens) for suitable replacement wattage verification. Lamp must be Energy Star specifed.	5W or less LED Energy Star Lamps replace incandescent or halogen	units
			6W - 10W LED Energy Star Lamps replace incandescent or halogen	units

			11W - 20W LED Energy Star Lamps replace incandescent or halogen	units
	LED Energy Star Interior Luminaires	Replace incandescent systems with LED systems that use 3-6 times less energy. For example, a 20W LED lamp can replace a 60-120W incandescent lamp. Luminaire must be Energy Star specified.	25W or less LED Energy Star Luminaires replace incandescent systems	units
			26W - 50W LED Energy Star Luminaires replace incandescent systems	units
	LED Exterior Lighting, (Canopy, Soffits, Wall Packs and Pole Mounts)	Replace any exterior lighting application / type (HID, incandescent, halogen, fluorescent, etc) with a LED lighting type that uses 3-6 times less energy. For example, a 50W LED fixture can replace a 150-300W HID. Confirm that lighting design and fixture replacements meet local lighting ordinances.	25W - 150W LED Canopy and Soffit Fixtures, Wall Packs and Pole Lamps	units
	LED Refrigerated Case and Walk-in Lighting	Replace fluorescent T10 / T12 / T8 systems with LED systems. LED system must be at least 30% lower than replaced fluorescent system.	LED replace T8 w/ electronic ballast in walk-in, open or reach-in display	units
			LED replace T10 or T12 w/ mag ballast in walk-in, open or reach-in display	units
			LED replace T12 or T8 in cases with 5 ft. and 6 ft. doors	units
	LED Linear Lighting	Replace T12 or T8 or incandescent systems with LED strip or tube lighting. LED replacement strip must be 5 W/ LF or less.		linear ft of system
	Parking Lot and Parking Garage Lighting	Garage exterior must be switched separately from interior. Zoned switching of garage interior encouraged. A lighting load reduction of 40% is required. Must be COVERED PARKING. Exterior / uncovered parking lot pole lights: replace incandescent, halogen, mercury vapor, or high pressure sodium with LED OR pulse start / ceramic metal halide: - IF LED, see "LED Exterior Lighting" for requirements and deemed savings. - IF Metal Halide, see "Ceramic/Pulse Start/Metal Halide" for requirements and deemed savings. Interior / Covered parking garage lights: replace HID (high pressure sodium, mercury vapor, metal halide) with fluorescent OR LED.	Parking Garage Replace 100-149W HID systems with T5HO or T8	units
			Parking Garage Replace 100-174W HID with LED	units
			Parking Garage Replace 150W or 175W HID systems with T5HO or T8.	units
			Parking Garage integral occupancy controls on fluorescent or LED	units
			Parking Garage daylighting controls on fluorescent or LED	units
	Other Exterior Lighting, (Canopy, Soffits, Wall Packs and Pole Mounts)	Replace inefficient HID, incandescent, halogen, systems with efficient compact fluorescent lighting systems. For canopy and soffit lighting, new systems must be pin-based, only retrofit fixtures can use GU24 based conversion kit. If GU24, fixture must be enclosed to prevent potential safety issues. If GU24 and 19W or less, it is recommended that fixture is enclosed to ensure fixture will work properly in cold weather. CFL replacement lighting system / application not to exceed ASHRAE 90.1-2004/2007 exterior lighting power allowances: - Drives / Plazas / Walkways >10 feet / Facades / Signage = 0.2 W/SF - Walkway < 10 feet = 1 W/LF - Doorways, main entrance = 30 W/LF, other entrance = 20 W/ LF - Canopy / Overhang = 1.25 W/SF Confirm that lighting design and fixture replacements meet local lighting ordinances.	CFL 18W or less	units
			CFL 19W - 32 W	
			CFL 33W - 42 W	
			CFL 43W - 84 W	
			CFL 85W - 100W	
			CFL 100W or greater	units
	Exterior Lighting Controls	Install current code-compliant controls for all exterior lighting. Includes addition of controls where control did not exist, further control setback (late-night scheduling), and integral motion sensing control. *At a minimum, controls must adhere to ASHRAE 90.1-2004/2007control requirements for exterior lighting: - Lighting must be controlled by astronomic time-clock, photocell, or combination of time-clock and photocell for dusk to dawn operation. *Late-night Scheduling of controls must shut off exterior lighting by 12am midnight. May schedule for earlier than 12am, but no later. *Motion Sensing Control must be integral to fixture. Confirm that lighting design and fixture replacements meet local lighting ordinances.	NEW exterior lighting controls for dusk to dawn operation of all exterior lighting. Total connected exterior lighting load between 1-4 kW.	
			NEW exterior lighting controls for dusk to dawn operation of all exterior lighting. Total connected exterior lighting load between 4-7 kW.	
			NEW exterior lighting controls for dusk to dawn operation of all exterior lighting. Total connected exterior lighting load between 7-10 kW.	
			Late-night Scheduling for a total connected exterior lighting load between 1-4 kW.	
			Late-night Scheduling for a total connected exterior lighting load between 4- 7 kW.	
			Late-night Scheduling for a total connected exterior lighting load between 7-10 kW	
			Integral fixture motion sensing control	
	Delamping and Re-switching	Applies to replacement of T12, or T12HO / magnetic ballast systems with T8 / high efficiency electronic ballast systems; AND early T8 / magnetic, or normal - high ballast factor ballast sytems with high effciency T8 / low ballast factor ballast systems. Lamp replacement must be 1:1 replacement or less. Delamping must permanently remove lamps from a fixture such that they cannot be re-installed. Re-switching must either make it possible to switch different lighting types / areas of a room on separtely (zoning) OR enable dual-level switching of lighting fixtures (i.e. switch to control inner lamp of fixture, switch to control outer lamp(s) of fixture).	Delamp T12 to T8 1-2 lamp	fixtures
			Delamp T12 to T8 3-4 lamp	fixtures
			Delamp T8 to T8	fixtures

	Daylighting	Insulating skylights (max. U 0.69 / SHGC 0.39) or specular solar tubes, to max. 3% of roof area. Must include controls to turn off lighting when adequately daylit (see "Automated Controls" above for controls requirements and related deemed savings).		sq ft
Walls and Roof	**Air Sealing**	Air sealing with expanding compound shall prioritize joints/seams.trims where accessible, windows/doors, mechanical and electrical penetrations, weather-stripping. Third-party verification must include before and after building pressurization blower door testing to verify a minimum 20% reduction in infiltration air changes per hour. For any new construction, or when possilble for retrofits, qualified building envelope shall have a continuous air barrier, and shall meet or exceed the requirement ASHRAE 189.1 2011 Appendix B.		sq ft (of building affe
	Wall / Floor Insulation	Post insulation levels should result in assembly values that comply with ASHRAE Standard 189.1 2011 Table A-5		sq ft (of wall)
	Roof Insulation	Post insulation levels should result in assembly values that comply with ASHRAE Standard 189.1 2011 Table A-5		sq ft (of roof)
	Cool Roofs	Mainly white TPO and metal roofs, maintaining reflectance of at least 50% after 3 years, with 10-year material and labor warranty The roof must have a minimum initial Solar Reflectance Index of 78 for a low-sloped roof <=2:12)		sq ft (of roof)
	Green Roofs	Recommended that new waterproofing be installed in conjunction with green roof. The use of potable water for irrigation of vegetated green roofs is prohibited once plant material has been established. After the landscape establishment period is completed, the potable water irrigation system shall be removed or permanently disconnected. Installation must comply with ASTM Standards E 2396, E 2397, E2398, E2399, and E 2400. When ASTM standard WK 14283 is finalized, this standard must be met as well.		sq ft (of roof)
Windows and Doors	**Insulating Windows**	Must comply with ASHRAE Standard 189.1 2011 Table A-5		sq ft (of window)
	Insulating Doors	Must comply with ASHRAE Standard 189.1 2011 Table A-5		sq ft (of door)
	Storefront Systems	Must comply with ASHRAE Standard 189.1 2011 Table A-5		sq ft (of system)
	Loading Dock Curtains	Must comply with ASHRAE Standard 90.1 2010 5.4.3.3 Loading Dock Weather seals		sq ft (of opening)
	Window Films and Permanent Automated Blinds	Custom evaluation of performance proposal; must have Solar Heat Gain Coefficient (SHGC) of 0.35 or less Must comply with ASHRAE Standard 90.1 2010 5.5-5 Building Envelope Requirements for Climate Zone 5	Window Film	sq ft (of window)
		Custom Evaluation	Permanent Automated Blinds	sq ft (of window)
	Condensing Boilers	Installed boiler(s) shall be condensing type with AFUE exceeding ASHRAE Standard 189.1 2011 Normative Appendix C Table C-7	Boiler <175 btuh, AFUE >= 92%	units
		Installed boiler has to be condensing type with efficiency exceeding ASHRAE Standard 189.1 2011 Normative Appendix C Table C-7	Boiler > 175 and <500 Mbtuh, 92%	units
		Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-7	Boiler, Other Sizes	units
	Boiler System Tune-ups	Programmable thermostat installation required. Boiler tune-up procedure must be followed every other calendar year with tune-up professionals.	C&I Gas Boiler - Tune-Up	jobs
	Boiler Components	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-7	Modular Burner Controls	units
		Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-7	O2 Trim Controls, Outdoor Air Reset Controls, Stack Dampers	units
		Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-7	Failed Steam Trap Replacement	units
	High-Efficiency Natural Gas Furnaces	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-6	Natural Gas Furnace >92% AFUE	units
	Rooftop AC Units	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1	Rooftop AC Units, <5.4 tons, 14.0 SEER - Tier 1	units
		Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1	Rooftop AC Units, <5.4 tons, 15 SEER - Tier 2	units
		Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1	Rooftop AC Units, 11.4-19.9 tons, 11.5 EER - Tier 1	units
		Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1	Rooftop AC Units, 11.4-19.9 tons, 12.0 EER - Tier 2	units
		Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1	Rooftop AC Units, 5.5-11.3 tons, 11.5 EER - Tier 1	units
		Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1	Rooftop AC Units, 5.5-11.3 tons, 12.0 EER - Tier 2	units
	Economizers	Cooling Capacity > 54 kBtuh Must Comply with ASHRAE Standard 189.1 2011 7.4.3.3 Economizers	Air side Economizer for all RTU's	units
	Split Systems	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1	Split Systems <5.4 tons, 14 SEER	units
		Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1	Other Split Systems	units
	Packaged Terminal Air Conditioners	Must contain automatic economizer capable of introducing 100% outside air when appropriate for cooling. Programmable thermostat required. Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-4		units

Heating, Ventilation and Air Conditioning (HVAC)	**Evaporative Coolers**	Evaporative coolers shall be equipped with flow meters when it's design make up water flow rate is > 0.6gpm (ASHRAE Standard 189.1 2011 Table 6.3.3B)	Advanced Indirect or Hybrid Evaporative Cooler, <5.4 tons	units
		Evaporative coolers shall be equipped with flow meters when it's design make up water flow rate is > 0.6gpm (ASHRAE Standard 189.1 2011 Table 6.3.3B)	Advanced Indirect or Hybrid Evaporative Cooler, 11.4-19.9 tons	units
		Evaporative coolers shall be equipped with flow meters when it's design make up water flow rate is > 0.6gpm (ASHRAE Standard 189.1 2011 Table 6.3.3B)	Advanced Indirect or Hybrid Evaporative Cooler, 5.5-11.3 tons	units
		Evaporative coolers shall be equipped with flow meters when it's design make up water flow rate is > 0.6gpm (ASHRAE Standard 189.1 2011 Table 6.3.3B)	Other Evaporative Coolers	units
	Water-Source Heat Pumps	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-2		units
	Air Destratifiers	Custom evaluation of performance proposal.		units
	Data Center Zone Cooling	Time-of-Day programmable air handler control required. Data center cooling must exceed applicable minimum efficiencies in ASHRAE Standard 189.1 2011 Appendix C		units
	Radiant Heating and Cooling	Non-electric only. Programmable thermostat required. Hot water feed must be from qualified equipment.		units
	Condensing Units	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1		units
	Central Air Source Single Package System	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C		units
	Ground Source Closed Loop Heat Pump	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-2		units
	Cooling Towers	Cooling towers and evaporative coolers shall be equipped with makeup and blow down meters, conductivity controllers, and overflow alarms in accordance with the thresholds listed in Table 6.3.3B of ASHRAE Standard 189.1 2011. Cooling towers shall be equipped with efficient drift eliminators that achieve drift reduction to a maximum of 0.002% of the recirculated water volume for counterflow towers and 0.005% of the recirculated water flow for cross-flow towers. Cooling Towers must comply with ASHRAE Standard 189.1 2011 6.4.2.1 Cooling Towers.		units
	Chillers -- screw/rotary/air-cooled	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-3		units
	VAV Boxes	VAV systems must comply with ASHRAE Standard 90.1 2010 6.5.3.2 VAV Fan Control		units
	Air Handlers	Air handlers must comply with fan power limitations per ASHRAE Standard 189.1 2011 7.4.3.5 Fan System Power Limitations. Air Handlers must also comply with ASHRAE Standard 189.1 2011 sections 7.4.3.2 Ventilation Controls for Densely Occupied Spaces, 7.4.3.3 Economizers, 7.4.3.6 Exhaust Air Energy Recovery.		units
	Evaporative Condensers	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-1		units
	Energy-Recovery / Demand-Controlled Ventilation	Equipment must comply with ASHRAE Standard 189.1 2011 sections 7.4.3.2 Ventilation Controls for Densely Occupied Spaces and 7.4.3.6 Exhaust Air Energy Recovery.		units
	Pipe Insulation	Piping Insulation must comply with ASHRAE Standard 90.1 2010 6.4.4.1.3 Piping Insulation and Tables 6.8.3A&B		linear ft
	Duct Sealing	Ducts must be insulated in compliance with ASHRAE Standard 189.1 2011 section 7.4.3.8 Duct Insulation and comply with Table C-9 and Table C-10		jobs
	Waste Heat Redistribution	Custom evaluation of performance proposal		jobs
	Solar Thermal Space Heating	SRCC rated. Must be 20kW or smaller.		sq ft (of panel)
	Combined Heat and Power	Custom evaluation of performance proposal		jobs
Water Heaters	**Efficient Gas Water Heaters**	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-11		units, capacity
	Efficient Electric Water Heaters	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-11. Must be heat pump water heater.		units, capacity
	Tankless Water Heaters	Equipment must comply with ASHRAE Standard 189.1 2011 Normative Appendix C Table C-11		units, capacity
	Solar Thermal Water Heating	SRCC rated. Must be 20kW or smaller.		sq ft (of panel)
	Variable-Frequency Drives / Adjustable-Speed Drives	Motor must be inverter duty or the VFD must be supplied with a harmonic line filter. Power Factor must be between 1.0 and 0.95 over the entire operating speed and load. Total Harmonic Distortion must be less than 0.5%. If the building has an existing DDC system the VFD must be interfaced with the system.	VFD Fans/Pumps: 1-5 HP	units
		Motor must be inverter duty or the VFD must be supplied with a harmonic line filter. Power Factor must be between 1.0 and 0.95 over the entire operating speed and load. Total Harmonic Distortion must be less than 0.5%. If the building has an existing DDC system the VFD must be interfaced with the system.	VFD Fans/Pumps: 7.5-25 HP	units
		Motor must be inverter duty or the VFD must be supplied with a harmonic line filter. Power Factor must be between 1.0 and 0.95 over the entire operating speed and load. Total Harmonic Distortion must be less than 0.5%. If the building has an existing DDC system the VFD must be interfaced with the system.	VFD Fans/Pumps: 30-75 HP	units
		Motor must be inverter duty or the VFD must be supplied with a harmonic line filter. Power Factor must be between 1.0 and 0.95 over the entire operating speed and load. Total Harmonic Distortion must be less than 0.5%. If the building has an existing DDC system the VFD must be interfaced with the system.	VFD Fans/Pumps: 100-200 HP	units
		Motor must be inverter duty or the VFD must be supplied with a harmonic line filter. Power Factor must be between 1.0 and 0.95 over the entire operating speed and load. Total Harmonic Distortion must be less than 0.5%. If the building has an existing DDC system the VFD must be interfaced with the system.	Other VFD/ASD	units
		must meet 1% more efficient than NEMA Premium Efficiency Standards	1% higher efficiency than NEMA Premium Motors: 1-5 HP	units

Motors and Drives	**Efficient Motors**	Electric Motors shall comply with the minimum requirements in ASHRAE Standard 189.1 2011 Table C-12 in Normative Appendix C. These requirements supersede the requirements in Section 10.4.1 and Table 10.8 of ASHRAE Standard 90.1	1% higher efficiency than NEMA Premium Motors: 7.5-25 HP	units
			1% higher efficiency than NEMA Premium Motors: 30-75 HP	units
			1% higher efficiency than NEMA Premium Motors: 100-200 HP	units
	Elevators	For new construction elevators serving four floors or more must be machine room-less traction type. Elevators are recommended to be regenerative if financially viable.		units
	Modulated Exhaust Systems	Meet the requirements of ASHRAE Standard 90.1 2010 6.5.7 Exhaust Systems		units
	Compressed Air	Compressor Motor must be inverter duty or the VFD must be supplied with a harmonic line filter. A leakage audit must be performed within one year prior to the installation of the VFD. Condensate traps must be No-Loss Air Drains.	VFD Compressor 10 HP	units
			VFD Compressor 15 HP	units
			VFD Compressor 20 HP	units
			VFD Compressor 25 HP	units
			VFD Compressor 30 HP	units
			VFD Compressor 40 HP	units
		A leakage audit must be performed within one year prior to the installation o	No-Loss Air Drain	units
	Energy Star Kitchen Equipment	Energy Star rated commercial kitchen equipment; Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Energy Star Commercial Freezer, glass door, <30 cu ft	units
			Energy Star Commercial Freezer, glass door, >=30 cu ft	units
			Energy Star Commercial Freezer, solid door, <30 cu ft	units
			Energy Star Commercial Freezer, solid door, >=30 cu ft	units
			Energy Star Commercial Refrigerator, glass door, <30 cu ft	units
			Energy Star Commercial Refrigerator, glass door, >=30 cu ft	units
			Energy Star Commercial Refrigerator, solid door, <30 cu ft	units
			Energy Star Commercial Refrigerator, solid door, >=30 cu ft	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Convection Ovens - Electric, > 70% HL Eff	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Convection Ovens - Gas	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Dishwasher, Door Type	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Dishwasher, Multi Tank Conveyor	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Dishwasher, Single Tank Conveyor	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Dishwasher, Under Counter	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Electric Fryers	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Electric Griddles, > 70% HL Eff	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Electric Steamers	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Gas Fryers	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Gas Griddles	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Gas Steamers	units

Refrigeration, Food Service and Grocery		Any Energy Star rated commercial kitchen equipment	Energy Star High efficiency ice machine, Ice Making Head (IMH)	units
		Any Energy Star rated commercial kitchen equipment	Energy Star High efficiency ice machine, Remote Condensing Unit or Split System	units
		Any Energy Star rated commercial kitchen equipment	Energy Star High efficiency ice machine, Self Contained Unit (SCU)	units
		Any Energy Star rated commercial kitchen equipment	Energy Star Insulated Hot Food Holding Cabinets, >= 7 cu ft	units
	Vent Hood Controls	For Commercial Kitchens with hood exhaust rates of 2000 cfm to 4000 cfm - Fan motor of hood exhaust must be equipped with a VFD with local manual controls. For Commercial Kitchens with hood exhaust rates above 4000 cfm - Exhaust hoods should be equipped with kitchen hood demand control ventilation energy management systems. This system should be capable of modulating exhaust and applicable MUA fan flows by leveraging sensors to determine the amount of exhaust air required to capture and contain effluent from the cookline. The hood exhausts and MUA fans should vary flow rates through a variable speed controller to meet necessary exhaust rates as cooking intensity varies.		units
	Grocery Equipment	Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Auto Closers, Main walk-in door; Low temp (<=0 deg F)	units
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Auto Closers, Main walk-in door; Med temp (>0 deg F)	units
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Auto Closers, Reach-in door; Low temp (<=0 deg F)	units
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Auto Closers, Reach-in door; Med temp (>0 deg F)	units
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	High-efficiency open display case, Med temp	length of case in ft
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	High-efficiency reach-in display case, Low temp	length of case in ft
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	High-efficiency reach-in display case, Med temp	length of case in ft
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Reach-in/walk-in refrigerator/freezer, Glass Door Gaskets, Low temp	linear ft
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Reach-in/walk-in refrigerator/freezer, Glass Door Gaskets, Med temp	linear ft
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Reach-in/walk-in refrigerator/freezer, Solid Door Gaskets, Low temp	linear ft
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Reach-in/walk-in refrigerator/freezer, Solid Door Gaskets, Med temp	linear ft
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.4 Commercial Refrigerators, Freezers, and Clothes Washers and Table C-13	Walk-in coolers/refrigerated warehouse spaces, strip curtains	sq ft (of opening)
	Food Service Component Repair, Upgrade	Food Service Component Repair or Upgrade shall comply with the requirements of ASHRAE Standard 189.1 2011 6.4.2.2 Commercial Food Service Operations.		job
	Refrigeration Recommissioning	Refrigerant Recommissioning should include all components of refrigeration system including display cases, compressors, and condensers. Commissioning services must be performed by a Certified Commissioning Authority with either a CxA, CCP, CxAP, or CPMP. Final Documentation must be submitted as a verification of services.		job
	Refrigeration Compressors	Equip compressor with VFD. Compressor Motor must be inverter duty or the VFD must be supplied with a harmonic line filter.		units
	Anti-Sweat Heater Controls	Anti-Sweat heater controls should be equipped on all refrigerated display cases. Each sensor shall serve a maximum of two refrigerated doors.		units
	ECM Evaporator Fan Motor for Cooler or Freezer	EC Motor must be NEMA rated and have a rated life of 15 years or greater. The operational temperature of the motor should be rated to -30 F or lower.	Shaded Pole Motor (Evaporator Fan Motor) Retrofit with EC Motor (Refrigeration)	units
	Outside Economizer for Walk-in Coolers	Outdoor air economizer equipment must include a minimum MERV 8 filter and comply with fan power limitations per ASHRAE Standard 189.1 2011 7.4.3.5 Fan System Power Limitations.		units
Other Domestic and Office Equipment	**Laundry**	Energy Star rated and must comply with ASHRAE Standard 189.1 2011 Table C-14	Energy Star Laundry Equipment	units
	Office Equipment	Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.3 ENERGY STAR Equipment	Energy Star Enterprise Server	units
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.3 ENERGY STAR Equipment	Server Consolidation by Virtualization	per server eliminated
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.3 ENERGY STAR Equipment	Energy Star Vending Machine with software	units
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.3 ENERGY STAR Equipment	Plug Load Occupancy Sensors	units
		Equipment must comply with ASHRAE Standard 189.1 2011 7.4.7.3 ENERGY STAR Equipment	Network Computer Power Management Software	Per computer controlled

RENEWABLE ENERGY MEASURES (all RE measures must achieve 15% EE prior to being eligible)				
Renewables	Solar Photovoltaic (PV)	15% projected energy savings with energy efficiency upgrades must first be achieved through EnergySmart or Denver Energy Challenge participation before being eligible for a PV loan. PV installation without EnergySmart/Denver Energy Challenge energy efficiency upgrades are not eligible (DOE funding guidelines). Ground mounted systems must be 60kw or under. Roof mounted systems must be "appropriately sized". **These guidelines apply to Solar Gardens subscriptions as well. Up-front costs associated with solar leases, PPA's and other financing options are eligible.**	photovoltaic panels	kW
	Geothermal Heat Pump	For water-to-water and water-to-air geothermal heat pumps, the ground loop heat exchanger must be closed loop. Ground loop heat exchanger must be adequately large so that no electrical heating supplemental heater is needed. Ground Source heat pumps must be ENERGY STAR rated.		capacity
	Small Wind	Small wind power systems should be installed in areas with Small Wind Turbine Productivity Estimates above 500 kWh/year at a height of 33ft.		kW
	Biomass	Custom evaluation of performance proposal. System must be 60Kw and under & 3MMBtu/hour or smaller.		capacity