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To: Board of Commissioners
From: Jenna Smith, Resource Conservation Manager
Date: June 10, 2019
Re: **2017-2021 Environmental Sustainability Plan - 2018 Results**

2018 marked the completion of the second year of the 2017-2021 Environmental Sustainability Plan (ESP), adopted by the Board on November 21, 2016. At the June 10th board meeting, staff will present a progress summary of the seven sustainability target areas and highlight related current year accomplishments.

Executive Summary: 2018 ESP Results

Sustainability Target Areas	2018 Goal	2018 Actual	% of Annual Goal
1) 10% Reduction Multifamily Water Use: Gallons/Person/Day (GPD)	50.8 GPD	46.5 GPD	109%
2) 10% Reduction Multifamily Energy Use (EUI - 1k British Thermal Units/Square Foot)	35.3 EUI	34.6 EUI	102%
3) 5% Reduction Multifamily Greenhouse Gas Intensity (Kg CO ₂ e/Square Foot)	4.261 GHG	4.208 GHG	101%
4) 100% Increase Kilowatts (kW) Solar Energy Capacity	195.5 kW	99.7 kW	51%
5) 55% Waste Diversion Rate	46%	44.6%	97%
6) *EnviroStars Certified Tier Level 1-3	15%	13%	87%
7) 25% of Fleet Alternative Fuel Vehicles	13%	12%	92%

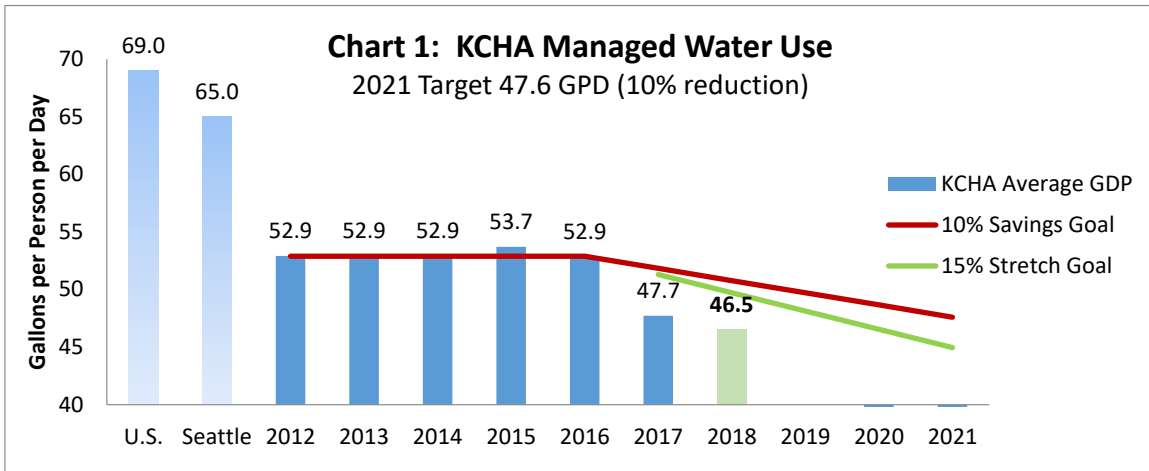
*EnviroStars program changed in 2018. New annual goals for recertification have been established.

Target Areas Summaries:

Target 1: KCHA Managed Multifamily Water Use (Gallons per Person per Day: GPD)

Total water use for KCHA managed multifamily properties was 3% lower in 2018 than the previous year (Chart 1), and saved roughly \$100,000 in water and sewer utility costs. Since 2012, GPD has declined by 13%, with the largest annual reduction occurring in 2017 due to the water efficiency measures installed at 34 public housing properties (about 1,250 units) for the Energy Performance Contract (EPC). Currently, KCHA is assessing the cost benefits of implementing additional water saving measures at properties that did not participate in the EPC.

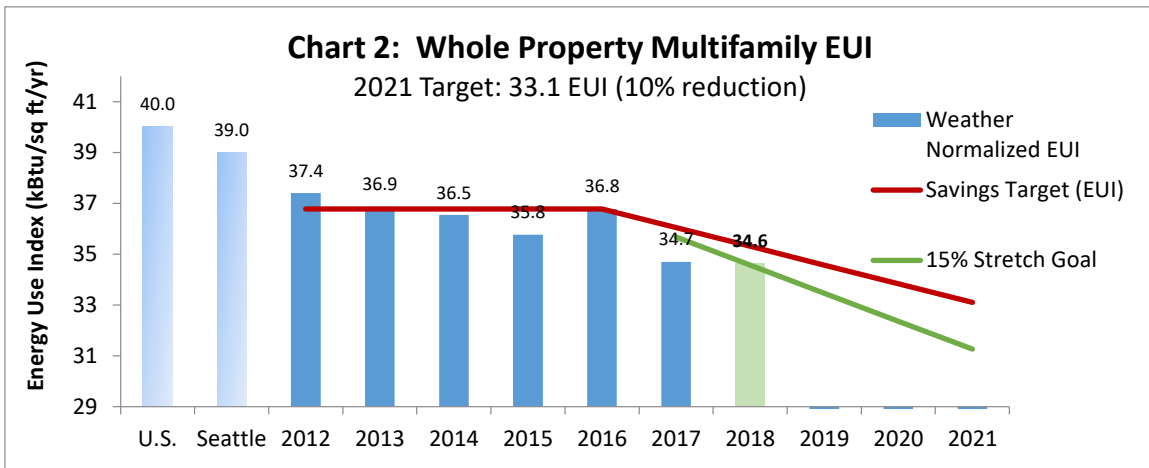
Chart 1:



Target 2: Whole Property Multifamily Energy Use (Energy User per Square Foot: EUI)

Last year EUI decreased only slightly compared to the previous year, however because of the savings from the EPC energy measures installed in 2017, KCHA still met its 2018 savings target (Chart 2). In 2018, 10 KCHA properties (539 units) received weatherization upgrades, which should help to further reduce energy use in 2019.

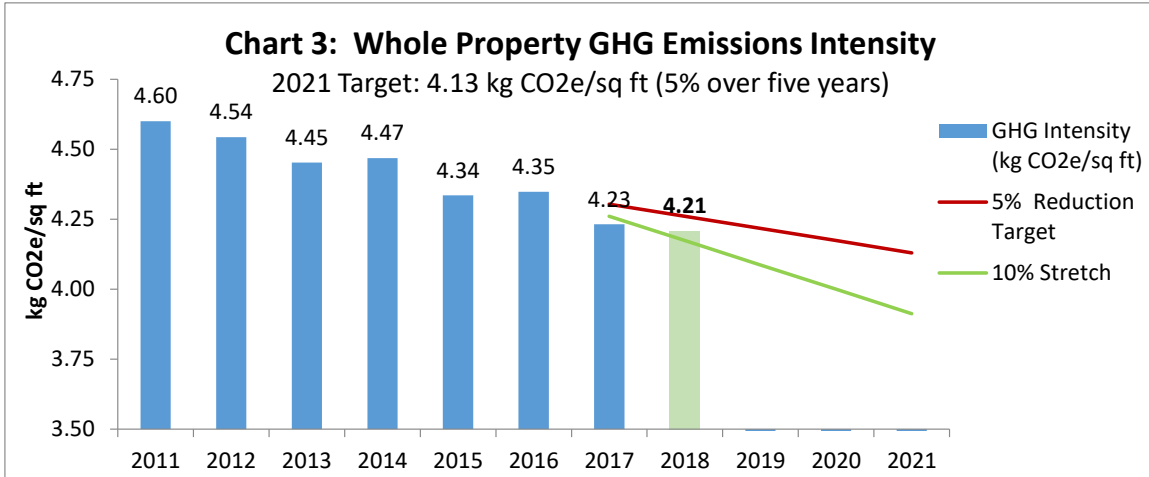
Chart 2:



Target 3: Whole Property Greenhouse Gas Emissions

In 2018, the greenhouse gas emissions per square foot (GHG) from the energy use at KCHA properties (multifamily, office, and community/family centers) decreased slightly (Chart 3) from the previous year. Last year, KCHA hired a Climate Corps Fellow from the Environmental Defense Fund for a 12 week project to build a comprehensive GHG footprint of the entire organization. The report calculates direct and indirect GHG emissions affiliated with materials consumption, employee commuting, work travel, solid waste disposal, and building energy consumption. This work will advance current and future environmental initiatives.

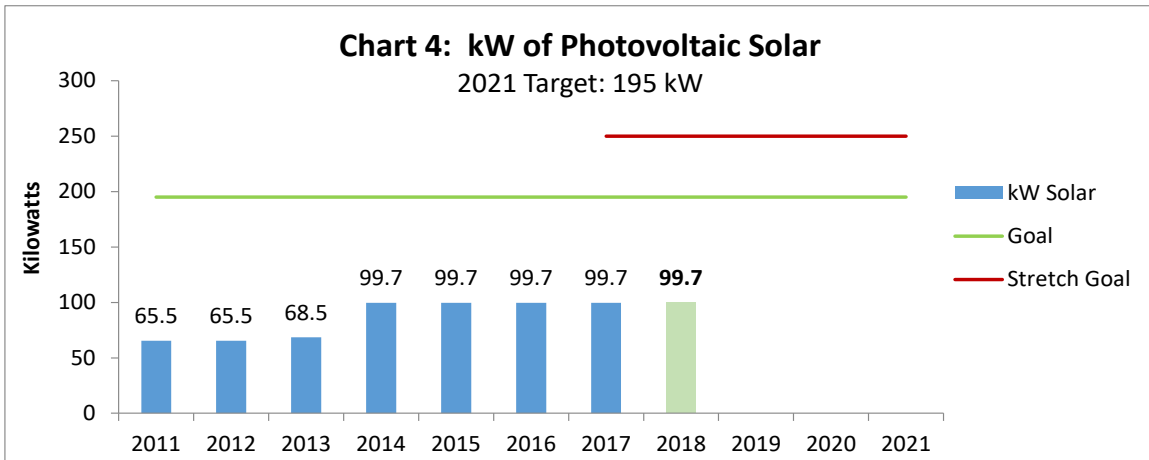
Chart 3:



Target 4: Solar Energy Capacity

In 2018, there was no change to the amount of solar at KCHA properties (Chart 4). However, Puget Sound Energy awarded KCHA with over \$246,000 to install a total of 97 kW at three properties by June 2019. Upon completion, these installations will bring total system capacity to 196.7 kW, within 98% of the 2021 goal. From November 2017 to October 2018 (the utility solar program year), KCHA's six solar systems generated about \$11,000 in electricity savings and over \$12,000 in rebates from the state's solar energy credit program. Since 2012, the value of the energy generated from the six solar systems, plus the annual rebates received from the state is over \$134,000 dollars.

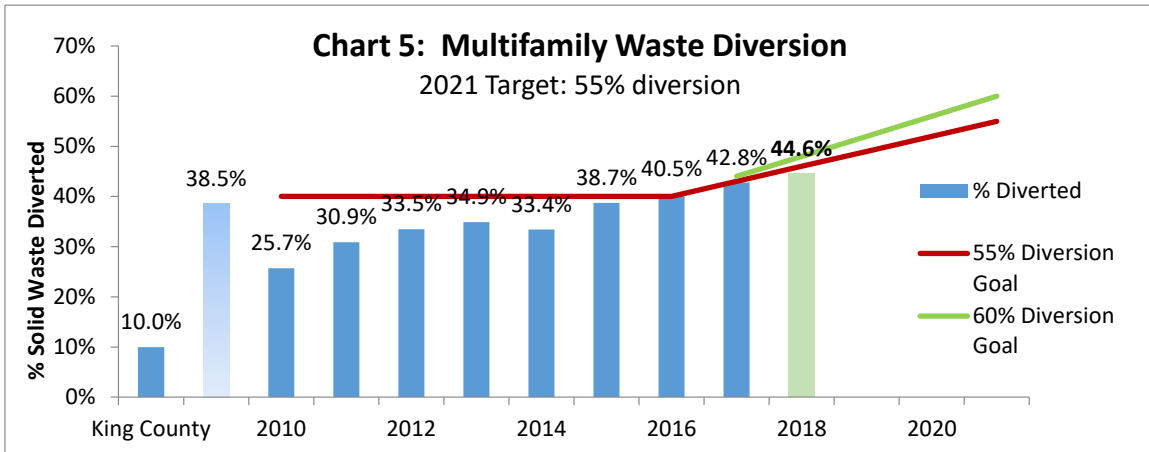
Chart 4:



Target 5: Property Waste Diversion

By the end of 2018, 44.6% of KCHA’s property waste was being diverted from the landfill to regional recycling and composting facilities (Chart 5). This figure combines KCHA managed (45.5% diversion) and vendor managed (43.7% diversion) properties. Currently, all properties subscribe to recycling service, 35 subscribe to organics collection, and 16 encourage residents to compost food scraps. Last year, KCHA saved nearly \$14,000 by “right-sizing” garbage and recycling capacity at properties, and was reimbursed \$30,000 due to errors we identified in solid waste billings.

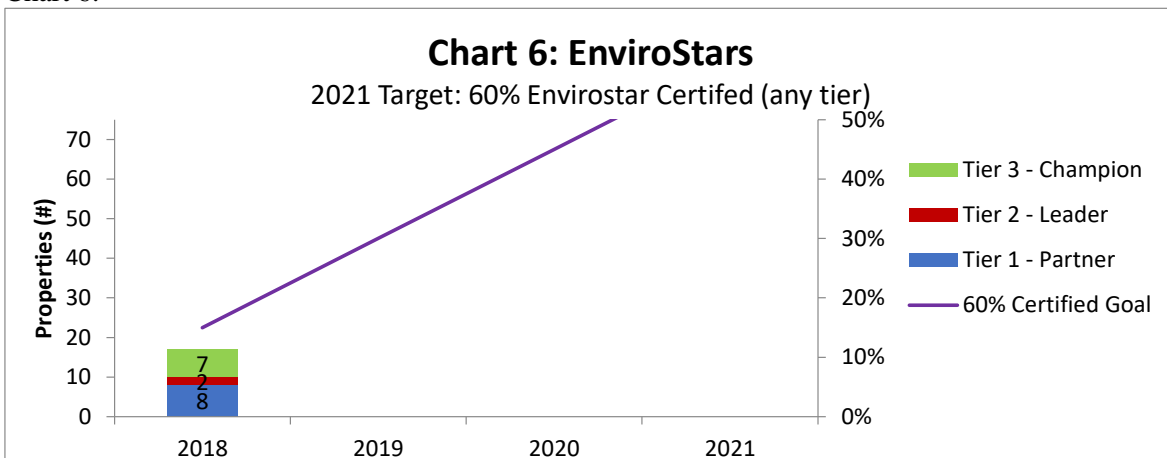
Chart 5:



Target 6: EnviroStars

Last year, King County relaunched a new EnviroStars program which incorporates a broader spectrum of sustainable property management practices for energy, water, pollution prevention, drainage, wastewater, and solid waste. The new program also changed its EnviroStars levels from a maximum of five stars to three tiers. Those changes are reflected in this year’s annual update. In 2018, 17 properties (13%) became certified in the new program, and 7 have reached the highest goal of Tier 3 – Champion (Chart 6). Currently, we are more than half way to reaching the 2019 goal of 30% properties certified.

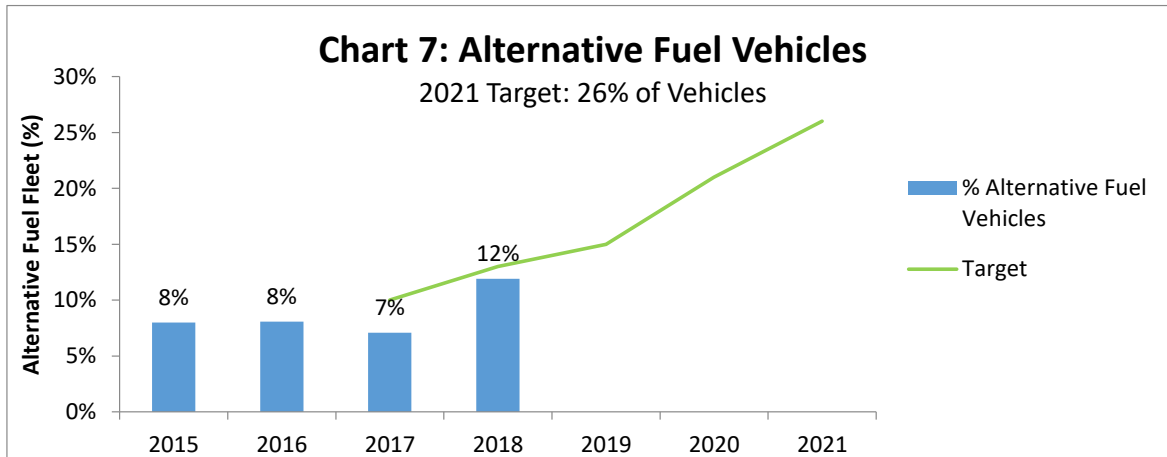
Chart 6:



Target 7: Alternative Fuel Vehicles

In 2018, Washington State implemented requirements that all local governments begin purchasing alternative fuel vehicles. During that time, KCHA purchased 11 alternative fuel vehicles, increasing the overall number of alternative fuel vehicles in the fleet to 15, or 12% of KCHA vehicles (Chart 7). By the end of 2019, KCHA is expected to have roughly 20% of the fleet utilizing more environmentally friendly fuels.

Chart 7:



2018 Highlights and Current Year Initiatives:

- **Weatherization:** KCHA's Weatherization department leveraged over \$1.6 million in outside funding to retrofit ten KCHA multifamily properties (539 units) in 2018. Energy conservation measures included heating systems (ductless heat pumps and furnaces), insulation (walls, attic, and floor), mechanical ventilation (bathroom fans and energy recovery ventilators), and low cost items (LED bulbs, showerheads, and faucet aerators). In 2019, work is planned for 15 KCHA sites (over 1,000 residential units).
- **Solar:** Last year, KCHA explored multiple opportunities to fund solar projects. As previously mentioned, Puget Sound Energy awarded KCHA with a \$246,000 grant to install photovoltaic systems at three properties: Windsor Heights (29.6kW), Meadows on Lea Hill (40.3kW), and The Village at Overlake (27kW). They will be completed by the end of June. KCHA is also working with a local non-profit called Access Solar, who is developing a solar tax credit program aimed at low-income housing providers. Though the program is still in the development phase, the partnership between Access Solar and KCHA is creating opportunities to pursue other solar-related benefit opportunities for KCHA residents.
- **Partnerships:** KCHA continues to reach out to organizations to partner on environmental initiatives. In 2018, KCHA worked with King County Wastewater to teach residents about what doesn't belong down the drain. In 2019, work continues with the Cascade Water Alliance to provide landscape trainings to staff, and the Resource Conservation, Resident Services, Asset Management and Housing Management departments continue to collaborate to address resident and staff engagement opportunities.
- **Landscape Initiatives:** For the fourth year in a row, KCHA has worked with the Cascade Water Alliance to bring sustainable landscape management trainings to KCHA staff.

Using the same techniques highlighted in KCHA Landscape Maintenance Manual, 25 maintenance and property management staff attended 4 trainings in 2018, and 23 attended 3 training so far in 2019.

- **Recognition:** KCHA received three awards for environmental work in 2018. First, Birch Creek won Puget Sound Energy's Strategic Energy Management award for their participation in a multifamily resident and property management engagement program. Second, KCHA received the Washington State Recycling Association's Recycler of the Year Award for its partnership with the Bellevue Boys and Girls Clubs, and third, KCHA received recognition from HUD and the Department of Energy for tracking and sharing energy data via the EPA's on-line energy management system called Portfolio Manager.
- **Construction and Demolition Waste:** KCHA is exploring ways to monitor and track diversion from construction and demolition waste streams that are not currently included in the diversion rate for properties. King County requires some C&D waste to be recycled, by assessing current practices KCHA will confirm compliance and determine if there are any additional opportunities to divert waste from the landfill.