

ENVIRONMENTAL STEWARDSHIP REPORT

2011-2015



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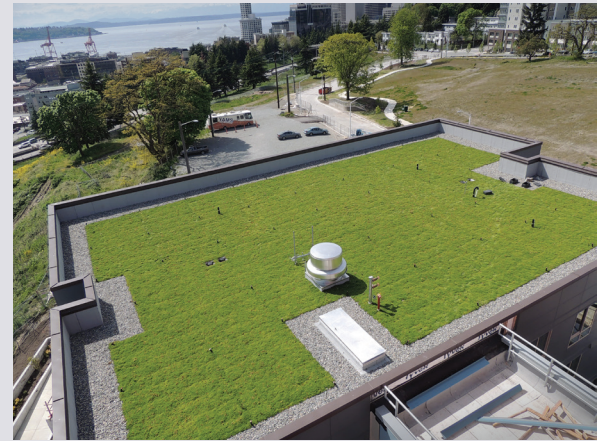
From the Executive Director

The Seattle Housing Authority (SHA) provides housing and services for more than 34,000 people with low incomes. Many of those are tenants in the 8,015 units of housing we own and manage at nearly 400 locations in Seattle, ranging from high rise buildings to large garden communities. We understand our impact on the environment, whether we are making decisions about building materials or helping residents recycle.

SHA is committed to incorporating environmental stewardship into daily practices and long-term decision-making. We look for inventive approaches to complex sustainability challenges and we make continuous improvements to create healthier working and living environments for staff and tenants. We monitor our broader impact within the community, including the cost-effectiveness of our programs and cost savings that can be passed to residents.

SHA's Environmental Stewardship and Sustainability team documents our conservation programs and partnerships to gain a better understanding of the impacts and benefits. The information in this report identifies how resources are being used and where improvements can be made.

The report will guide us in the development of a Sustainability Agenda to ensure that we continue to build on the great strides we have already made working together with our tenants and other organizations in our community that share our commitment to responsible environmental stewardship.




Andrew J. Lofton

Introduction

In 2016, Seattle Housing Authority staff set out to document and benchmark the agency's commitment to environmental stewardship. Included in this summary report are agency-wide indicators for environmental stewardship spanning a five-year period (2011-2015). Data points outside this range are included for some indicators where necessary, and for clarity. This report includes information on greenhouse gas emissions, energy and water use, materials management and waste, connectivity, and outreach and education for all properties owned and managed by SHA. This report is not exhaustive but represents the best-available, relevant data that can inform and guide decision-making. SHA intends to use this data as a benchmark and starting point for the planning and development of a Sustainability Agenda.

Greenhouse gas emissions

The vast majority of emission-producing activities are necessary to fulfill SHA's mission of providing affordable housing, however, strategies to reduce the amount of emissions, where possible, should be studied. From 2011 to 2015, SHA's overall greenhouse gas emissions in metric tons of carbon dioxide equivalent remained fairly steady.

[Figure 1]

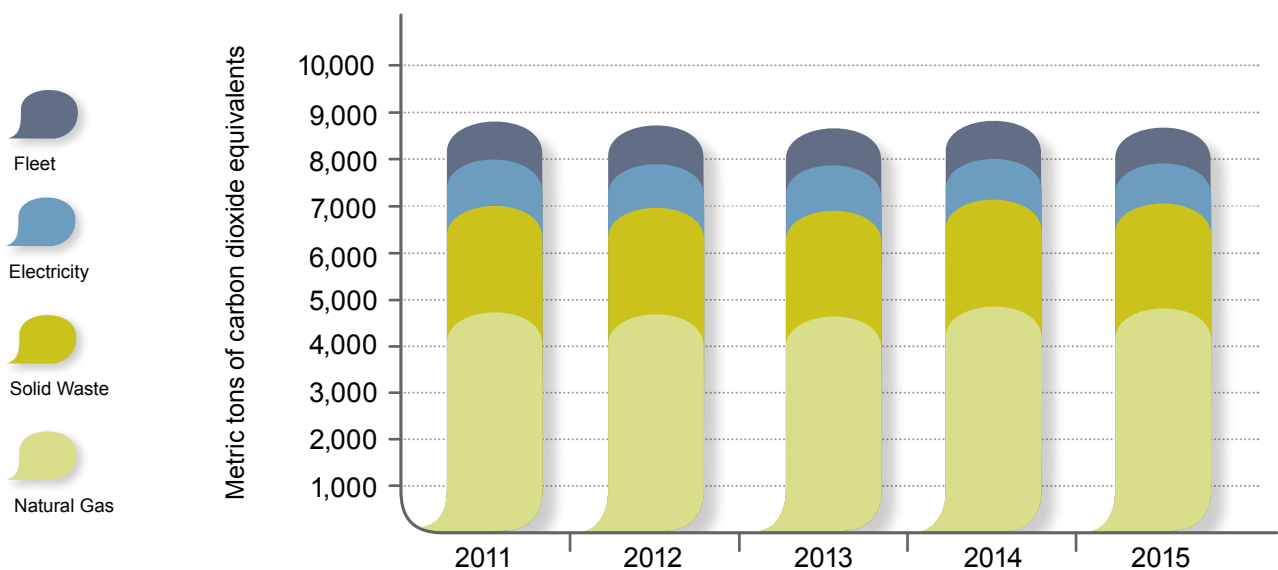


Figure 1: Annual greenhouse gas emissions for all SHA owned/managed sites

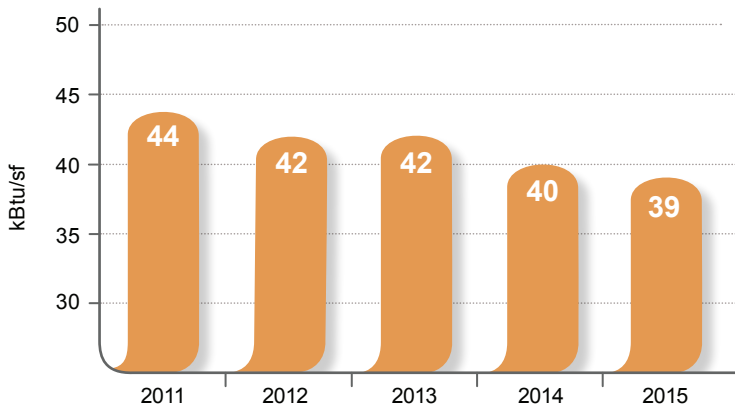


Figure 2: Average energy use intensity for all SHA owned/managed sites

Energy and water

In an effort to ensure tenant access to essential utility services, minimize environmental impact, and mitigate increasing utility costs, SHA has made every effort to increase energy and water efficiency. Between 2011 and 2015, SHA's overall average energy use per square foot has dropped more than 10 percent to 39 kBtu/sf, or 1,000 British thermal units per square foot, inline with the Seattle median for multifamily housing over 20,000 square feet. [Figure 2]

In 2015, SHA boasted an average 65 gallons per capita per day (GPCD) water consumption, compared to the national average of 80-100 GPCD. [Figure 3]

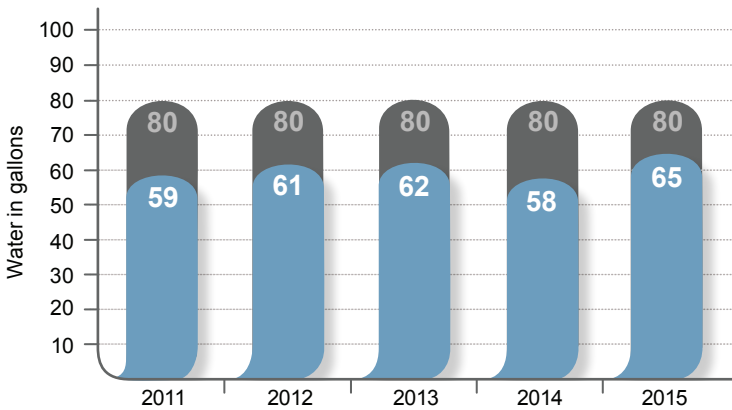


Figure 3: Average gallons of water per capita per day (GPCD) in SHA owned/managed sites

80
National
GPCD

Efforts to conserve

In the early 2000s, SHA residential toilets were replaced with low-flow, 1.6 gallon toilets through Seattle Public Utilities' toilet replacement program for multifamily, low-income housing providers. In the past ten years, toilet retrofits have saved SHA over 600 million gallons of water and an average of \$1 million annually.

Similarly, SHA has implemented leak detection programs and worked with the City of Seattle's HomeWise program, which helps qualified homeowners or landlords implement energy conservation measures that lower tenants' utility bills. SHA has received over \$7 million in project rebates from the HomeWise program, and these conservation efforts have amounted to vast savings for SHA and tenants. [Figure 4]

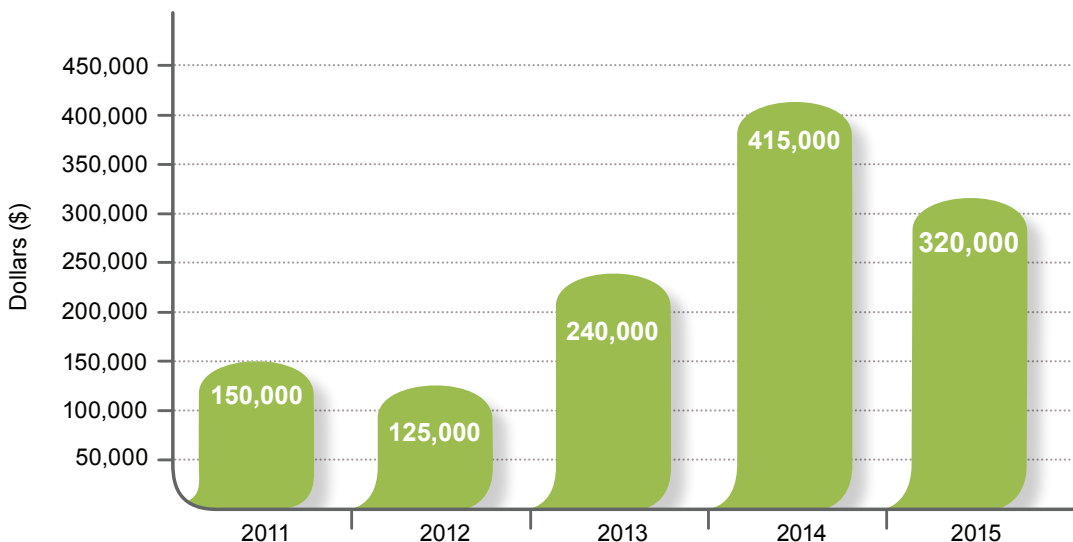


Figure 4: Annual resource conservation avoided costs, refunds and rebates associated with leak detection and utility bill tracking



Figure 5: Solar hot water systems at Lake City Court (top) and solar panels at Hoa Mai Gardens (bottom)

Redevelopment and new construction

SHA has utilized the Evergreen Sustainable Development Standard as a baseline for its most recent development projects and is in the process of developing its own agency standards for design and construction projects. At Lake City Court in Northeast Seattle, 4,500 square feet of photovoltaic panels generate 10 percent of the building’s annual electricity consumption, and 1,500 square feet of solar hot water heater panels generate 20 percent of the building’s annual hot water needs. Solar energy production has also been incorporated into Hoa Mai Gardens, SHA’s newest property at Yesler. [Figure 5]

SHA focuses on creating urban mixed-income communities that feature green spaces, pedestrian pathways, educational services and increased transportation options. High Point, an SHA community in West Seattle, and Yesler, a 30-acre redevelopment site near downtown Seattle, are examples of communities that incorporate these features. [Figures 6 and 7]



Figure 6: Common space and community gardening at High Point



Figure 7: The First Hill Streetcar connects Yesler to other neighborhoods

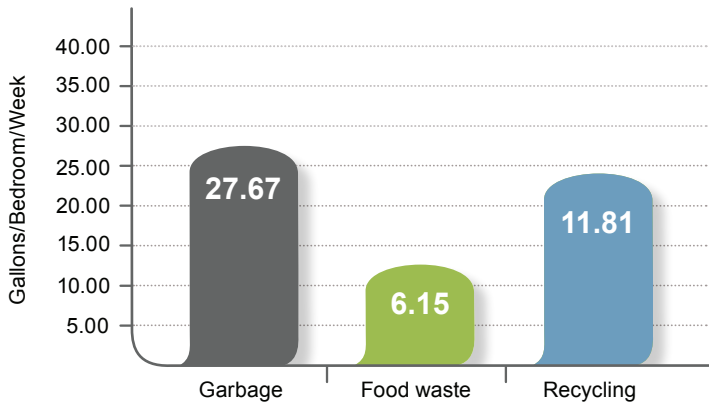


Figure 8: Average solid waste service level at SHA owned/managed sites for April 2016

SECTOR	2014	2015
Operations	14%	21%
Residential	53%	55%

Table 1: Municipal solid waste diversion rates by weight

Diversion rates by weight

99% Lake City Village redevelopment	97% Leschi House remodel	91% (ongoing) Yesler Terrace redevelopment	76% Pinehurst remodel	37% Internal remodel 2015	35% Wedgewood Estates remodel	28% Internal remodel 2014	21% Ravenna Terrace remodel
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Table 2: Construction and demolition diversion rates by weight

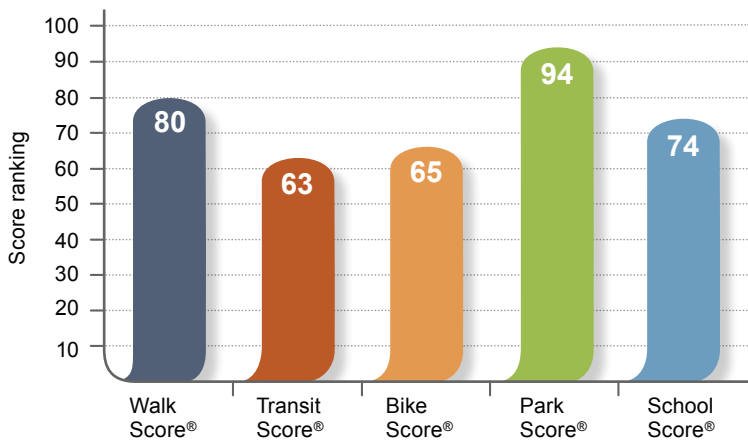


Figure 9: Average Walk Score® ranking

Materials management and waste

Due to the significant environmental and monetary cost of landfilling, waste reduction has become a focus of the conservation efforts at SHA. Curbside recycling and food and yard waste are offered at all internally managed residential properties. Capacity at each property is determined by demand and space constraints, especially in older buildings not designed for multiple waste streams. Continued education, outreach and technical assistance to property managers will help SHA's current average container capacity per person per week reach "right-size" goals over time. [Figure 8]

Diversion rates represent the percent of waste diverted, by weight, from the landfill. Table 1 shows municipal solid waste diversion rates for internally managed residential properties and SHA operations based on estimated tonnage.

Table 2 shows diversion rates based on reported tonnage from construction and demolition waste generated by remodel and redevelopment projects. Internal remodel projects were completed by SHA Construction Operation's team; all other projects were completed by contractors.

Connectivity

Accessibility to services like parks, schools, shopping centers and public transit, reduces the environmental impact of SHA communities. The majority of sites owned and managed by SHA have an average Walk Score® ranking of 80, meaning tenants are within walking or biking distance to services. A Walk Score® ranking measures the walkability of any property by assigning a rating based on a scale of 0 to 100. [Figure 9]

Half of SHA tenants have community gardening plots at their place of residence and almost all have access to the City of Seattle's P-Patch program in their neighborhood.

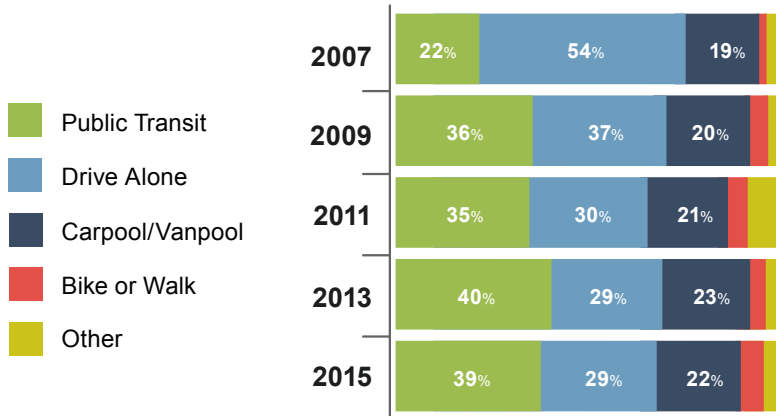


Figure 10: Statistics on employee commute methods 2007-2015

Employees are taking advantage of SHA's commute trip reduction program. Between 2007 and 2015, the number of SHA employees that took public transit, walked, biked or carpoled to work all increased while the percentage of employees that drove to work alone was cut dramatically from 54 to 29 percent. [Figure 10]

Environmental outreach and education

Many of SHA's environmental stewardship projects and programs incorporate outreach and educational components. SHA's commitment to environmental outreach and education reflects SHA's cornerstone value of providing high quality service and interacting respectfully with tenants and communities. Tenants are key partners in realizing many of SHA's sustainability and conservation goals. Highlights of SHA's outreach and education include:

Environmental Leadership Program

SHA partnered with Seattle Parks and Recreation Department's Student Teen Employment Preparation program from 2014-2016 to host the Environmental Leadership Program at five SHA communities. Youth participating in the program earned a stipend, became waste reduction experts and shared their knowledge with their communities. [Figure 11]



Figure 11: SHA's tenants play the "Where Does It Go?" game, one of the many educational tools aimed at reducing waste

Breathe Easy

To address high rates of asthma among low-income children, SHA installed Breathe Easy units at High Point and Yesler. These homes are designed to improve air quality, reduce allergens and minimize mold growth. [Figure 12]

Community Health Workers provide ongoing educational support to tenants on the benefits of their new homes.

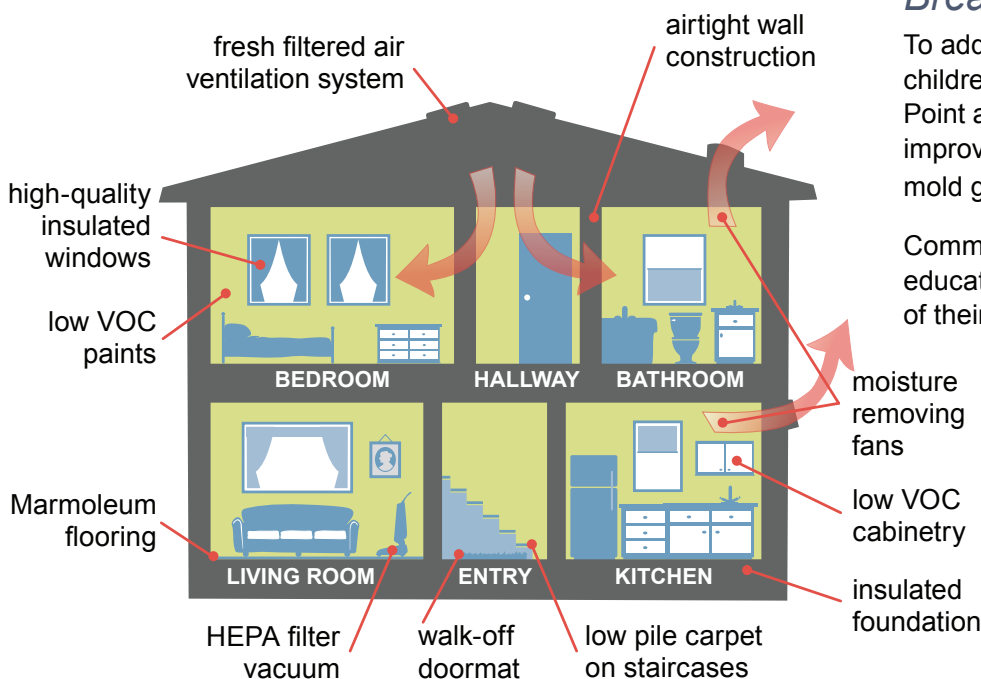


Figure 12: A Breathe Easy home diagram, showing the many ways air quality is improved, while allergens and mold growth are reduced

Conclusion

Seattle Housing Authority recognizes the importance of a multi-faceted approach to environmental stewardship. Continued outreach and education are key to fostering a culture among staff and tenants that is attuned to the benefits of environmental stewardship from an economic, social and environmental perspective.



FOR MORE INFORMATION

To learn more about Environmental Stewardship at Seattle Housing Authority, please visit the website:

seattlehousing.org



Seattle Housing Authority

190 Queen Anne Ave N
Seattle, WA 98109

206.615.3300

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