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To: Board of Commissioners

From: Jenna Smith, Resource Conservation Manager

Date: June 22, 2020

Re: **2017-2021 Environmental Sustainability Plan - 2019 Results**

2019 marked the third year of KCHA’s 2017-2021 Environmental Sustainability Plan (ESP), adopted by the Board on November 21, 2016. At the June 15 Board meeting, staff will present a progress summary of the seven sustainability target areas and highlight current year accomplishments.

Executive Summary: 2019 ESP Results

Sustainability Target Areas	2019 Goal	2019 Actual	Goal Achieved
1) 10% Reduction Multifamily Water Use: Gallons/ Person/Day (GPD)	50.1	46.1	Yes
2) 10% Reduction Multifamily Energy Use (EUI - 1k British Thermal Units/Square Foot)	35.9	34.13	Yes
3) 5% Reduction Multifamily Greenhouse Gas Intensity (Kg CO ₂ e/Square Foot)	3.750	3.39	Yes
4) 100% Increase Kilowatts (kW) Solar Energy Capacity	195	197	Yes
5) 55% Waste Diversion Rate	49%	45.4%	No
6) EnviroStars Certified Tier Level 1-3	30%	32%	Yes
7) 25% of Fleet Alternative Fuel Vehicles	15%	22%	Yes

Sustainability Target Areas Summaries:

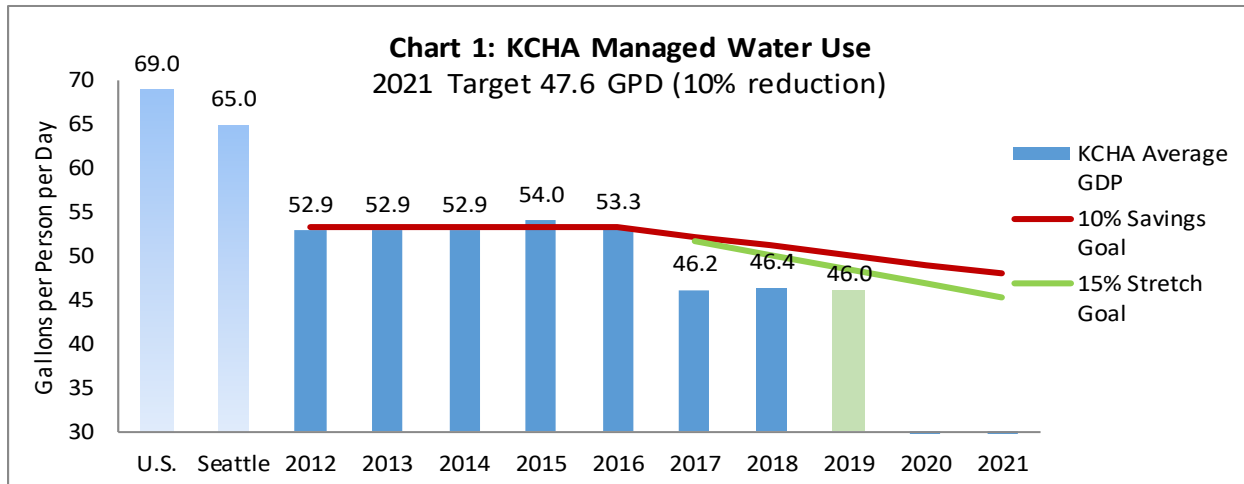
Target 1: KCHA-Managed Multifamily Water Use (Gallons per Person per Day: GPD)

Total water use for KCHA-managed multifamily properties was 1% lower in 2019 than the previous year (Chart 1), which saved roughly \$17,000 in water and sewer utility costs. Since 2012, GPD has declined by

13% to 46 gallons per person per day (GPD), with the largest annual reduction occurring in 2017 due to the Energy Performance Contract (EPC). This year, additional water saving projects are planned at properties that did not participate in the EPC.

For those properties not managed directly by KCHA, GPD was 54.3 for 2019. Combined annual water consumption for these properties is higher compared to KCHA-managed properties, mainly due to landscape irrigation. Recent efforts to reduce GPD include a toilet retrofit project at 11 properties, and as described below in *Other 2019 Highlights and Current Year Initiatives* irrigation projects at 20 properties.

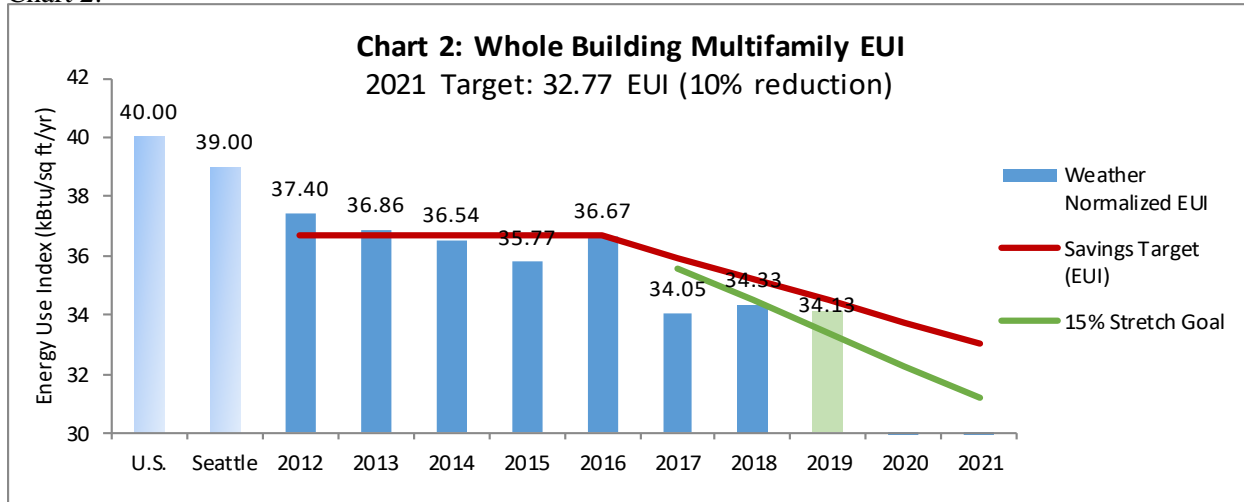
Chart 1:



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

Whole property energy use, which includes both the resident and common areas, continued to decline in 2019, slightly beating the annual goal. Currently, weatherization and tax credit renovation projects are the major source of energy saving measures. In 2019, six KCHA properties (385 units) received weatherization upgrades.

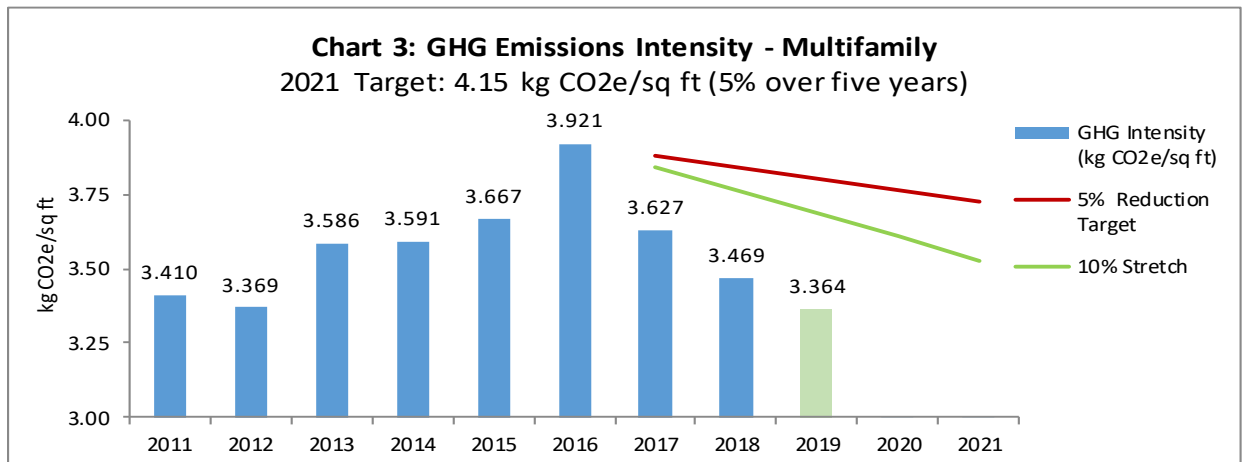
Chart 2:



Target 3: Whole Property Greenhouse Gas Emissions

In 2019, 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) compared to the previous year. For the second consecutive year, KCHA assessed its 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.

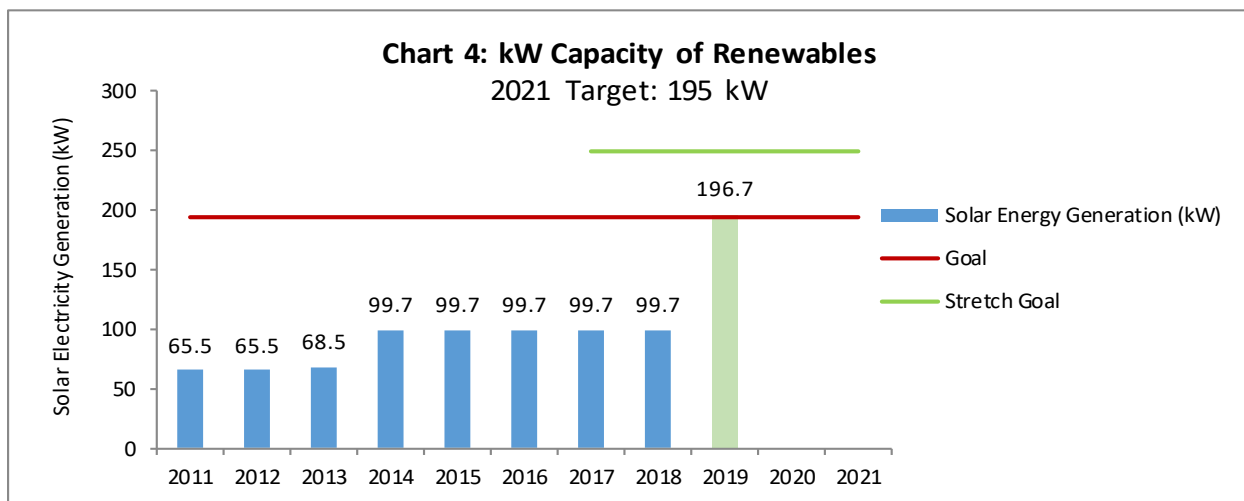
Chart 3:



Target 4: Solar Energy Capacity

In 2019, KCHA was awarded a \$246,000 grant from Puget Sound Energy to install 98 kW of solar at The Villages at Overlake, Meadows on Lea Hill and Windsor Heights. The new systems doubled the solar generating capacity of KCHA’s solar systems. Recently, KCHA won an additional \$75,000 grant from PSE to install another solar system at Meadows on Lea Hill, and two other properties, Bellevue Manor and Aspen Ridge, will have solar systems installed during major tax credit renovations. From July 2018 to June 2019 (the utility solar program year), KCHA’s six solar systems generated about \$10,000 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 just under \$160,000.

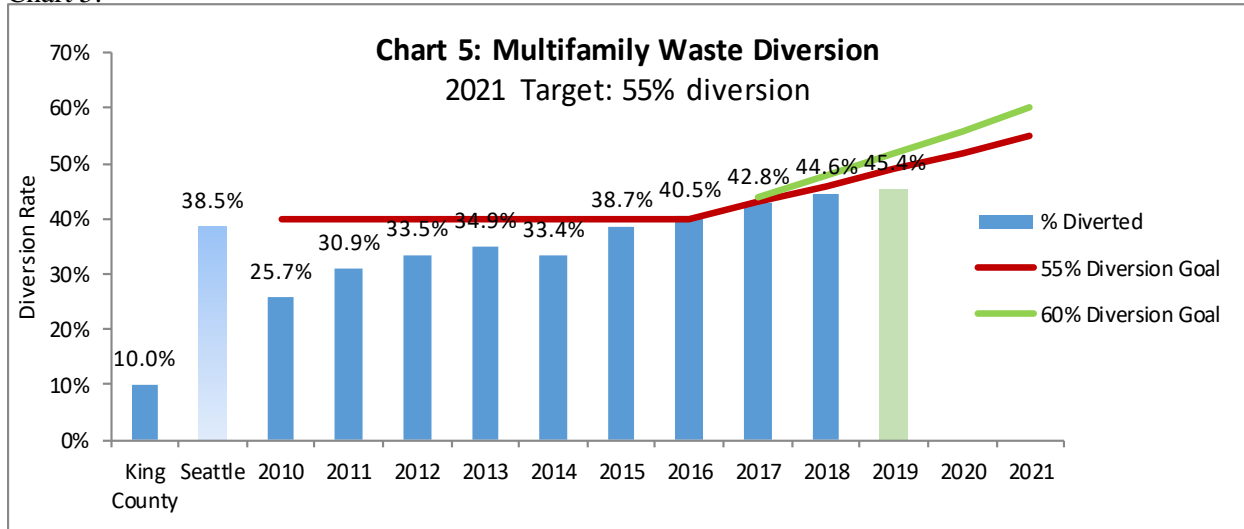
Chart 4:



Target 5: Property Waste Diversion

By the end of 2019, 45.4% of KCHA’s property waste was being diverted from the landfill to regional recycling and composting facilities (Chart 5). This amount was 3% lower than the annual goal of 46%. Though there was a slight increase over the prior year, and nearly \$19,000 in solid waste costs was achieved, staff was focused on recycling contamination challenges due to changes in the international recycling market. Nonetheless, all KCHA properties subscribe to recycling service, 35 subscribe to organics collection, and 16 encourage residents to compost food scraps. Since 2015, around 90% of properties have been audited to assess opportunities to increase recycling, add green/food waste collection, or reduce garbage service levels. By using this process, overall solid waste costs have been cut by over \$160,000.

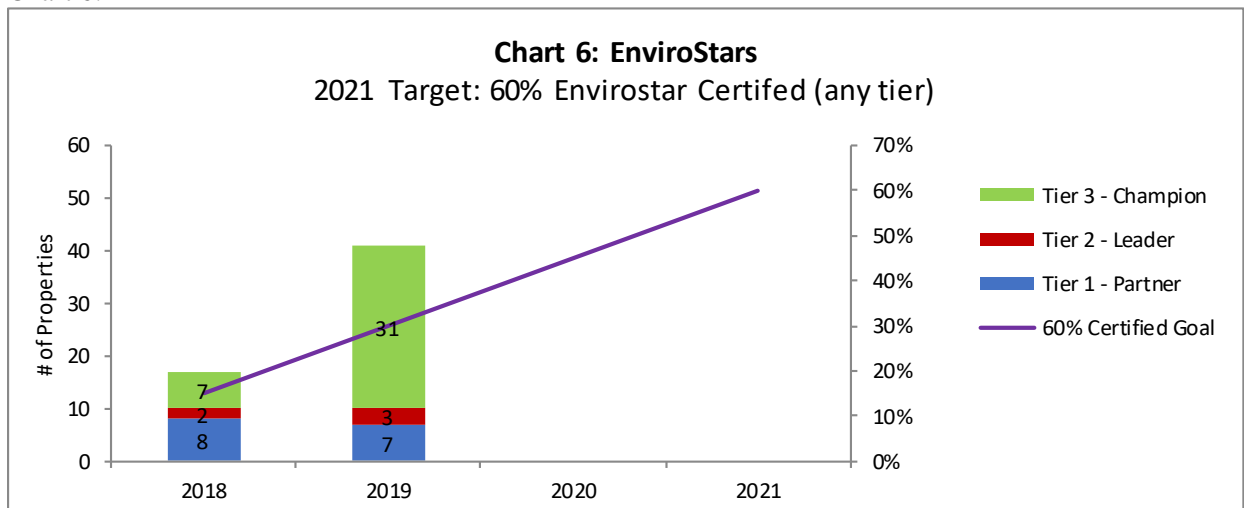
Chart 5:



Target 6: EnviroStars

In 2018, King County launched substantial revisions to the EnviroStars program which now incorporates a broader spectrum of sustainable property management practices for energy, water, pollution prevention, drainage, wastewater, and solid waste. Not only does the program help reduce the environmental footprint of our properties, it also helps property managers and site staff implement the resource conservation practices that are engrained in KCHA standards. In 2019, 24 properties were certified, bringing the KCHA total to 41 total properties, or 32% of our portfolio.

Chart 6:

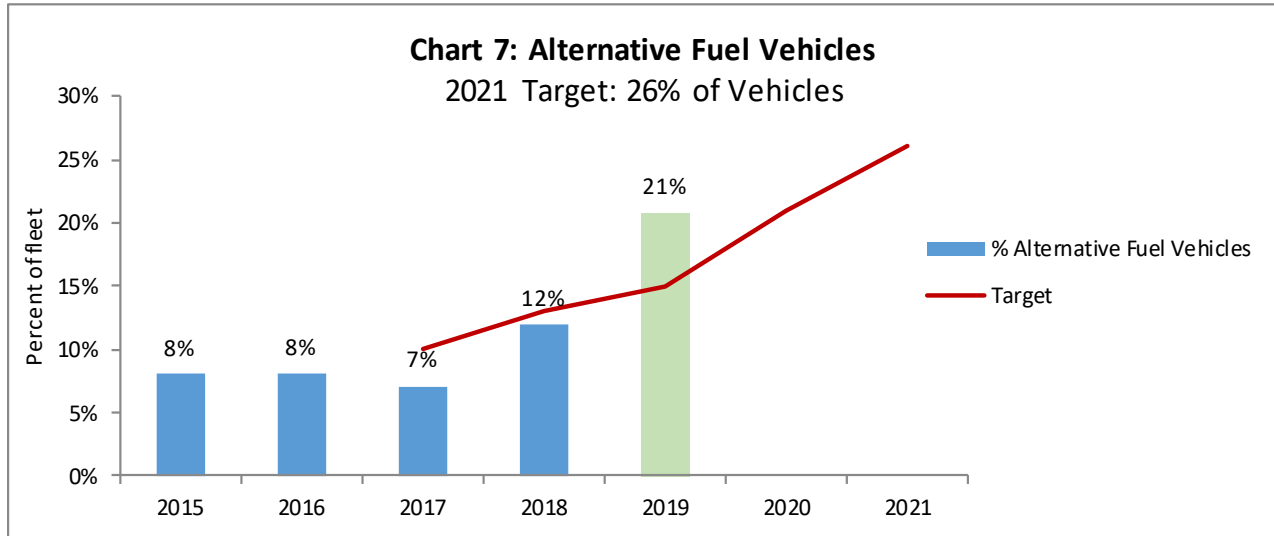


Target 7: Alternative Fuel Vehicles

Alternative fuel vehicles include those powered partly or completely by non- gasoline and diesel fuels. These types of vehicles reducing the amount of CO2 emissions and decrease air pollution. Since

2018, Washington State has required all local governments to purchase alternative fuel vehicles. Starting in 2003, KCHA began buying traditional hybrids, and then, after the mandate, plug-in hybrids and propane vans were purchased. Last year, KCHA’s fleet grew slightly with 28 of its 129 vehicles using alternative fuels.

Chart 7:



Other 2019 Highlights and Current Year Initiatives:

- Weatherization Projects:** Last year, KCHA’s Weatherization department leveraged almost \$2.9 million in outside funding to retrofit six KCHA multifamily properties (385 units). 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).
- Sustainable Landscape Initiatives:** Over the past several years, KCHA has assessed the water efficiency of the landscape irrigation systems at close to 20 properties. In 2019, KCHA began replacing irrigation controllers with smart controllers that automatically adjust watering schedules based on weather inputs. A pilot project at Ballinger Commons reduced water consumption by almost 20% and saved almost \$24,000 compared to previous years. By the end of this year, KCHA should have almost 15 properties utilizing the smart irrigation technology.
- Greenhouse Gas Reduction Initiatives:** Through the installation of electric vehicle charging stations, KCHA is encouraging the use of alternative fuel vehicles by staff, residents, and the general public. So far, KCHA has installed 23 charging stations at 19 properties, including three at Central Offices. This summer, three more stations are planned.
- Data Transparency:** KCHA has developed a dashboard tool to provide greater transparency into the resource conservation performance of our properties. The tool graphically displays normalized utility data and utility budgets, and a mechanism for comparing properties. Property and portfolio

managers now have the ability to easily assess the efficiency of their properties and coordinate targeted improvements with Resource Conservation and maintenance staff.

- **Recycling Contamination:** In 2018, China banned all exports of recycled paper and plastic from the United States for being too contaminated. At the time, China was the largest purchaser of these materials so the sudden change in the market caused commodity prices to collapse. Waste hauling companies in turn are beginning to require cleaner recycling and in some cases have implemented contamination charges. Waste diversion efforts aimed at increasing recycling are mainly on hold as staff focus on reducing contamination in recycling.
- **Sustainability Grants:**
 - KCHA won a \$36,000 grant from King County Solid Waste Division to create community-driven waste and hazardous waste reduction initiatives in the White Center area. Resource Conservation and Resident Services developed a “Green Gardening” project at Seola and Greenbridge, an “Eco-living Challenge” program for the Boys/Girls and Neighborhood House youth programs, and a waste reduction and recycling project that will occur at Greenbridge and include renters, homeowners, and businesses. An intern and eight volunteer “community leads” will assist with the projects, which have mostly been postponed until the fall or when social distancing restrictions are lifted.
 - The King Conservation District (KCD) awarded KCHA two grants for creek restoration projects at Juanita Court (\$12,000) and Casa Juanita (\$20,000), with KCHA contributing \$3,000 towards the two projects. KCD not only provides the funding and technical assistance, but will also manage the restoration project planned for the summer and fall of this year.
 - KCHA has registered the three new solar projects installed in 2019 for the State’s Renewable Energy System Incentive for Community Solar & Shared Commercial Solar Projects. Over an eight year period, KCHA will direct about \$80,000 (\$10,000 per year) to residents at Meadows on Lea Hill, Villages at Overlake and Windsor Heights.