EVALUATION OF LOW-INCOME ASSISTANCE PROGRAMS

BLACK & VEATCH PROJECT NO. 195552

PREPARED FOR

SUEZ Water New York Inc.

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1.0 Low-Income Study Background

1.1 ORDER ON CASE 16-W-0130
In its January 24, 2017 Order in case 16-W-0130 (Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Suez Water New York Inc. for Water Service) the New York State Public Service Commission (PSC) provided the following directives to SUEZ Water New York Inc. (formerly known as United Water New York Inc. and referenced in this document as “SWNY”):

- P103, item 12. Suez Water New York Inc. is directed to file its proposed low income discount plan within nine (9) months of the issuance of this order.
- P103, item 14. Suez Water New York Inc. is directed to file its proposed low income rebate program, as described in this order, within six (6) months after this order is issued.

1.2 SWNY WATER CONSERVATION PLAN
The January 24, 2017 Order in case 16-W-0130 (hereinafter referred to as the Order) also directed SWNY to implement a water conservation program. Key elements of that water conservation program, scheduled for launch in June 2017, are identified below:

- Designed with stakeholder input
- Five year program
- Comprehensive program elements:
  - Rebates on efficient fixtures and appliances for all customer classes
  - Water efficiency assessments
  - Collaboration with local energy utility
  - Education & outreach
  - Conservation oriented rates (inclining block rate structure)

1.3 PROJECT APPROACH
In consideration of the fact that the two directives listed above have overlapping elements – i.e., the identification of low-income customers - SWNY is electing to file a joint study encompassing a review of options for both the low-income discount plan and the low-income rebate program within the six month timeframe. As noted in the Order, the low-income rebate program will include evaluation of a direct install option, an approach that includes the full cost of the installation in addition to the cost of the water saving devices.

This study includes a review of published literature and research within the water industry. It also leverages publically available data, and data provided by local social services agencies and utilities. It also draws upon data provided by SWNY customers responding to a residential water use survey conducted in December 2015. In addition, input from interested stakeholders was solicited, collected and reviewed during the development of the study. Two Public Workshops on Customer Assistance Programs were held at the Rockland Community College (Technology Center), 145 College Road, Suffern, N.Y. on the following dates:
May 15, 2017, 11am – 1pm
June 22, 2017, 11am – 1pm

Notification of these workshops was provided to the public through the following channels:

- Municipal eNewsletter: This reaches every elected official in Rockland.
- Email to all parties to the SWNY rate case (16-W-0130)
- Facebook (with weekly frequency until June 22)
- Facebook community pages
- Twitter (with weekly frequency until June 22)
- The Journal News: 1/4-page ads on the Sundays immediately prior to the workshops
- Posted on bulletin boards at all 15 Rockland libraries
- WRCR Radio: Mentioned on all SUEZ regular segments in April, May and June
- SWNY website home page

This project approach allows for the development of program options that are grounded in industry best practices and are specifically suited for, and based on data relevant to, SWNY customers.
2.0 Perspective on Water & Other Utility Costs

At national and local scales, the cost to provide clean safe drinking water is rising, as are the costs associated with other utilities and household budgets. Black & Veatch periodically assess water and sewer rates among the 50 largest cities in the United State, as defined by population. The purpose is to provide benchmarking data and identify trends.

Figure 1 shows the average monthly residential utility bills across the United States. Based on this dataset, it shows that the cost of the average monthly water bill has more than doubled in 15 years. However the proportion of the water bill compared to total utility costs has remained relatively constant, falling from 8% in 2001 to approximately 7% in 2016.

Rising rates are a direct result of cities and utilities grappling with the effects of aging infrastructure, rising operational costs, evolving capital funding mechanisms and regulatory requirements. Utilities are addressing these needs and at the same time are challenged to ensure that all customers can afford to pay for this essential service.

According to U.S. Census data, the national median household income in 2014 was approximately $53,000, which places the average U.S. affordability target for water and sewer services at $90 and $115 per month, respectively. The affordability target is based on applying the average CPI-U\textsuperscript{1} increase and the U.S. Environmental Protection Agency’s (EPA) affordability guidelines at 2.5 percent for water and 2 percent for sewer, of median income\textsuperscript{2}. According to this metric and when viewed at the community scale, water and sewer services within each of the 50 cities remain largely affordable (see Appendix A) despite upward rate pressure.

\textsuperscript{1} Consumer Price Index for All Urban Consumers (CPI-U)

However, the measurements are based on communities’ median income values and the affordability situation may look very different for low-income customers who may find themselves choosing between paying their water bills or buying food or paying rent. This issue is not new and is generally understood by the water industry, although not easily tackled and resolved.

It is also a growing issue as more utilities grapple with infrastructure at the end of its useful life which necessitates rate increases. Several key studies and published research documents on the development and implementation of Customer Assistance Programs - including low-income focused programs - are reviewed in the next section of this report.
3.0 Review of Water Utility Customer Assistance Programs

This section reviews documents and relevant research from the water utility industry that pertain to Customer Assistance Programs (CAPs). Key documents that provide valuable information on CAPs include the following:

**Best Practices in Customer Payment Assistance Programs.**
Water Research Foundation (WRF) and U.S. Environmental Protection Agency (USEPA), 2010

**Thinking Outside the Bill: A Utility Manager’s Guide to Assisting Low-Income Water Customers.**
American Water Works Association, 2014

**Drinking Water and Wastewater Utility Customer Assistance Programs.**
USEPA, 2016

**Review and Recommendations for Implementing Water and Wastewater Affordability Programs in the United States**
National Consumer Law Center, 2016

3.1 OVERVIEW OF WATER UTILITY CAPS

Water utilities may offer a variety of customer assistance programs to meet the needs of their customers. A key element of the USEPA 2016 study was research conducted across drinking water and wastewater utilities in the United States that have developed CAPs. The review effort covered 795 utilities, and found that more than a quarter (228 utilities, or 28.7%) offer one or more CAPs. A total of 365 CAPs are currently offered, mostly by large utilities. Figure 2 is taken directly from
the USEPA 2016 study and shows the types of customers assisted, with low-income focused programs being the most common. It should be noted that some of the programs target more than one group, for example some utilities have a low-income program that is exclusive to seniors (this would be counted in both the Low-Income and Seniors categories in Figure 2).

![Figure 2 Types of Customer Assisted as reported by USEPA 2016](image)

Details of the CAPs are included in a detailed appendix of the USEPA 2016 study. Black & Veatch reviewed the program details and observed that a wide range of implementation strategies are used. An overarching theme, based on the review of the available literature, is that there is no one-size-fits-all approach and utilities have developed and adapted their own programs to the needs and structures of their local communities. This concept was recognized in the WRF and USEPA 2010 study that recommended a continuous cycle of Plan – Do – Check – Act that recognizes the need to evaluate the effectiveness of CAPs and adjust and adapt accordingly.

Income is the most common criterion used to determine rate assistance eligibility. Some utilities determine eligibility according to whether the customer receives assistance from other social aid programs. Under this criterion, eligibility for utility billing assistance is based on successful enrollment in assistance programs offered by other agencies or organizations, which lowers the administrative costs to the water utility, makes the process easier for recipients, and generally accelerates the reach of the CAP (USEPA 2016).

### 3.2 TYPES OF CUSTOMER ASSISTANCE PROGRAMS

The research recognizes that there are various causes of nonpayment at the household level, including job loss, illness, disability, domestic turmoil, and unexpected expenses that upset fragile budgets in low-income households (WRF and USEPA 2010).
Accordingly, different types of customer assistance programs have been developed to meet the needs of customers. Five main types of CAPs are provided by utilities and are summarized in the following sections, along with how each applies to SWNY currently:

### 3.2.1 Bill Discount

These programs typically reduce a customer’s bill as long as the customer remains eligible for assistance, which can often be long term. The water bill is reduced, typically by reducing or eliminating the fixed service charge. In some instances, the volumetric rate is also reduced although this is less common. This type of program can be characterized as providing pro-active payment support to low-income customers.

In its Order, the PSC directed SWNY to propose a program of this type.

### 3.2.2 Flexible Terms

These programs give customers greater flexibility to pay their bill. Flexibility can take the form of bill timing that is customized based on individual customer preference, developing a payment plan, levelized billing (e.g., dividing the expected annual bill into 12 equal amounts), and managing arrears. Billing and payment collection processes typically depend on well-structured and consistent methods so billing systems need to be adapted accordingly.

SWNY switched from quarterly to monthly billing of residential customers in 2014 and currently offers customers budget billing and deferred payment agreements to provide flexibility.

### 3.2.3 Lifeline Rates

Customers pay a subsidized rate for a fixed amount of water, which is expected to cover that customer’s basic water needs. When water use exceeds the initial fixed amount of water (i.e., the lifeline block), the rates increase.

The Order directs SWNY to implement a three tiered rate structure for single-family residential customers. Although this is not explicitly a lifeline rate, it shares the same principles in that the first tier has the lowest per gallon unit charge and is established as the volume that will meet the basic needs (i.e., indoor water use) of an average-sized family. Above that volume, the rate per gallon of water increases at each tier level. For SWNY residential customers, the three tiers are set as:

- Tier 1: the first 5ccf
- Tier 2: the next 7 ccf, and
- Tier 3: over 12 ccf.

### 3.2.4 Temporary Assistance

In these programs water utilities help customers on a short-term or one-time basis to prevent disconnection of service or restore service after disconnection for households facing an unexpected hardship. These programs are also known as emergency assistance, crisis assistance, grant, one-time reduction.
SUEZ Cares (suezcares.org) currently provides grants to assist with payment of water bills of households in need via a network of community-based social service agencies located throughout the SUEZ Water service territories including SWNY. The SUEZ Cares program provides up to $100 of relief for qualifying residential customers and since 2014 SUEZ Cares has helped approximately 200 low-income families. SUEZ Cares provides relief to people facing a temporary financial crisis. More information on this program is provided in Appendix B.

3.2.5 Water Efficiency

In the context of the USEPA 2016 CAP survey, the inclusion of a water efficiency program means that direct financial assistance is available to customers for efficiency improvements such as leak repairs and rebates for WaterSense-certified products. Programs based only on water conservation education and outreach did not qualify as a water efficiency program in the US EPA 2016 study.

The Order directed SWNY to implement a rebate program for all customer classes and to evaluate the potential for additional incentives for low-income customers, as is described in later sections of this report.

3.3 CUSTOMER ASSISTANCE PROGRAMS IMPLEMENTED

Figure 3 is taken directly from the USEPA 2016 study and shows the types of CAPs implemented by water utilities; it shows that bill discount programs are the most common form of assistance.

![Types of Customer Assistance Programs](image-url)

**Figure 3** Types of Customer Assistance Programs as reported by USEPA 2016
3.4 SUMMARY OF FINDINGS FROM WATER UTILITY STUDIES

Based on a review of key studies and published research the following significant findings are relevant to the development of a low-income program for SWNY.

- According to the Water Research Foundation, low-income households are three times more likely to have their water and/or sewer service disconnected than other households (WRF and USEPA 2010).

- There is recognition that utilities should operate as businesses, but they also need to be aware of and take appropriate steps to address affordability issues for low-income customers.

- One of the greatest challenges to a water utility in providing social services is simply identifying and reaching families in need. As suggested in the WRF and USEPA study, the most obvious strategy is to integrate the utility’s activities more closely with those of the actual social service providers in the community. The administrative burden is significantly lowered if a utility can partner with an existing social services program for eligibility determination and enrollment. The USEPA 2016 survey indicates that many utilities leverage social services agencies to support their low-income assistance programs.

- The low-income community as a whole can be hard to reach by the water utility. Many low-income customers are renters rather than homeowners. As water service is often the cheapest utility bill, it is often incorporated into housing rental payments and as such the water utility has no direct means of accessing the customer. This puts a significant limitation on the ability of water utilities to reach and provide assistance to low-income customers and is the topic of ongoing and unpublished research by the WRF (Project Number 4557, Customer Assistance Programs for Multi-Family Residential and Other Hard to Reach Customers).

- Customer assistance programs can take many forms in recognition that there are various causes of financial hardship and nonpayment at the household level. To optimize the benefit to the target customer and ensure cost-effective use of financial incentives it is recommended to view the issue from the perspective of what can be done to shrink the bill which means looking at water consumption in addition to direct bill discounts. This approach is consistent with the Order which requires SWNY to look at both aspects.

- There is no one-size-fits-all CAP. Once implemented, programs often need to evolve based on the needs of the individual community.
4.0 Determining Low-Income Program Eligibility

As noted in earlier Section 2.0 of this report, when viewed at the community level the price of water is relatively low and often the cheapest utility and the majority of customers will require no financial assistance to pay their bill. However, certain disadvantaged water utility customers may struggle to pay their water bill and meet other housing expenses at the same time. In order to provide assistance for these customers it will be necessary to determine a low-income threshold, and a means of reliably determining whether a particular customer is low-income.

4.1 LEVERAGING EXISTING LOW-INCOME PROGRAMS

Based on a review of water utility practices in Section 3.0, and consistent with the Order\(^3\), if the Commission approves a low-income program, the recommended approach for determining low-income eligibility is to leverage existing low-income oriented assistance programs in Rockland and Orange counties, and New York state as the preferred approach to qualify customers. This approach is likely to maximize the efficiency of the program, reduce the administrative burden, and ensure only eligible customers receive assistance. The overall goal for this will be to develop a consistent and replicable means to identify the appropriate benefit recipients.

4.2 DETERMINING LOW-INCOME THRESHOLDS

In its 2014 report titled *Thinking Outside the Bill: A Utility Manager’s Guide to Assisting Low-Income Water Customers*, the American Water Works Association (AWWA 2014) recommended using U.S. Census data to learn more about a community’s needs. This information is valuable to gain insight into the scale of potential low-income assistance programs and also to identify any particularly impacted communities.

One of the key metrics found in the U.S. Census is the population for whom poverty status is determined. There are two slightly different versions of the federal poverty measure: poverty thresholds and poverty guidelines\(^4\).

The poverty thresholds are the original version of the federal poverty measure. They are updated each year by the Census Bureau. The thresholds are used mainly for statistical purposes — for instance, preparing estimates of the number of Americans in poverty each year. (In other words, all official poverty population figures are calculated using the poverty thresholds, not the guidelines.)

The poverty guidelines are the other version of the federal poverty measure. They are issued each year in the Federal Register by the Department of Health and Human Services (HHS). The guidelines are a simplification of the poverty thresholds for use for administrative purposes — for instance, determining financial eligibility for certain federal programs. Based on a review of water utility practices in Section 3.0, many water utilities utilize the Home Energy Assistance Program (HEAP) framework to determine eligibility for low-income customers. Although this is an assistance program that is designed to help low-income families pay for the cost of heating their

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\(^3\) Page 94 of the Order: “As the administrative costs associated with income verification could be significant, the parties should work with local community based organizations, social service agencies and the local electric and gas utility to minimize the costs of administering the program. The parties should also develop a consistent and replicable means to identify likely benefit recipients.”

\(^4\) More information can be found here: [https://aspe.hhs.gov/poverty-guidelines](https://aspe.hhs.gov/poverty-guidelines)
homes, the program’s goals overlaps with water utility low-income programs and can be used to determine eligibility for a SWNY low-income program. HEAP uses a framework based on household size and maximum gross income to determine eligibility. This is a similar framework that is used to determine federal poverty guideline. These two sets of guidelines are summarized in Table 1. For example, to qualify for the HEAP program in NY, a household of four must have an income of $53,076 or less. The table shows that the HEAP guidelines are higher than the federal poverty guidelines.

<table>
<thead>
<tr>
<th>PERSONS IN FAMILY / HOUSEHOLD</th>
<th>POVERTY GUIDELINE⁵</th>
<th>NY HEAP⁶</th>
<th>MULTIPLE (NY HEAP/POVERTY GUIDELINE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$12,060</td>
<td>$27,600</td>
<td>2.3</td>
</tr>
<tr>
<td>2</td>
<td>$16,240</td>
<td>$36,084</td>
<td>2.2</td>
</tr>
<tr>
<td>3</td>
<td>$20,420</td>
<td>$44,580</td>
<td>2.2</td>
</tr>
<tr>
<td>4</td>
<td>$24,600</td>
<td>$53,076</td>
<td>2.2</td>
</tr>
<tr>
<td>5</td>
<td>$28,780</td>
<td>$61,560</td>
<td>2.1</td>
</tr>
<tr>
<td>6</td>
<td>$32,960</td>
<td>$70,056</td>
<td>2.1</td>
</tr>
<tr>
<td>7</td>
<td>$37,140</td>
<td>$71,652</td>
<td>1.9</td>
</tr>
<tr>
<td>8</td>
<td>$41,320</td>
<td>$73,236</td>
<td>1.8</td>
</tr>
<tr>
<td>9</td>
<td>$45,500</td>
<td>$74,832</td>
<td>1.6</td>
</tr>
<tr>
<td>10</td>
<td>$49,680</td>
<td>$76,428</td>
<td>1.5</td>
</tr>
<tr>
<td>11</td>
<td>$53,860</td>
<td>$80,052</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Table 1 Federal Poverty Guidelines and NY HEAP Guidelines

### 4.3 Estimating Low-Income Population

U.S. Census data was obtained at the Block Group level to provide additional insight on population attributes that would help to identify and quantify low-income communities. Approximately 99.3% of SWNY customers are located in Rockland County (with 0.7% in Orange County) so for the purposes of this analysis data for Rockland County was used. Several maps were developed that show the spatial distribution of attributes such median household income, population in households with income below the poverty level, households receiving public assistance income, and households receiving food stamps; these maps are included in Appendix C. Statistics provided in Table 2 are based on U.S. Census data sources for percentage of families and people whose income in the past 12 months is below the poverty level. The information was obtained from [https://factfinder.census.gov](https://factfinder.census.gov)

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⁶ https://otda.ny.gov/programs/heap/#income-limits (annual value calculated from monthly values)

⁷ Table DP03 Selected Economic Characteristics 2011-2015 American Community Survey 5-Year Estimates.
CENSUS AREA | PEOPLE | FAMILIES
--- | --- | ---
United States | 15.5% | 11.3%
Rockland County, NY | 14.6% | 10.3%

Table 2 Percentage of People and Families below the poverty level

There are approximately 67,500 single-family water service accounts in SWNY. This includes customers in traditional single-family homes and also includes some customers in multi-family buildings who have their own SUEZ account for metered water supply. Other residents in multi-family buildings are not individually metered and do not receive a bill directly from SWNY and therefore the company has no information on these residents who pay for their water service as part of their rental or housing cost.

Simply applying the percentage of families below the poverty level for Rockland County from Table 2, suggests that an estimate of 6,953 customer accounts might meet the poverty level definition. However, this assumes that the distribution of low-income customers is equal across single-family and individually metered multi-family housing. Given the relatively high price of housing in Rockland County (the median home value in Rockland County is $414,600\(^8\)), this is not likely to be a valid assumption. However, the HEAP guidelines are higher than the poverty guidelines so this may result in a greater level of eligibility than the census numbers indicate.

In order to provide greater insight on potential eligibility Black & Veatch contacted the Rockland County Department of Social Services (RCDSS) to discuss participation levels in existing programs that utilize the HEAP guidelines.

Black & Veatch also contacted Orange and Rockland Utilities (ORU) to better understand the types and scale of existing low-income assistance programs currently in place for the energy utility. ORU currently partners with RCDSS and an active data exchange of customer information is in place in order to verify that ORU customers meet the eligibility criteria for assistance. Once verified, ORU is able to provide a discount which is applied as a credit on the bill. The amount of the discount is dependent upon the type of energy service provided by ORU (e.g., gas, electric, heating, non-heating).

Black & Veatch also reviewed publically available information\(^9\) on the number of low-income housing apartment complexes in order to obtain greater insight whether occupants of these properties are likely to be metered based on individual dwelling units and therefore SWNY account holders, or whether these facilities are master-metered, for which SWNY would not have individual occupant data. This information was obtained and cross-checked with Geographical Information System (GIS) data for SWNY customers to determine how they are metered. More information is included in Appendix D, however a summary of the main approach and key information is provided below:

- Locate, in GIS, the 51 low-income housing apartment complexes containing 3,818 subsidized apartments in Rockland County.

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- Confirm if these properties are provided water by SWNY and review metering status (individual metering vs master metering).
- Use the number of apartments that are listed for each building to calculate an estimate of low-income apartments that are individually metered and an estimate of low-income apartments that are master-metered.

A summary of the information gathered from multiple data sources is shown in Table 3.

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>CLASSIFICATION</th>
<th>ESTIMATE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S Census ACS 2015</td>
<td>Poverty Status</td>
<td>10.3% or ~7,000</td>
<td>Estimated based on applying percentages from Census data to single family customers in SWNY. Numbers for the County as a whole may be higher</td>
</tr>
<tr>
<td></td>
<td>Public Assistance / HEAP</td>
<td>1.9% or ~1,300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Food Stamps (SNAP)</td>
<td>11% or ~7,400</td>
<td></td>
</tr>
<tr>
<td>Orange &amp; Rockland Utilities (ORU)</td>
<td>Low-Income</td>
<td>5,500</td>
<td>To broadly align with SWNY boundary this excludes Suffern and Nyack. Based on personal communication with ORU staff</td>
</tr>
<tr>
<td>Rockland Co. Department of Social Services (RCDSS)</td>
<td>HEAP only</td>
<td>~700</td>
<td>Based on personal communication with RCDSS staff. *also qualified for HEAP via SNAP eligibility</td>
</tr>
<tr>
<td></td>
<td>Temporary Assistance / SNAP*</td>
<td>~4,100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emergency Water Assistance</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>affordablehousingonline.com</td>
<td>Individually metered units</td>
<td>41 (confirmed) 1,000 (max)</td>
<td>Not all properties were able to be reviewed in detail.</td>
</tr>
<tr>
<td></td>
<td>Units within a master-metered property</td>
<td>2,800</td>
<td>These have been confirmed as master-metered units</td>
</tr>
</tbody>
</table>

Table 3 Estimations of low-income customers for SWNY from multiple data sources

Based on the information provided in Table 3 there is still some level of uncertainty around how many low-income households are direct SWNY customers who receive a bill. Broad conclusions are as follows:

- Information provided by ORU and RCDSS is more likely to be relevant to estimating program participation compared to Census data as it is more closely related to those who have actually applied for benefits.
- Information provided by ORU and RCDSS both approximate 5,000 low-income customers that qualify under the HEAP income guidelines.
- This is potentially an over-estimation of SWNY water customers as the low-income customers have an account with ORU (gas / electric), but it is likely that a proportion of
these customers live in situations where the water bill is included in the rental or housing payment and therefore SWNY would not have access to these customers.

- Although SWNY progressively sub-meters many multi-family properties, the data review and investigation conducted as part of this study found that many of the dedicated low-income multi-family housing properties are not sub-metered and therefore the residents do not pay a water bill directly to SWNY. This presents a significant challenge for SWNY to pass on a low-income discount to these households as they are not direct customers (i.e., they do not have a SWNY account). This challenge is common to many water utilities.

The findings above will be used in the following sections to estimate the potential costs and impact of two types of low-income programs for SWNY.
5.0 SWNY Low-Income Programs

5.1 FUNDING LOW-INCOME PROGRAMS
The costs of a low-income program will be funded by rate revenues (i.e., other customers). As per CASE 16-W-0130 - Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Suez Water New York Inc. for Water Service.

*The incremental budget for the low income program would be collected through the SIC mechanism, pending Staff’s review, or, at the Company’s option, deferred for recovery in the Company’s next rate case.*

5.2 BILL DISCOUNT PROGRAM
Black & Veatch reviewed the bill discount program details provided in the Appendix of the USEPA 2016 report. Although a variety of financial incentives are offered, several utilities have structured their bill discount program around the elimination or reduction of the fixed service charge. Applying the discount only to the fixed service charge has two main benefits:

a. Increased predictability of the financial impact to the utility.
b. Maintenance of a volumetric price signal to customers and consistency with water conservation programs that often rely on a price signal.

For the purpose of estimating the impact of a low-income bill discount program, the elimination of the fixed service charge for single-family customers with a 5/8” water service is modeled as the basis of the SWNY customer assistance program. It is possible that some low-income customers may have a larger meter, and therefore would qualify for a larger discount, however more than 95% of single family residential customers have 5/8” meters. The fixed service charge will not change in the SWNY rate case 16-W-0130 and is stable through the three rate years. From the customer perspective the incentive can be viewed as follows:

SWNY Single-Family Residential Service charge (5/8” meter):

- $11.57 per month
- Represents 19% of a 9ccf bill of $62.40 (average residential bill)
- Represents 32% of a 5ccf bill of $36.70 (basic indoor use for a family of three)

As noted in Section 4.0, it is challenging to accurately estimate the number of low-income customers that will meet the eligibility criteria under the HEAP program income guidelines and will also be SWNY water service account holders and will participate in the program. Therefore, a range of program costs has been estimated based on varying levels of participation and these are shown in Table 4.
### Table 4 Estimation of bill discount program costs at different program participation levels.

<table>
<thead>
<tr>
<th>ESTIMATED SWNY CUSTOMERS</th>
<th>BASIS FOR ESTIMATE</th>
<th>MONTHLY CREDIT</th>
<th>PER YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000</td>
<td>Low estimate – assuming limited number of low-income customer with individual SWNY accounts</td>
<td>$11.57</td>
<td>$138,840</td>
</tr>
<tr>
<td>5,500</td>
<td>Mid estimate – assuming ORU customers qualifying under HEAP / SNAP or Temporary Assistance criteria are also SWNY customers</td>
<td>$11.57</td>
<td>$763,620</td>
</tr>
<tr>
<td>7,000</td>
<td>High estimate – based on poverty guidelines estimates from U.S. Census</td>
<td>$11.57</td>
<td>$971,880</td>
</tr>
</tbody>
</table>

#### 5.3 LOW-INCOME REBATE PROGRAM

As noted in section 1.0, the Order directs SWNY to propose a low-income rebate program. In addition the Order requires:

- The proposed number of rebates and dollar amount per rebate, demonstrating that the dollar value of the rebate and associated water savings is cost-effective on a dollar per MGD saved basis; and a proposed implementation timeline and total budget for the program.
- An analysis of direct install as a component of the low-income rebate program.

It should be noted that as part of the overall SWNY Water Conservation Program, water efficiency assessments are available for multi-family (and non-residential) customers, in addition to rebates to incentivize the installation of highly water efficient fixtures and appliances. These programs are directed towards large multi-family properties that are multi-metered with the aim of identifying large-scale opportunities for water efficiency improvements.

The SWNY Water Conservation Program does not differentiate low-income customers as these customers had not been specifically identified, and it was assumed that low-income customers would participate in the program to the same extent as other customers based on the financial incentives (i.e., the rebates) and the potential to save money on their water bill. Furthermore, the anticipated use of Simple Energy’s Marketplace by SWNY allows low-income customers to obtain an instant rebate at the point of sale for some products. Instant rebates reduce the cost burden of initially purchasing the water saving fixtures which should enable more low-income customers to participate as they will not have to pay the full purchase price upfront, which is typically required in most water utility rebate programs.

#### 5.3.1 Factors Impacting Cost-Effectiveness

The cost-effectiveness of rebates were evaluated on a dollar per MGD saved basis in the original water conservation report developed by Black & Veatch with a total estimated dollar per MGD saved cost (including administrative aspects) of approximately $7 million per MGD.
Two key factors that directly influence the cost-effectiveness of residential water efficiency programs are as follows:

- The number of persons per household
- The existing level of water efficiency (i.e., age and condition of the existing water using fixtures and appliances).

It should be noted that the number of persons per household is typically more influential in determining the potential cost-effectiveness of indoor water efficiency compared to energy efficiency. This is due to the fact that the largest uses of water within the household are typically proportional to the number of occupants (i.e., toilet flushing and bathing), whereas the largest use of energy (i.e., heating and cooling) are more directly related to the physical structure and generally independent of the occupancy level.

These key factors were investigated for SWNY using available data. In December 2015 a single-family customer survey was conducted for SWNY. Although this survey did not specifically identify low-income customers it did ask (as an optional question) for household income data and it is therefore possible to look at specific survey cohort data to provide possible further insight on potential low-income customers. **Table 5** presents selected metrics comparing the average SWNY customer response to those with household incomes under $50,000\(^\text{10}\).

<table>
<thead>
<tr>
<th>METRIC</th>
<th>SWNY AVERAGE</th>
<th>HOUSEHOLDS WITH INCOME UNDER $50,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons Per Household</td>
<td>2.73</td>
<td>2.70</td>
</tr>
<tr>
<td>Indoor Water Use</td>
<td>43,303 gallons / yr.</td>
<td>40,765 gallons / yr.</td>
</tr>
<tr>
<td>Outdoor Water Use</td>
<td>11,347 gallons / yr.</td>
<td>4,331 gallons / yr.</td>
</tr>
<tr>
<td>Percent of Pre 1992 Toilets</td>
<td>26%</td>
<td>33%</td>
</tr>
<tr>
<td>Rent (versus own)</td>
<td>6%</td>
<td>14%</td>
</tr>
</tbody>
</table>

**Table 5  Selected Metrics from SWNY customer survey**

Based on the *Persons Per Household* metric in **Table 5**, water efficiency upgrades in low-income households will, on average, have a comparable cost-effectiveness to other households. Exploring the survey data further, it was possible to see that younger households with a reporting income of under $50,000 did show more people in the home, however at the other end of the scale, older households had a lower number of occupants (**Table 6**). Although this may be an interesting observation - and the number of occupants has a significant impact on the water savings derived

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\(^{10}\) 284 respondents out of a total of 1,535 responses (18.5%) reported an income of $50,000 or less. 68% of this cohort identified as households with the head of the household aged 65 or older.
from efficiency improvements – the available data did not identify a justification to change the overall cost-effectiveness calculation for low-income customers.

<table>
<thead>
<tr>
<th>Persons Per Household</th>
<th>UNDER 25</th>
<th>25 TO 44 YEARS</th>
<th>45 TO 64 YEARS</th>
<th>65 OR OLDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>5.63</td>
<td>3.11</td>
<td>2.06</td>
<td></td>
</tr>
</tbody>
</table>

**Table 6** Average Number of occupants for households with income under $50,000

The following observations were made in the WRF and USEPA 2010 Study:

*Thus, a utility considering a conservation program targeted to lower-income customers must recognize that these consumers are unlikely to be the largest water users on the utility’s system. However, lower-income households tend to have more people (Saunders et al. 1998). And, lower-income customers may not have installed modern water-efficient plumbing fixtures and appliances, which can significantly lower per capita water consumption (Beecher, Pekeleny, and Chesnutt 2001). As a consequence, there could be opportunities for significant water savings in lower-income households.*

**Table 5** indicates that lower income SWNY households have been slower to replace older plumbing equipment and it does make sense to ensure that the marketing messages for the rebate programs reach these customers so they are aware of the rebate offering and the potential to save money on future water bills.

One area for consideration that could lead to additional savings for low-income customers is the possibility that more customer side plumbing leaks are present in low-income households, based on the increased prevalence of older plumbing and the assumption that low-income households are less likely to be able to afford the repair if a plumber is required. Advanced Metering Infrastructure (AMI) is being expanded by SWNY and “smart meters” offer the potential for quickly identifying and notifying customers of possible leakage on their side of the meter.

Based on the available data, there is minimal evidence that enhanced rebate levels (i.e., increased dollar values) for low-income households can be justified from a cost-benefit perspective, as was required in the Order. As noted earlier in this section, if the number of persons per household was reliably and consistently higher in low-income households it would build a case for enhanced rebate levels for these customers as the expected water savings would be greater. The SWNY survey data (**Table 6**), and information gathered from RCDSS (personal communication), indicates that households with an income of less than $50,000 are typically comprised of larger than average (young families) and smaller than average (retired couples or individuals), but as a whole did not have a higher than average number of persons per household. As the SWNY water conservation program is implemented, data will be gathered and reviewed on an ongoing basis to look for program improvement opportunities that could increase cost-effectiveness.
5.3.2 Direct Install Programs.

Direct install programs go beyond rebate incentive programs and typically pay for the full cost of the water efficient equipment and the cost of installation. As such they are more expensive than rebate-only programs, but they are more attractive to customers. The water utility CAP survey documented in the 2016 EPA study included some water utilities that had a direct install program. Black & Veatch also conducted its own research into water utilities that have used this approach. This research is documented in Appendix E.

For utilities that have implemented direct install programs; the installations are generally completed by experienced contractors, plumbers, or other third parties, and occasionally utility personnel. The primary benefit of implementing a direct installation program is that the utility and customer can be assured that the installs have been completed correctly. The programs generally utilize only the most efficient fixtures on the market, going beyond the efficiency standards of WaterSense. This increases the level of water savings, although reduces the range of product options for the customer. The majority of residential direct install programs are directed towards multi-family, rather than single-family properties. The data review (in Section 4.3) indicates that many low-income customers are likely to live in master-metered multi-family properties. If a direct install program was implemented for such a building, the low-income residents would not benefit directly from any reduction in the water bill (due to reduced consumption), unless the property manager, or owner, passed along any savings to the tenants. The SWNY Water Conservation Program (approved under the Order) will provide free water efficiency assessments to selected customers (including multi-family buildings and high density complexes). The assessments will generate a detailed cost and savings estimate that will provide additional insight into water conservation opportunities.

Financing models for direct install programs can vary; typically there is a partnership between the direct install company (which may train and use local plumbers) and a water utility with some level of funding contributed by the water utility. If this level of funding does not pay for the full cost of the direct install the individual customer pays the difference. In some utilities the difference is paid through an additional line item on the customer’s bill. If this approach is not possible, the customer finances the cost directly with the direct install company and payments are made over an agreed upon timeframe. The payment terms are typically structured such that the expected savings on the water bill (due to reduced consumption) will offset the additional payment. Direct install programs typically provide an initial screening of water (and energy) conservation potential for eligible customers by performing an efficiency assessment; this screening provides additional information that can be used to ensure the particular installation is likely to meet cost-effectiveness goals for the customer and the water utility, although it may also find that some situations are not cost-effective for efficiency upgrades.

Although there are documented case studies for direct install programs, the use of these programs by water utilities is not extensive and generally limited to strategically targeted customers (e.g., low-income) and typically for multi-family properties. Areas of uncertainty related to the evaluation of a low-income direct install program include the following:

- Actual cost per customer intervention
- Review of financing models
Based on a review of direct install programs and discussion with service providers, and subject to the uncertainties noted above, Black & Veatch estimated the costs and associated water savings of such a program for low-income SWNY customers, as shown in Table 7.

<table>
<thead>
<tr>
<th>DIRECT INSTALL CUSTOMERS</th>
<th>DIRECT INSTALL COST PER CUSTOMER</th>
<th>TOTAL COST</th>
<th>ESTIMATED WATER SAVING (MGD)</th>
<th>$/MGD SAVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000</td>
<td>$450</td>
<td>$450,000</td>
<td>0.055 - 0.071</td>
<td>$ 12.7M – 16.4M</td>
</tr>
<tr>
<td>2,000</td>
<td>$450</td>
<td>$ 900,000</td>
<td>0.110 – 0.142</td>
<td>$ 12.7M – 16.4M</td>
</tr>
<tr>
<td>3,000</td>
<td>$450</td>
<td>$ 1,350,000</td>
<td>0.164 - 0.213</td>
<td>$ 12.7M – 16.4M</td>
</tr>
</tbody>
</table>

**Assumptions:**
- Price estimate includes two toilets @ $80, two showerheads @ $10 plus a labor cost of $270 to install these items.
- Household of three occupants.
- Water savings estimates are based on background (or existing) water efficiency levels used in Black & Veatch SWNY Water Conservation Plan and the application of a range of water efficiency products used in direct install programs (e.g., 0.8–1.1 gpf toilets).
- Free-ridership of 50%.

Table 7 Estimated costs and savings for a direct install program

Based on the assumptions in Table 7, a direct install program has a less attractive cost-benefit compared to a market-based rebate incentive program. However, if the PSC approves a low-income bill discount program, this changes the cost-benefit framework for consideration of a direct install program. As noted in section 3.0, it is recommended that low-income customer assistance programs should keep in mind the best overall approach to lower the customer’s bill. The bill discount is often the simplest approach, but investing in water efficiency measures such as rebates or a direct install program has the potential to provide a bill savings to the customer (through lower consumption)\(^\text{11}\) and also provide an overall water efficiency improvement to the system.

**5.4 LOW-INCOME PROGRAM ADMINISTRATION.**

An initial review of the SWNY customer billing database indicates that the system could be adapted to record low-income status for customers to facilitate bill discounts and track eligibility.

A program for data exchange would be required between third-party eligibility program administrators and SWNY, including management of confidentiality issues. Training of SWNY staff would be required to support a low-income program along with external promotion of the program.

\(^\text{11}\) It should be noted that revenue reconciliation for SWNY may decrease a customer’s bill savings associated with decreased consumption over time.
Additionally, it is likely that program information would be needed in multiple languages as many low-income customers will not have English as a first language.

**5.5 BENCHMARKING PROGRAM IMPACT.**

The NCLC 2014 report, and other studies, recommend that water utilities actively manage and measure customer data related to low-income programs (and other assistance programs) to ensure that programs are having a meaningful impact. Potential metrics include the number of customer account terminations due to nonpayment.
6.0 Conclusions

This report identifies the potential scale and costs of two assistance programs for low-income SWNY customers. The programs have been developed using data relevant to SWNY and the suggested approaches have been benchmarked against, and informed by, findings from water utility research on the topic of customer assistance programs.

A summary of key findings is provided below:

- Water service is typically the cheapest utility bill for the average household and water is generally affordable in most areas when measured at the community scale, using traditional metrics such as median household income (MHI).

- The limitations of MHI are generally recognized by the water industry; the affordability situation may look very different for low-income customers who may find themselves choosing between paying their water bills or buying food, or paying rent.

- Many water utilities have found that low-income households are often residents of multi-family properties with a master meters and are therefore not direct customers (i.e., they are not account holders). Therefore low-income programs implemented by water utilities may miss many of the poorest low-income households.

- Although SWNY sub-meters many multi-family properties, the research conducted in this study indicates that many of the dedicated low-income multi-family housing properties are not sub-metered. This is an issue faced by many water utilities and a study is underway by the Water Research Foundation to further examine this issue (WRF #4557 - Customer Assistance Programs for Multi-Family Residential and Other Hard to Reach Customers).

- Customer participation in low-income programs requires means testing; for reasons of efficiency and reliability, SWNY would work with Social Services departments to identify eligible customers, if a low-income program is approved.

- The NY HEAP income guidelines would be used to evaluate eligibility and determine low-income status. This has the benefit of being an existing framework, already in use to determine eligibility for ORU customers.

- Efforts have been made to identify the potential number of low-income customers by utilizing multiple sources of data and contacting relevant local entities. However, uncertainty remains in the estimation of the level of program participation so a range of estimates have been developed.

- A low-income bill discount program that provides a discount equal to the fixed service charge could cost between $139,000 (1,000 participants) and $972,000 (7,000 participants) per year. The research performed in support of this study identified several examples of this type of bill discount program within water utilities.

- The available data and analysis performed did not reveal any new insights or cost-benefit justification that would form the basis for increasing the available rebate amounts for low-income customers.
- Direct install programs are used in a limited way by several water utilities, typically to retrofit multi-family properties. An initial evaluation of a direct install program for low-income customers indicates that 1,000 homes could be retro-fitted at a cost of approximately $450,000 for a water savings of approximately 0.06 - 0.07 MGD, and 3,000 homes could be retro-fitted at a cost of approximately $1,350,000 for a water savings of approximately 0.16 - 0.21 MGD. This represents $12.7M – $16.4M per MGD water saved.

- The costs of a low-income program would be funded by rate revenues (i.e., other customers).

- The implementation of a low-income focused program would require numerous steps including: the development of a data exchange with Social Services agencies, SWNY billing system adjustments, training of SWNY staff, development of program communication materials (including multiple languages) and stakeholder engagement and education of community leaders.

- Customer assistance programs often need to evolve to meet the needs of the local community. It is recommended that water utilities follow a business process framework of Plan – Do – Check – Act which looks for opportunities to improve the assistance programs for customers. This can be informed by the management and measurement of customer data (such as the number of customer account terminations due to non-payment) to ensure that programs are effective and are reaching customers in need of assistance.
Appendix A:

Typical residential water bill versus affordability:

Appendix B:

SUEZ Cares (suezcares.org) provides grants to assist with payment of water bills of households in need via a network of community-based social service agencies located throughout the SUEZ Water service territories. The SUEZ Cares program provides up to $100 of relief for qualifying residential customers and since 2014, SUEZ Cares has helped approximately 200 low-income families. These challenges are often due to unforeseen circumstances, such as a job loss or illness. SUEZ Cares provides relief to people facing a temporary financial crisis.

The application process is as follows:

- Customer completes a SUEZ CARES application
- NJSHARES agency conducts a prescreening process with potential applicants:
  - Verification that the applicant is the SUEZ customer of record; a Driver’s license or other form of valid photo ID must be presented
  - Verify there is an overdue balance (based on the review of the customer’s last bill)
  - Verify the applicant(s) meets the program’s eligibility criteria (financial hardship)
  - Verify the customer has not received a SUEZ CARES grant in the past year.
- The Business Unit Liaison validates that the account information provided by the customer to NJSHARES when applying for the grant is accurate and up to date:
  - Person Applying is the customer of record in the billing system
  - There is an actual meter read on the account and not an estimated read
  - A good faith payment of at least $20 has been made in the last 90 days
  - Verify that there are arrears on the account (account must be overdue to qualify)
- All four criteria above must be validated as part of the review process before a grant is authorized.
- Customers with arrears under $100 can be given a grant for the total amount overdue up to $100. If arrears on their SUEZ account are $70, then the grant cannot exceed $70
- Customers with arrears over $100 can be given a maximum grant of $100 toward the balance due on the account. If balance is more than $100 the customer should make payment arrangements with their customer service office to pay the difference
Appendix C:

Figure 4 Median Household Income (ACS 2015)

Figure 5 Population below poverty level (ACS 2015)
Figure 6: Households with public assistance income (ACS 2015)

Figure 7: Households receiving food stamps (ACS 2015)
Appendix D:

Low-income apartments in Rockland County, data sourced from:

https://affordablehousingonline.com/housing-search/New-York/Rockland-County

Figure 6 Low-income apartments in Rockland County, NY
Appendix E:

Direct Installation Programs

The following information is based on a review of selected direct installation programs. These programs generally include the utility providing trained personnel to complete all customer installations. Residential direct install programs were a focus although many programs also relate to commercial, industrial and institutional customers, and also to water efficiency rebate programs and this information has been included where available. The most common fixtures installed are toilets, with some programs including showerheads and aerators. Programs have the potential to combine water and energy savings. The installations are generally completed by experienced contractors or other third parties, and occasionally utility personnel. The primary benefit of implementing a direct installation program is that the utility and customer can be assured that the installs have been completed correctly.

City of Stockton, CA:

High Efficiency Toilets Direct Install Program CII

The High Efficiency Toilet Direct Install Program is available to commercial, industrial, and institutional water customers. The program covers the cost of the hardware and installation when changing older, inefficient toilets that use more than 1.6 gallons per flush. Participating plumbing contractors install high efficiency toilets, low flow aerators, and shower heads (when applicable).

Water Conservation Program

Customers are asked to complete a Water Use Home Survey Kit. By following the steps in the survey, the City can determine if the customer has leaks, if they are irrigating their landscape appropriately, and whether their home is already water efficient or would benefit from free water-efficient devices.

Conservation Kits

California Water Service supplies single-family residential customer’s conservation kits featuring a range of water-saving plumbing retrofit fixtures. These kits are available at no charge.

Each kit includes

- 2 high-efficiency showerheads (use 2 gallons per minute – GPM)
- One hose nozzle
- 2 bath faucet aerators (use 1.0 gpm)
- Toilet leak tablets
- One kitchen faucet aerator (uses 1.5 gpm)
**Madison Water, WI (MWU) Conservation Program**

**Project Home Program**

Project Home and MWU are working to launch the first water conservation program in Wisconsin aimed at helping low-to-moderate income homeowners reduce water waste.

The Home Water Conservation Program will focus on:

- Install high efficiency toilets
- Fixing plumbing leaks
- Installing water savings devices – (faucet aerators and low-flow shower heads)

As part of the Madison Water Utilities conservation initiative, they have implemented a “Great Showerhead Giveaway & World Water Day”. Customers that show proof of a Madison residency or Municipal Services Bill will receive a High Sierra Classic Chrome Plus showerhead rated at 1.5 GPM. This showerhead was the 2016 recipient of the EPA WaterSense Excellence Award.

**Toilet Rebate Program Overview**

Toilet rebates are issued as bill credits

MWU is offering bill credits of up to $100.00 for customers who replace high water using toilets with EPA WaterSense-rated High Efficiency Toilets (HET) models. The program is limited to one rebate in the form of a bill credit per household or apartment unit for residential and multi-family customers. Commercial, industrial, and public authority customers are limited to 20 rebates in the form of bill credits per property address.

**Eligibility**

- Must be customers of MWU
- Residential & multi-family customers are limited to one rebate
- Commercial, industrial, & public authority limited to 20 rebate bill credits
- Eligible replacement HETs must be EPA WaterSense-certified
- Rebates are for replacement of existing large-capacity toilets – not new construction
- In cases where the toilet purchaser does not pay the property's Madison Muni Services Bill, a rebate check will be issued. Examples include some rental property owners with tenants pay their own water bill and condo owners whose water costs are included as part of a homeowners’ association fee.

To apply for the rebate

- For toilets purchased directly from a store or retailer: Original itemized cash register receipt, original credit card receipt, or sales invoice indication the make and model purchased, cost, and methods of payment.
- For toilets purchased through a plumber or contractor: Original itemized invoice from the contractor, indication:
  - Make, model, and cost of each toilet
- Payment has been made in full and zero ($0) balance remains; invoice should be stamped or noted “Paid in Full”.

Items must be mailed or delivered to Madison Water Utility Toilet Rebate Program

**Installation**

Owners may install the toilets themselves, or they may hire a plumber or contractor to do the job. Owners are responsible for proper installation and associated costs. Installations may be subject to verification by water utility personnel.

**Rebate Bill Credits**

Bill credits up to $100 (not to exceed actual purchase price) will appear on the customer bill after applications are processed. *Rebates are not available for the costs of installation.*

Contact Project Home to see if you are eligible for this new program – 608-246-3737

**City of Tucson, AZ**

**Tucson Water Low Income Assistance Program**

The city of Tucson provides a 50% monthly low-income bill credit to qualified customers for the Tucson Water charges on their utility services statement. To qualify, you must be a Tucson Water customer; the Utility Services bill must be in your name; you must provide proof that you have qualified for one of three local economic development program; and you must meet household size/income Federal guidelines (updated April 2016).

<table>
<thead>
<tr>
<th># OF PEOPLE</th>
<th>ANNUAL INCOME</th>
<th>MONTHLY INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$14,778</td>
<td>$1,231</td>
</tr>
<tr>
<td>2</td>
<td>$24,219</td>
<td>$2,018</td>
</tr>
<tr>
<td>3</td>
<td>$33,252</td>
<td>$2,771</td>
</tr>
<tr>
<td>4</td>
<td>$41,048</td>
<td>$3,420</td>
</tr>
<tr>
<td>5</td>
<td>$48,438</td>
<td>$4,036</td>
</tr>
<tr>
<td>6</td>
<td>$56,654</td>
<td>$4,721</td>
</tr>
<tr>
<td>7</td>
<td>$64,870</td>
<td>$5,405</td>
</tr>
<tr>
<td>8</td>
<td>$73,086</td>
<td>$6,090</td>
</tr>
<tr>
<td>For each person, add</td>
<td>$8,216</td>
<td>$684</td>
</tr>
</tbody>
</table>
Direct Install Program:

For customers who qualify as low income, the City of Tucson provides a Low Income high-efficiency toilet (HET) direct install program that is not a rebate program.

Eligibility

- Low-to-moderate family income
- Replacing high-flush toilets made 1991 or earlier (date of manufacture is generally stamped inside the tank or lid of the toilet)
- Tucson Water customer (or a mobile home park, condo, etc., that is a Tucson Water customer)
- Homeowner (rental properties not eligible)
- Households of one person are eligible for one toilet replacement
- Households of two or more persons can receive two toilets
- Renters: Check with your landlord. Landlords may be eligible to participate in our other high-efficiency toilet rebate programs.

Rebate Programs:

HET and clothes washer rebate program: $200 or less – Credited to account

Credits are applied to ensure that customers with delinquent accounts do not receive a check, but will help pay down their balance. The credit will remain in their account until their bill exceeds the credit value. This change was made to streamline the process, saving time and money, and customers will receive their rebates faster.

Miami Dade Water & Sewer Department, FL

This utility was reviewed, however the Senior Citizen and Low Income Bathroom Retrofit Projects are currently being modified and are not available.

Seattle Public Utilities, WA

Free Toilet Programs for Income-Qualified Customers

Low-Income Home Owners:

SPU offers free HETs (up to 2 per household)

Includes: Free toilets, installation, and recycling of old toilets.

Eligibility requirements:

- Must receive SPU bill
- Must live in the home you own
- Existing toilets must have been installed before 2004
- Must meet the 2017 income guidelines below:
<table>
<thead>
<tr>
<th>HOUSEHOLD SIZE</th>
<th>GROSS MONTHLY INCOME</th>
<th>GROSS YEARLY INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$2,658</td>
<td>$31,896</td>
</tr>
<tr>
<td>2</td>
<td>$3,476</td>
<td>$41,712</td>
</tr>
<tr>
<td>3</td>
<td>$4,293</td>
<td>$51,516</td>
</tr>
<tr>
<td>4</td>
<td>$5,111</td>
<td>$61,332</td>
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<tr>
<td>5</td>
<td>$5,929</td>
<td>$71,148</td>
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<td>$6,747</td>
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<tr>
<td>7</td>
<td>$6,900</td>
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<td>8</td>
<td>$7,053</td>
<td>$84,636</td>
</tr>
<tr>
<td>9</td>
<td>$7,207</td>
<td>$86,484</td>
</tr>
<tr>
<td>10</td>
<td>$7,360</td>
<td>$88,320</td>
</tr>
<tr>
<td>Each additional</td>
<td>$153</td>
<td>$1,836</td>
</tr>
</tbody>
</table>

**Multifamily low-income housing providers**

Includes: Free toilets, plus up to $100.00 installation per toilet & free replacement of top-load clothes washers in common areas

Eligibility requirements:

- Building must receive a SPU bill
- Building is owned by a non-profit or governmental housing provider and has four units or more
- Tenant income must meet 2016 income guidelines
- Existing toilets must be pre-2004 and have not previously received a Saving Water Partnership rebate
- Replacement toilets must be Premium toilets that flush 1.1 GPF or less and be on the Premium Toilet List

**Efficient Showerheads instant discount program**

Seattle City Light offers an instant discount up to $10 at participating retailers – “Savings in electricity and power will likely pay for the new showerhead in the first 6 months”

**City of Fort Worth, TX**

*Smart Flush Toilet Program*
Qualifying residential customers can receive up to 2 free, dual flush ultra-high efficiency toilets. Toilets offered through the program have been tested for efficiency and performance and carry the WaterSense label.

Residential programs:

**Voucher Program:**

Qualifications:

- Own or rent a home that was built before 1994. Renter must submit a Landlord consent form with application
- Have an existing toilet manufactured before 1994 that uses at least 3 GPF
- Agree to install toilet within 30 days and follow proper disposal methods.

If approved, you will be mailed a voucher to pick up your free toilet. Vouchers are valid for 30 days and toilets must be installed within 30 days of pick-up. *Customers are responsible for all installation expenses.*

**SmartFlush CARE Program**

*The SmartFlush Conservation Assistance and Retrofit Efficiency (CARE) Program was created to address the needs of elderly and low income residents.*

Qualifying customers can receive and have installed up to two FREE ultra-high efficiency dual-flush toilets free.

Qualifications:

- Must be at least 70 years of age or more – or – meet the federal household income guidelines.
- Must have an active Fort Worth water account
- Must own or rent a home built before 1994 with existing high flow toilets that have not been replaced; and
- Have a toilet that is at least 15 years old, using 3 or more GPF. Existing 1.6 gpf or fewer toilets do not qualify.

If approved, new toilets will be installed by a contracted plumber, free to the customer. Allow 6-8 weeks for processing. Toilets are issued on a first-come, first-served basis while supplies last.

<table>
<thead>
<tr>
<th>FAMILY SIZE</th>
<th>MONTHLY INCOME</th>
<th>ANNUAL INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$1,716.50</td>
<td>$20,598</td>
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<tr>
<td>2</td>
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<td>$27,878</td>
</tr>
<tr>
<td>3</td>
<td>$2,929.83</td>
<td>$35,158</td>
</tr>
</tbody>
</table>
Alameda County Water District, CA

Water Savings Assistance Program

Provides income-qualified single-family homeowners with a water-use efficiency survey to identify water saving opportunities, a leak check and fix for common toilet leaks and, based on the flow rates of existing water using fixtures, free water efficiency toilets, faucet aerators, and showerheads, installed at no cost to the homeowner. All in-home services will be provided by a licensed plumbing contractor.

Alameda County Water District is a member of the Bay Area Water Supply and Conservation Agency (BAWSCA). This group offers a rebate of up to $125 when you replace your old toilet with a qualifying high efficiency toilet. Rebates are available to customers of participation BAWSCA member agencies

Water Conservation Kit

New or remodeled homes may not qualify. Each kit contains one low flow showerhead, faucet aerators for the bath and kitchen, toilet leak detection tablets, and a toilet flapper valve, all packed into a flow meter bag.

City of Aurora, CO

Low-Income Programs

Aurora Water helps income-qualified customers replace old fixtures with new, high-efficiency fixtures.

They have partnered with Mile High Youth Corps to replace up to 2 toilets, 2 showerheads and 3 faucet aerators with water-saving version in income-qualified homes and non-profit buildings.

To qualify, your household income must fall below these minimums:

<table>
<thead>
<tr>
<th>HOUSEHOLD SIZE</th>
<th>60% OF MEDIAN INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$33,550</td>
</tr>
<tr>
<td>2</td>
<td>$38,350</td>
</tr>
<tr>
<td>3</td>
<td>$43,150</td>
</tr>
<tr>
<td>4</td>
<td>$47,950</td>
</tr>
<tr>
<td>5</td>
<td>$51,800</td>
</tr>
<tr>
<td>6</td>
<td>$55,600</td>
</tr>
<tr>
<td>7</td>
<td>$59,450</td>
</tr>
</tbody>
</table>
Residential Toilet Rebate Information

- Average of 1.1 gpf or less – 3.5 gpf (pre 1994): Up to a $150 rebate
- Average of 1.1 gpf or less – 1.6 gpf (post 1994): Up to a $50 rebate

Program Requirements:

- Only Aurora Water customers in good standing (account with a zero balance may apply)
- Offered on a first-come, first-serve basis
- New toilets must use an average or 1.1 gpf or less and have EPA WaterSense logo on packaging
- Limit 2 toilets per residence per 10 years
- **Installations must be completed prior to applying**
- Applications must be submitted within 90 days of purchase
- An inspection may be required to verify the replacement of toilet(s)
- Up to $50 rebate for replacing 1.6 gpf toilet with UHET toilet
- Up to $150 rebate for replacing 3.5 gpf or greater with UHET toilet(s)

**Mile High Youth Corps**

Mile High Youth Corps installs energy and water savings measures like toilets, showerheads, etc. to help nonprofit groups, faith based organizations and low-income residents save money on their energy and water bills, and save valuable natural resources.

**Sonoma County Water Authority, CA**

**High-Efficiency Direct Install Program**

The program includes:

- Replacement of at least one high-flush toilet (3.5 gpf or more) with a new high-efficiency toilet (1.1 gpf or less) from a list of qualifying toilet models. Toilets that flush 1.6 gpf or more qualify for the replacement or;
- Replacement of at least one urinal (1 gpf or more) with a high-efficiency urinal

In addition, the program offers free:

- Replacement of all high-flow faucet aerators with new high-efficiency models (1.5,1.2 or .5 gpm) and;
- Replacement of all high-flow showerheads with new high-efficiency models (1.5 gpm)

**Additional Information:**
• The program covers the cost of both the toilet and installation.
• Asked to select a plumber from the participating plumbers list.
• If customer selects and installs their toilet, they can participate in the rebate program and get up to $150 back for each high-efficiency toilet.

High-Efficiency Toilet Rebate

Get up to $150 back on the purchase and installation of each new, qualifying high-efficiency toilet (HET).

High-Efficiency Clothes Washer Rebate

Get up to $125 back on purchase and installation of new, qualifying high-efficiency clothes washer (HEW).

Steps to Participate

1. Sign up on the wait list by filling out the High-Efficiency Fixture Direct-Install Program form on their web site.
2. Customers will receive a Program packet with an invitation to participate. The packet includes:
   a. List of Participating Plumbers
   b. Your unique Participation Number
   c. Sample documents for your review
   d. A satisfaction survey
3. Select and contact your plumber from the List of Participating Plumbers to set up and perform an onsite eligibility verification and to install the new fixtures.
4. Complete the survey and submit.

San Antonio Water System (SAWS)

Free Water-Efficient Fixtures

Saws offer’s free high-efficiency showerheads and aerators.

Plumbers to People Water Conservation Program

It is estimated that 25% of the population of San Antonio lives below federal poverty line.

The Plumbers to People program was started in 1994. The average cost of the program is approximately $225,000.00 per year for the repairs made.

The conservation team works with Human Services to qualify residence to participate in the Plumber’s for People program. Homeowners whose income is less than 125 percent of the federal poverty line qualify. Once qualified, SAWS is notified and arranges for a plumber to contact the customer directly for an appointment to make repairs. Plumbers are under contract with SAWS and no cost for the repairs or the fixtures are passed to the customer.

East Valley Water District, CA
Rebate Program – Indoor Rebates

High Efficiency Toilets – Up to $100 per toilet installed that uses less than 1.28 gallons per flush and is recognized by the WaterSense program

High Efficiency Showerhead – Up to $30 per showerhead that uses less than 2 gallons per minute and is recognized by the WaterSense program

High Efficiency Washing Machine – Up to $150 for purchase of a clothes washer with a water factor of a 5 or less and is recognized as an ENERGY STAR Appliance

New York City and Long Island

National Grid’s Direct Install Commercial Program

- High-efficiency showerhead – 1.5 gpm
- High-efficiency kitchen faucet aerator – 1.5 gpm
- High-efficiency bathroom faucet aerator – 1.0 gpm
- High-efficiency spray valve – 1.15 gpm

The no-cost water-saving efficiency upgrades installed under the program are certified by the WaterSense program.

San Francisco Public Utilities Commission (SFPUC)

Plan Name: Plumbing Fixture Replacement Program (PREP)

Residential properties can apply until March 1, 2017. Devices are available on a first-come, first-serve basis and are focused on all customers.

For qualifying sites, licensed plumbers under contract to SFPUC will remove old toilets and urinals and install new ones for free. Replacement fixtures will be limited to models specified by SFPUC.

To qualify, sites must:

- Have existing toilets that use at least 3.5 gallons per flush
- Accommodate installation of new high-efficiency models without major plumbing alterations or repair. Properties with abnormal sizes or conditions (e.g. rotted flooring, atypical plumbing configurations, etc.) will not be eligible for the PREP program until conditions are improved.
- Install showerheads, faucets and/or faucet aerators that comply with the California Plumbing Code by the time PREP installations are complete

PREP Program Steps

1) Submit an online application
2) Participate in mandatory pre-inspection
3) Schedule a fixture replacement date if your site’s eligibility was confirmed during the pre-inspection
The SFPUC’s PREP is intended to serve entire buildings, as well as single-family residences. Property owners, property managers or water account holders, with the agreement of all three parties if they are not one and the same, may coordinate submission of a single application for all toilets and urinals in the entire building.

**Examples of Direct Install Firms**

**Green Plumbers USA**

This program is a direct installation water conservation program featuring Niagara Conservation water conserving fixtures. It is estimated that a 3 person home can save on average 30,000 gallons of water annually with the UHET Water Savings Kit featuring Stealth Technology. The program includes a Niagara Stealth ultra-high-efficiency 0.8 GPF toilet; a 1.5 GPM or less Niagara showerhead, bathroom faucet aerators for single and dual sinks and a 1.5 GPM kitchen aerator.

The Program Includes:

- **Professional Installation** – The Green Plummer network of plumbers are trained and certified in the latest water and efficiency technologies. These professionals will provide the upfront inspections, installations of new products, and remove and recycle old fixtures.
- **Clear Reporting** – The NIAGARATRAC web-based management tool provides secure comprehensive management of client information and real-time installation tracking with easy accessibility for authorized personnel.
- **Turnkey Program** – The program provides all retrofit program management, installation coordination, financing (if needed), marketing and customer service.

Green Plumbers have worked with the EPA to develop a program that implements water conservation plans.

They complete an initial audit to determine current water use and possible conservation interventions.

Green Plumbers often partner with the Niagara Green City Program and examples of implementations are included in Table 8.
Table 8 Niagara Green City Example programs

<table>
<thead>
<tr>
<th>LOCATION / SITE</th>
<th># OF UNITS</th>
<th>PRODUCTS INSTALLED</th>
<th>CONTRACTOR</th>
<th>SAVINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlanta, GA (apartments)</td>
<td>1,007</td>
<td>* Niagara Stealth 0.8 GPF UHET&lt;br&gt;* Earth Massage 1.5 GPM Showerhead&lt;br&gt;* Bathroom &amp; Kitchen 1.5 GPM Aerators</td>
<td>Water-Smart, Inc.</td>
<td>68% Avg. Reduction in Water Usage</td>
</tr>
<tr>
<td>Elsinore Valley, CA</td>
<td>3,009</td>
<td>* Niagara Stealth 0.8 GPF UHFT&lt;br&gt;* Earth Massage 1.5 GPM Showerheads&lt;br&gt;* Kitchen &amp; Bathroom 1.5 GPM Aerators</td>
<td>Eco-Green Services, LLC</td>
<td>From Toilets = 118-acre-foot per year</td>
</tr>
<tr>
<td>Phoenix, AZ (hotel)</td>
<td>115</td>
<td>* Niagara Stealth 0.8 GFP UHET</td>
<td>The Marketing Pro’s</td>
<td>55% Reduction in Water Usage</td>
</tr>
</tbody>
</table>

Based on the results of the audit, the contractor determines a cost and length of the contract for the project. They collect 50% of the savings realized for the length of the contract or until the savings has paid for the project.

Water Smart Inc.

Water-Smart Inc. is a distributor of Niagara Conservation products and provides installation and repair services, primarily to the hotel and multi-family industry.

This company has worked with Green Plumbers USA.

RISE Engineering

Rise provides the following:

- *Identify energy-efficiency improvements* – Onsite water conservation assessments for all types of residential, commercial, industrial, institutional and public-sector facilities
- *Arrange installation* – Coordinate the professional installation of recommended improvements at fair prices using in-house resources and/or qualified subcontractors.
- *Help make improvements affordable* – Help customer to take advantage of utility and governmental financial incentives, rebates and financing options.

American Water & Energy Savers (Niagara distributor)

*Water Conservation Retrofit Program (multi-family and commercial)*

The first step of the AWES’ Water Conservation Retrofit program is to conduct a consumption analysis based on the following information:

- Review property profile information such as year built, number of units, average occupancy, etc. and analyze one year’s water bill to determine consumption history
Conclusions

- Conduct a preliminary analysis of savings opportunity to provide a base. If the information suggests a clear savings opportunity, AWES will perform an on-site survey.
- The on-site survey will involve the measurement of fixture flow rates at faucets, toilets and showerheads from a sampling of units (multi-family customer).
- A proposal is generated from the information gathered showing the current and projected water usage, recommended conservation methods, cost analysis and the projected increase in the property's valuation.
- After the owner agrees to move forward with the proposed water conservation retrofit program, AWES will proceed with the installation of the recommended low-flow equipment.

**eConserve LLC**

*Water Conservation Programs – Multi-family*

The cost structure for this company is similar to the Green Plumbers. The program is paid for through the savings that result from the program.

**Process**

- Free Audit – No Cost, no obligation review of consumption
- Savings Analysis – Identify cost savings using national and regional benchmarks from similar eConserve projects
- Implementation – Fix all drips & leaks in the units then rebuild or replace toilets
- On-going maintenance -Continued monitoring & maintenance to maximize long term savings
- Added Value – Immediate increase in cash flow & overall property value