



# 2018

ANNUAL REPORT





**TO THE HONORABLE MAYOR, MEMBERS OF THE CITY COUNCIL,  
AND VALUED CUSTOMERS:**

Submitted herewith is the One Hundred and Sixteenth Annual Report of the City of Holyoke Gas & Electric Department (HG&E) for the year ending December 31, 2018.

I am pleased to report that HG&E finished 2018 with strong operating and financial performance. Despite significant increases in capacity and transmission costs, the Department deployed innovative mitigation measures to offset some of the impact and offered some of the most competitive rates in the region.

The Electric Division continued its aggressive maintenance and upgrade program during the year, and made significant progress on the replacement of the Holyoke 17L substation, which will be completed at the end of 2019. The Division also worked hard to insulate our ratepayers from the full brunt of the capacity and transmission cost increases through various load management activities that will reduce capacity costs by over \$1.8 Million beginning at the end of 2019. These activities included ensuring that available hydro and solar generators were operating during peak periods, as well as operating other assets to reduce the Department's peak load. The Division worked with ENGIE, N.A. to deploy the largest battery storage facility in New England at ENGIE's Mt. Tom Solar Facility.

The Gas Division completed significant maintenance and improvement activities, by replacing 1.3 miles of old cast-iron mains and 240 bare steel services with new pipe. The Division also added several new services in both Holyoke and Southampton. In addition, the Division completed all gas distribution system monitoring and reporting requirements in full compliance with all requirements.

The Hydro Division continued efforts to update the fleet of hydro generators and associated facilities. New intake racks were added at the Boatlock units #2 and #3 during the year. The Division also completed a major overhaul of City Hydro Unit #2 and installed new waste gates at Overflow #2.

The Telecom Division continued to provide high-quality fiber optic services throughout the Pioneer Valley and leveraged existing assets to assist local Municipal Light Plants (MLP) with the operation of fiber networks, owned by those MLPs.

HG&E also continued to do its part in protecting our environment and supporting our community. In 2018, 52% of the Department's electricity sold at retail came from renewable resources, and 85% of the electricity sold at retail was carbon-free. Our employees also contributed over \$27,416 to the United Way and also donated approximately 4,000 hours to various non-profit and community organizations throughout the year.

We thank the City officials and HG&E employees for their continued faithful service, and we shall continue to work diligently to provide our customers with reliable utility services at competitive rates, backed by an unprecedented dedication to customer service.

Respectfully,

*Francis J. Hoey III, Commission Chairman*

*Robert H. Griffin, Commission Treasurer*

*James A. Sutter, Commission Secretary*

*James M. Lavelle, Manager*



Christopher Barney, Gas Service Technician, talks to customer

# GAS DIVISION

## NEW SERVICES

In 2018, the Department installed 52 service lines to new customers and replaced or retired 300 older services in Holyoke.

Per HG&E's Distribution Integrity Management Plan (DIMP), which was implemented in August 2011, the Department embarked on a ten-year bare steel service replacement program. There are currently 995 bare steel gas services remaining in Holyoke, down from approximately 3,200 at the beginning of the program. At the conclusion of this program, all gas services will be constructed of either polyethylene plastic or coated steel. Bare steel services were installed from the early 1900s through the late 1960s.

## NEW AND REPLACEMENT MAINS

The Department continued its cast-iron main replacement efforts and replaced over one mile (5,585 feet) of small-diameter, wrought iron, and cast-iron pipes with new plastic pipes on Charles Street, Glen Street, Hampton Knolls Road, North East Street, and Saint Jerome Avenue, along with a segment on Bemis Road. An additional 1,321 feet of cast-iron pipe were abandoned, primarily on Beaulieu Street and Berkshire Street. The new plastic mains are generally four or six inches in diameter, with eight inches being used along Bemis Road.

On Lorraine Street and Ogden Street, the Department replaced 1,305 feet of coated steel main with new two-inch plastic main and upgraded the residential gas services in the area. Also, the gas main was extended on Moosebrook Road in Southampton; 205 feet of two-inch plastic pipe was installed to serve new home construction.

In all, the Department installed over 8,477 feet of new mains and 352 new or replacement services. HG&E's natural gas distribution system now consists of over 185 miles of mains and 7,951 service lines.

## LEAK SURVEYS

The Department helps ensure the safety and reliability of the gas distribution system through an extensive series of compulsory and voluntary, comprehensive leak surveys. Each year, the Department conducts public building, mobile and walking flame ionization patrols, special monthly winter patrols, and vegetation observation surveys. The full-length walking survey over each individual gas service covered more than 4,000 lines in 2018, or about one-half of the service pipes in the system. The combined surveys accounted for the detection of 59 leaks, mostly minor. All leaks were investigated, prioritized and repaired, in accordance with applicable industry standards and regulations.

**THE DEPARTMENT HELPS ENSURE THE SAFETY AND RELIABILITY OF THE GAS DISTRIBUTION SYSTEM THROUGH AN EXTENSIVE SERIES OF COMPULSORY AND VOLUNTARY, COMPREHENSIVE LEAK SURVEYS.**



Brendan Flynn on job site

## **GAS SUPPLY AND FLOW CONTROL**

The Department delivered 2,337,065 dekatherms (DTH) of gas in 2018, with a peak daily send-out of 19.644 DTH on January 6. Of that, 13,312 DTH was delivered over the pipeline and 6,332 DTH was supplemented by liquefied natural gas (LNG). HG&E continues to operate its LNG storage and vaporizing system, providing the extra gas needed during the coldest winter days. LNG also serves as an emergency supply for the City.

In 2018, the Gas Division conducted an independent engineering review of its low-pressure district regulator systems in response to an over-pressurization incident in Massachusetts' Merrimack Valley. The report included evaluation of the Department's low-pressure regulator station design, load calculations, and over-pressure protection. The Professional Engineer (P.E.) stamped report indicated that HG&E's low-pressure system design is adequately protected through the use of monitor regulators, over-pressure protection shutoff valves, and tertiary support from district relief valves.

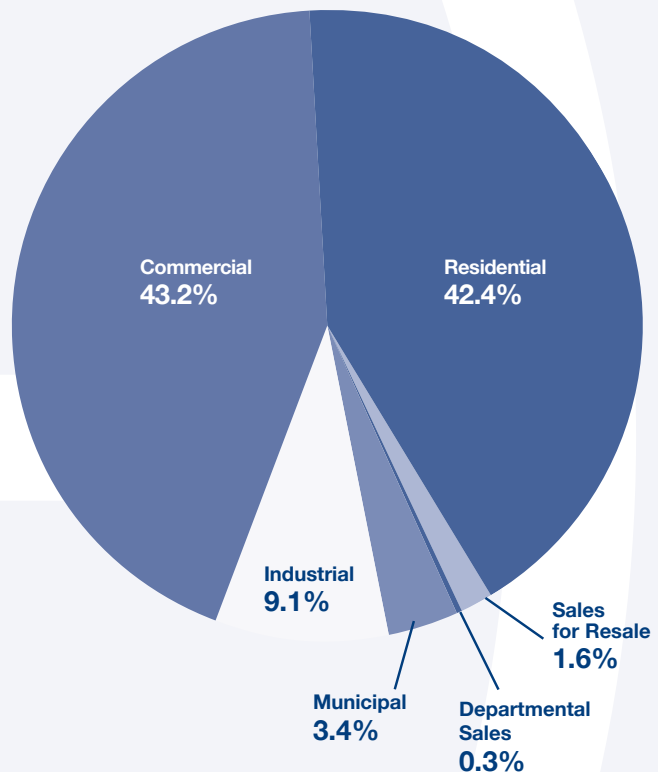
## **SERVICE**

The Department completed 3,062 appliance service calls for customers in Holyoke and Southampton during the year. These calls include boiler/furnace, water heater, and dryer repairs, as well as thermostat installations. In addition 1,647 gas meters were replaced to comply with the state-mandated, seven-year meter exchange requirement.

The Service Department completed a total of 3,620 corrosion inspections, as service orders for gas and electric meter turn-ons and turnoffs continued to decrease. In lieu of sending an employee to each site for ons and offs, the Department was able to utilize its fixed-meter network to remotely read meters that were being transferred between customers.

**THE DEPARTMENT  
COMPLETED 3,062  
APPLIANCE SERVICE  
CALLS FOR CUSTOMERS  
IN HOLYOKE AND  
SOUTHAMPTON DURING  
THE YEAR.**

## **2018 GAS REVENUES**





Gavin O'Hara teaching students about the smell of natural gas.

# ELECTRIC PRODUCTION

## HYDROELECTRIC FACILITIES

A number of projects were completed in 2018, which improved or contributed to the future generation capacity and reliability of the Department's Hydroelectric facilities.

### THESE PROJECTS INCLUDED:

**Hadley Falls Station:** During the summer of 2018, important maintenance projects were completed at Hadley Falls Station, including; installation of new head gate seals; replacement of a 14" draft tube drain valve and the repair of an oil leak on the Kaplan Oil Head assembly on Hadley Falls Unit 1; replacement of the wicket gate packing and installation of a new automatic backwash strainer on Hadley Falls Unit 2.

**City #2 Rehabilitation:** A maintenance outage began on June 19, 2017, and the unit was returned to service on November 27, 2018. The work consisted of the disassembly of all the non-embedded components of the machine. In addition, new wicket gates were fabricated; the generator stator, rotor, and exciter were rehabilitated and new electrical switch gear and controls were installed.

**Dam Apron Repairs:** After inspection of the dam apron in the spring of 2018, it was noted that several areas required repair. During the low flow period in the summer and fall, repairs were made on the concrete apron as required.

**Hadley Falls Station Downstream Fish Passage Project:** The Department completed the installation of the new downstream fish passage facility in December 2015. In 2018, testing of the new facilities continued with a multi-year radio tagging study of Shortnose Sturgeon, in order to monitor movements through the new downstream passage facilities.

**Boatlock Station:** A new galvanized steel rack and support structures were installed during the fall canal outage for Boatlock #2 and #3. Also, a new station automated backwash strainer was installed, along with a new cooling water pipe, and new filter for the supply water within Boatlock #1 turbine guide bearing.

**Overflow #2:** New stainless steel slide gates were installed at #2 Overflow during the fall canal outage in September 2018. The new gates replaced the original cast-iron, quarter turn gates installed over 100 years ago.

## OTHER PROJECTS

**Annual Spring and Fall Canal Inspections:** Completed the assessment of canals and canal walls, including: overflows, intakes, penstocks, powerhouses, and tailraces.

### MAJOR COMPLIANCE ISSUES ADDRESSED, 2018

**Re-Licensing of City Units #1, #2 and #3:** During 2018, the Department completed the lengthy relicensing process and filed all documents with the Federal Energy Regulatory Commission (FERC). The final disposition of the license(s) is expected to be determined by FERC in 2019.

**Applications for License Surrender:** The Department received the final surrender approval from FERC for the Albion A, Albion D, and Nonotuck units. The hydroelectric equipment has been removed from the sites and demolition of the building, by the property owner, is ongoing.

### ENVIRONMENTAL PROJECTS INCLUDED:

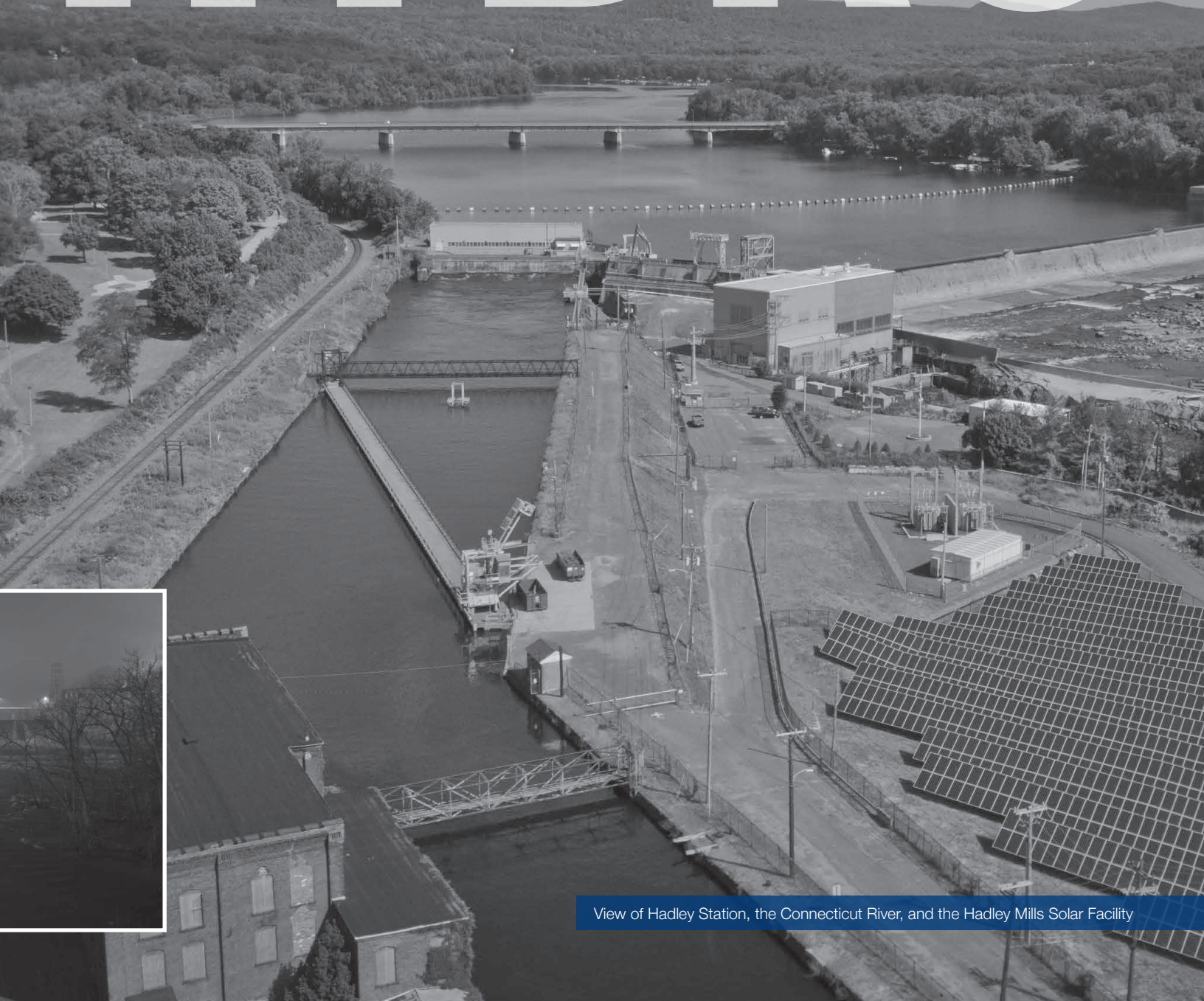
- HG&E continued the monitoring of invasive plant species along the impoundment, and ongoing efforts to control water chestnut in Log Pond Cove.
- Annual water quality monitoring of project operations.

**Robert E. Barrett Fishway Operations:** In 2018, HG&E continued its partnership with Holyoke Community College for the collection of data on the number of species passed at the Robert E. Barrett Fishway. Activities included: biological sampling, trapping and loading of shad, trapping of shortnose sturgeon and Atlantic salmon, and observations of lift operations and eel passage.



Holyoke Dam

# HYDRO



View of Hadley Station, the Connecticut River, and the Hadley Mills Solar Facility





Holyoke Dam and Fish Passage Facilities



Viewing room windows at the Robert Barrett Fishway

## 2018 FISH PASSAGE

The fish lift at the Robert E. Barrett Fishway assists migrating fish to reach spawning areas above the Holyoke Dam. HG&E's fish passage facility was the first and most successful fish lift on the Atlantic coast. It is comprised of two fish elevators, which carry migrating fish up and beyond the dam.

**The passage of anadromous and resident fish species that were observed and monitored in the lift system this year included:**

<b>AMERICAN SHAD</b>	<b>273,979</b>
<b>ATLANTIC SALMON</b>	<b>2</b>
<b>BLUEBACK HERRING</b>	<b>1,061</b>
<b>GIZZARD SHAD</b>	<b>69</b>
<b>SEA LAMPREY</b>	<b>10,187</b>
<b>SHORTNOSE STURGEON</b>	<b>91</b>
<b>STRIPED BASS</b>	<b>262</b>

**In addition to the fishlift**, there is a total of three eel ramp passage facilities on both the Holyoke and South Hadley shores below the dam. The number of American Eels counted at the eel ramps in 2018 was 8,562.

In 2018, the public viewing facility at the Barrett Fishway was open from May 2nd through June 10th and attracted 7,616 visitors. The ability to view fish on their annual spring spawning run is a rare opportunity, and it demonstrates HG&E's commitment to Connecticut River stewardship and educational initiatives.

On October 4th, the Department, together with the Holyoke Public Schools and the Massachusetts Clean Energy Center, hosted a Clean Energy Day. The daylong event educated students on different types of renewable energy produced by the Department. Students participated in different activities, ranging from building a solar-powered model car and hydro wheel, to taking a tour of a solar field and Hadley Falls Station Hydro Facility.

## 2018 HG&E SHAD DERBY

The annual HG&E Shad Derby offers **both adult and youth fishing enthusiasts** the opportunity to enjoy the recreational benefits of the Connecticut River. The 2018 Shad Derby was held on May 12, 13, 19, and 20. The event attracted 102 registrants in the Senior Division and 38 registrants in the Junior Division.

Mike Govoni of Monson led the Senior Division with a 4 lbs. 14 oz shad. Gary Walker of West Springfield led the Junior Division with a 4 lb. 7 oz. shad. The John DiNapoli Award for the first shad caught by a youth went to Jacob Ozga of South Hadley.

# ELECTRIC DIVISION



Maple Street Row Houses

## ELECTRIC OPERATIONS

In 2018, a number of projects were completed that will increase the reliability of the Department's electric substation and transmission infrastructure.

### THESE PROJECTS INCLUDED:

**Holyoke Substation Construction – Phase I:** This project entails replacing the existing 115/13.8 kV dual transformer substation, which is currently near the end of its life and over its firm capacity. In 2018, final engineering was completed, and construction commenced in earnest on the first half of the substation, which is located directly adjacent to the existing station. All major equipment was installed and tested, and is ready to be energized pending outage availability in early 2019. This included a new 115kV bus structure and associated switching equipment, including: a 60 MVA power transformer, new 15kV switchgear, and all associated relaying and controls.

The second half of construction, as well as demolition of the existing substation, final commissioning and acceptance, will occur in the second half of 2019.

**Protective Relay Replacements – Phase II:** This project involved replacing vintage electromechanical protective relays with microprocessor-based relays at the Holyoke 17L indoor switchgear. In 2018, the primary and backup relay packages were installed and commissioned on 11 feeders. The new relays are more accurate, they require less maintenance, and they facilitated the addition of arc flash tripping to reduce the hazard to personnel during maintenance and switching operations.

**NERC Compliance Audit:** In 2018, the Department was audited on various operations and planning standards under the jurisdiction of the North American Electric Reliability Corporation (NERC). The audit was completed successfully, with no findings or areas of concern, and included commendations on our relay testing program and culture of compliance.

**As part of the Department's preventative maintenance (PM) plan, major maintenance and testing was performed on various substation and plant equipment throughout the year. In summary, 333 maintenance orders were completed, including major maintenance and/or testing on:**

- **Two power transformers and Load Tap Changers (LTC) at Ingleside Substation (rebuilt LTCs)**
- **Eleven medium-voltage vacuum circuit breakers at Hadley Falls and Highland Substations**
- **Two 125 Vdc station battery systems at Hadley Falls and Ingleside Substations**
- **Forty NERC mandated transmission level protective relays at Ingleside Substation**
- **Six 115kV voltage transformers at North Canal Substation**

Support for electric distribution and hydro during the year included the preparation of 127 switching orders with clearances issued for planned and emergency high-voltage work, assistance with the replacement of several transmission poles, and assistance with the interconnection processes and protection of various diesel, solar, and energy storage projects. Maintenance and repair operations were also performed as required on distribution and hydro equipment, including monthly inspections of line reclosers, sectionalizers, and capacitor switching controls. In 2018, support was again provided for the city-owned flood control pumping stations in the form of emergency maintenance and pumping operations, as required.

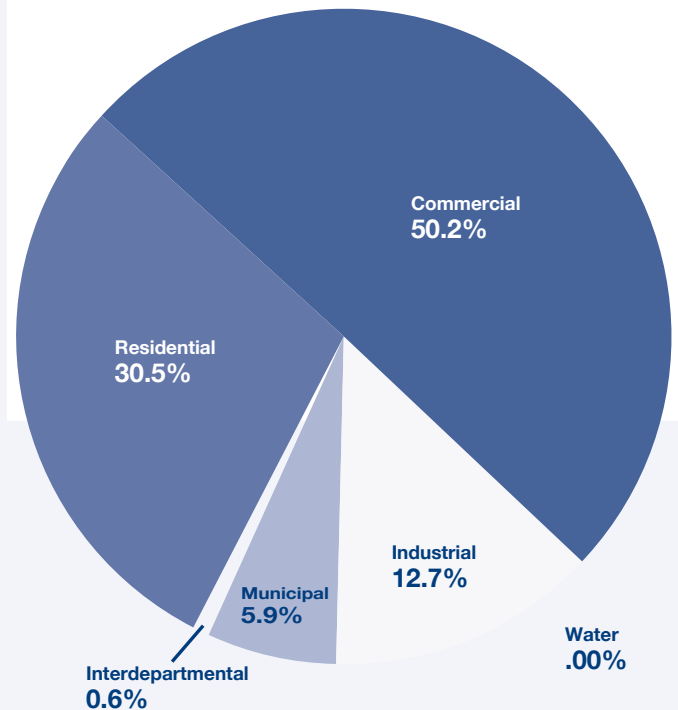
## ELECTRIC DISTRIBUTION

In 2018, HG&E continued to make important investments in the electric distribution system. Some of the major investments included: replacement of a 2,000-foot section of overhead primary wire on Main Street and Ingleside Street, just north of Providence Hospital, and removal of a one-mile section of overhead primary wire on Main Street, between Hanover Street and Holyoke High School - Dean Campus, with customer load relocated onto a nearby spacer cable circuit. A 220-foot line extension was installed on Whiting Avenue to increase service voltage and improve reliability in the surrounding area. A quarter-mile underground line was extended from Holyoke Substation to the Massachusetts Green High Performance Computing Center (MGHPCC) to provide a 13.8 kV 4MVA backup circuit with shared capacity for added redundancy to their main 34.5 kV feed from North Canal Substation.

The Department continued work that began in 2016, involving the removal or replacement of existing vacuum switches in manholes. The project will involve the eventual replacement of all 94 existing 15 kV vacuum switches located in various manholes throughout the city that are used in isolating a circuit for the purposes of load shifting, outage restoration, and/or maintenance work. Eleven more vacuum switches were removed or replaced with air break switches throughout the year, bringing the total to 30 since 2016. The first shipment of automated padmount, oil-filled switches, which will eventually replace most of the remaining vacuum switches in the field, was received. These new switches will also provide automation to isolate faulted sections of circuit more quickly and provide control of these devices from remote locations.

Backyard pole lines in the areas serviced mainly from Highland Substation were constructed in the 1950s and 1960s. The aging infrastructure has created reliability and access issues, which is a liability to the overall system. Based on reliability data, tree-trimming expenses, and known hazard areas, locations with backyard facilities were reviewed in 2018. The Department determined whether new facilities are to be installed underground or overhead, based on the type of distribution existing nearby. There were 48 services, 26 single-family and 22 multi-family, which were relocated from the backyard

## 2018 ELECTRIC DIVISION REVENUES



to the street in locations, including Brown Avenue, Beacon Avenue, Willow Street, Hitchcock Street, Westfield Road, Northampton Street, Vadnais Street, Arlington Street, Harvard Street, and Dartmouth Street. This work will provide customers with a more reliable electric service, as well as protection from potential safety hazards. Additionally, these measures will reduce some tree-trimming and outage costs for the Department.

There were 77 transformers that were replaced as part of our ongoing age-based asset replacement program. This program is a proactive approach to replacing assets in the field before a problem arises that causes an outage. Transformers that are at least 40 years old have been initially targeted to be replaced as part of this program. A net 150 kVA was added to the system as a result of the program.

A padmount transformer on Lyman Street in the Flats section of the City had been relocated from a backyard to the street as part of an undertaking to improve access and reliability in the Flats. The original undergrounding of a section of the Flats labeled as "Model Cities" was completed in the late 1970s. Padmount transformers installed were located away from the street along alleyways. These alleyways are now overgrown and essentially non-existent. In addition, fences were installed over the years, blocking full access to the transformer.



17L Substation Project

This project, the first of two phases, would relocate those transformers, with limited access to a location where the transformers can be appropriately maintained.

The first of two phases began in the renovation of the Lyman Terrace complex located on Front Street and Lyman Street. There were 32 new decorative light standards and fixtures installed. A new 225 kVA padmount transformer was also installed, along with approximately 300' of new secondary main that was used in connecting five new services to the renovated units.

Lighting improvements were completed as part of a MassDOT project on Lower Westfield Road. Improvements included installation of three additional light poles that illuminate the new crosswalks on the entrance ramps to I-91 and relocation of four other light poles to accommodate road-widening and new sidewalks. One wood pole and approximately 100' of underground primary cable were also replaced to accommodate this work.

Seven new solar projects came online, requiring new electrical feeds with upgraded metering, resulting in an additional 1.22 MW-dc of solar output load. Four of these were commercial projects located at the Boys and Girls Club on Nick Cosmos Way, an open parcel on Kelly Way, YMCA on Pine Street, and a Department-owned building at 80 Jackson Street. The other three solar projects were for residential customers on Prew Avenue, Northampton Street, Lincoln Street, and Madison Avenue

A number of preventative maintenance activities continued throughout the year. Testing was performed on 159 new and used transformers, 138 pole-top units, and 21 padmount units. HG&E also performed 288 manhole inspections and 660 wood pole inspections. Stray voltage testing of approximately 20% of the city was also completed in the area of Jarvis Avenue, Easthampton Road, Smiths Ferry, Bemis Road and Northampton Street, between Cherry Street and Hampden Street. There were 175 padmount transformers on various circuits inspected by HG&E line crew.

Annual visual inspections on all three transmission lines were also performed, using drones to ensure reliable operation of the transmission system. Infrared inspections were performed on all distribution circuits. There were 18 transformers upgraded or replaced due to overload conditions, leaking, and/or poor condition. In addition, enhanced wildlife protections were installed on various pieces of equipment, which continued to reduce outage time in 2018.

New electric services for Holyoke Juvenile Court House on Elm Street, Edaron on Appleton Street, Marcotte Ford on Main Street, and Dunkin' on Pleasant Street were completed, resulting in a net additional connected load of 300 kVA. Also, service upgrades were performed at Mont Marie to accommodate the new rehab and healthcare center, at the former Goldcar building on Beaulieu Street to

accommodate a future business venture, and an apartment block on Elm Street, resulting in an additional connected load of 787.5 kVA.

In summary, for 2018, HG&E set 196 poles and removed 232. A net 2,384.5 kVA connected load was added to the distribution system. Some 20,488 circuit feet of underground cable was installed, while 7,885 was removed. Similarly, 37,315 circuit feet of overhead wire was installed, while 53,586 was removed. Approximately one mile of PVC conduit was installed. There was a net increase of ten contract lights and a net increase of 43 streetlights.

## RELIABILITY

Reliability statistics allow the Department to track its service reliability and compare it from year to year with other municipal and private utilities. There are four statistics used to define the length and frequency of interruptions to customers, system availability, and the number of customers impacted by both unscheduled outages alone, and unscheduled and scheduled outages combined (see chart, below).

UNSCHEDULED OUTAGES ONLY		
STATISTIC	2018	2017
ASAI	99.9966%	99.9960%
CAIDI	67.337 min	56.072min
SAIDI	23.043 min	21.673 min
SAIFI	0.342 outages	0.387 outages

COMBINED OUTAGES		
STATISTIC	2018	2017
ASAI	99.9926%	99.9903%
CAIDI	77.986 min	93.471 min
SAIDI	47.816min	53.773 min
SAIFI	0.613 outages	0.575 outages

**Average System Availability Index (ASAI)**—represents how much of the time a customer actually has service available to them.

**Customer Average Interruption Duration Index (CAIDI)**—represents the average time expected to take to restore service after a sustained interruption.

**System Average Interruption Duration Index (SAIDI)**—defines the average interruption duration per customer served.

**System Average Interruption Frequency Index (SAIFI)**—defines the average number of times that a customer's service is interrupted during a given year.

## METERING

In 2018, the Department continued its advanced metering infrastructure (AMI) system rollout to support commercial and industrial billing, as well as future distribution automation. Seven Connected Grid Routers (CGRs) were installed on Department-owned utility poles and connected to the Department's fiber infrastructure. These CGRs communicate back to the cloud interface software via a secured tunnel.

In 2018, 1,150 AMI meters were installed, which included replacing 265 drive-by meters, 156 Fixed Network one-way automatic meter reading (AMR) meters, and 19 Distributed Generation (DG) meters. These meters were not providing any outage notification or interval meter data. In addition, the Division replaced 144 meters that were providing interval data but no outage notifications. Since the AMI system is a wireless mesh, two-way based network, the Department exchanged 277 AMR meters to facilitate the communication paths back to the CGRs. Also, 225 AMR meters were exchanged to address network coverage issues in West Holyoke and Smiths Ferry. Lastly, 64 meters were installed as part of new/upgraded services and access issues.

In conjunction with AMR, these AMI systems provide outage notification from electric meters, tampering diagnostics for electric and gas meters, interval meter data, and instantaneous meter reads. This technology allows the Department to perform certain tasks remotely, such as successions when opening or closing an account. The metering group has utilized custom reports to track down inactive meters (by showing consumption), validate meter removals, and detect malfunctioning meters, to reduce lost revenue and maintain system accuracy. The AMI system provides the Department with the additional capability of remotely disconnecting and reconnecting electric meters. In addition, the enhanced meter data provides kVAR/kVA intervals and minimum, maximum, and average voltage data for five minutes.

In 2018, the AMR system had an average daily read rate of 99.78%, with an initial design of 99%. The overall remote read rate for the Department was 99.06%, which includes all meters without radio frequency (RF) capability.

The Department installed seven revenue meters for ENGIE Battery/Solar (3), Jackson Street Electric Division facility, Boys & Girls Club, Kelly Way site two, and YMCA solar. A total of 23 generator, transformer, and station service meters were tested at Ingleside, Holyoke, and North Canal substations, as well as Hadley Falls, Boatlock, Riverside, Skinner, Beebe, Chemical, and Valley stations. These meters are tested by the Meter Department on a biennial basis through the use of the Department's own portable test unit.

Testing of current transformers (CT) continued at various customer locations. There were 102 CT rated customer locations tested by in-house meter personnel. This testing ensures that customer metering

remains accurate and any issues found are addressed in a timely fashion.

Throughout the year, the Meter Department continued to support the Credit Department, performing delinquent customer on and offs, tagging notifications, meter reads, and collections. In total, 3,981 credit-related duties were performed in 2018.

In summary, there was a net total of 107 electric meters installed, 1,103 electric meters replaced, and 774 electric meters retired, having an average age of 13.43 years. A total of 1,081 electric meters were tested and calibrated, 23 power quality checks, 427 turn-ons and 378 turnoffs, and eight electric successions performed, and ten vacant consumption reports investigated for metering problems and/or theft of service. There were 42 current transformers and 12 potential transformers installed. In addition, 20 surge protectors were replaced due to warranty expiration as well as one new installation and three removals. On the gas side, 1,647 meters were removed and tested, 1,744 meters were installed, another 1,696 meters were sealed, and 388 meters were retired.

## WHOLESALE POWER

HG&E manages a unique and diverse power supply portfolio, generating power locally and purchasing power from all over New England to meet the ever-evolving load requirements of the City. HG&E actively monitors peak hours, monthly and annually, actively instituting load reduction measures to lower HG&E's costs during peak periods. As part of the Energy Purchasing and Risk Management Plan, the Department monitors the available energy supply and resources on a daily basis to stabilize and ensure price certainty for the future cost of power. The Department purchases power on both a short-term and long-term basis to take advantage of the fluctuating market, manage the risk of rising prices, and increase the stability of future energy costs, ensuring stable rates for all customers.

While approximately 70% of HG&E's electric supply comes from hydro, solar, and wind-generating facilities, the Commonwealth of Massachusetts does not recognize all of these resources as renewable energy. In 2018, 38.95% of HG&E's power supply production came from generation that qualifies as renewable, according to definitions set forth by the Renewable Portfolio Standards within the New England states. Additionally, 25.13% of HG&E's production came from generators that produce solar, hydro and wind power, but HG&E cannot claim that production as green energy because the renewable energy certificates (REC) are not owned by or retired with HG&E. The Null Energy label is used to signify non-REC ownership/retirement. Only 10.21% of the Null Energy total served to meet a small portion (3.39%) of HG&E's electrical load in 2018, the remainder was sold to the market.

# POWER SUPPLY

## 2018 POWER SUPPLY RESOURCES

PROJECT NAME	FUEL TYPE	PROJECT START DATE	CONTRACT CAPACITY (kW-AC)		CONTRACT END DATE
			WINTER	SUMMER	
<b>BASE UNITS</b>					
NYPA FIRM	HYDRO	1985	1,787	1,787	9/1/25
MILLSTONE 3 - MIX 1	NUCLEAR	1986	1,334	1,334	11/25/45*
MILLSTONE 3 - MIX 2	NUCLEAR	1986	2,325	2,325	11/25/45*
SEABROOK - MIX 1	NUCLEAR	1990	147	147	3/15/50*
SEABROOK - PROJ 4	NUCLEAR	1990	3,306	3,306	3/15/50*
SEABROOK - PROJ 5	NUCLEAR	1990	408	408	3/15/50*
<b>INTERMEDIATE UNITS</b>					
HYDRO QUEBEC 1	N/A	1986	1,189	1,189	LOU**
HYDRO QUEBEC 2	N/A	1989	1,938	1,938	LOU**
W.F. WYMAN 4	#6 OIL	1978	4,199	4,152	LOU*
<b>PEAKING UNITS</b>					
NYPA PEAK	HYDRO	1985	383	383	9/1/25
STONYBROOK GT 2A	#2 OIL	1982	2,476	1,910	LOU*
STONYBROOK GT 2B	#2 OIL	1982	2,413	1,850	LOU*
<b>RENEWABLE</b>					
HADLEY FALLS 1&2	HYDRO	1949	33,400	33,400	OWNED*
RIVERSIDE 8	HYDRO	1931	4,575	4,575	OWNED*
RIVERSIDE 4-7	HYDRO	1921	3,270	3,270	OWNED*
BOATLOCK	HYDRO	1924	3,313	3,313	OWNED*
HOLYOKE HYDRO/CABOT 1-2	HYDRO	1923	1,856	1,856	OWNED*
HOLYOKE HYDRO/CABOT 3	HYDRO	1940	450	450	OWNED* ****
HOLYOKE HYDRO/CABOT 4	HYDRO	1955	750	750	OWNED* ****
CHEMICAL	HYDRO	1935	1,600	1,600	OWNED*
BEEBE HOLBROOK	HYDRO	1948	205	205	OWNED*
SKINNER	HYDRO	1924	300	300	OWNED*
VALLEY HYDRO	HYDRO	2004	790	790	OWNED*
ALBION A	HYDRO	2004	281	281	OWNED* ***
ALBION D	HYDRO	2004	395	395	OWNED* ***
NONOTUCK	HYDRO	2004	472	472	OWNED* ***
OPEN SQUARE	HYDRO	2004	525	525	2/29/16****
HANCOCK WIND	WIND	2016	6,032	6,032	12/14/41
CONSTELLATION - MUELLER RD	SOLAR	2012	2,693	2,693	12/20/31****
CONSTELLATION - MEADOW ST	SOLAR	2012	793	793	12/20/31****
CITIZENS - COUNTY RD	SOLAR	2013	615	615	2/5/33****
HPP MA, LLC - RICAR	SOLAR	2015	792	792	10/1/40****
C2 ENERGY CAPITAL - DINN	SOLAR	2016	475	475	12/27/36****
C2 ENERGY CAPITAL - KELLY WAY I	SOLAR	2016	475	475	12/27/36****
JACKSON CANAL, LLC - AEGIS	SOLAR	2017	833	833	1/4/37****
GROWING HOLYOKE, LLC - GARY ROME	SOLAR	2017	666	666	1/6/37****
MT. TOM SOLAR, LLC - ENGIE	SOLAR	2017	4,500	4,500	2/7/37****
SCANNELL SOLAR, LLC - CONKLIN	SOLAR	2017	633	633	2/24/37****
GEEPV - RIVERSIDE A/B	SOLAR	2017	133	133	5/8/37****
GEEPV - WALNUT	SOLAR	2017	100	100	11/22/37****
SUNWEALTH - HADLEY MILLS	SOLAR	2017	336	336	12/31/37****
C2 ENERGY CAPITAL - KELLY WAY II	SOLAR	2018	475	475	6/4/38****
GEEPV - BOYS & GIRLS CLUB	SOLAR	2018	150	150	4/20/38****
GEEPV - JACKSON	SOLAR	2018	120	120	3/15/38****
GEEPV - YMCA	SOLAR	2018	167	167	12/17/38****

All capacity contracts follow the ISO New England calendar system.

\* Investments continue for the life of the unit (LOU)

\*\* After 8/31/01, there is no firm energy contract, only capacity, entitlement, which continues for the life of the unit

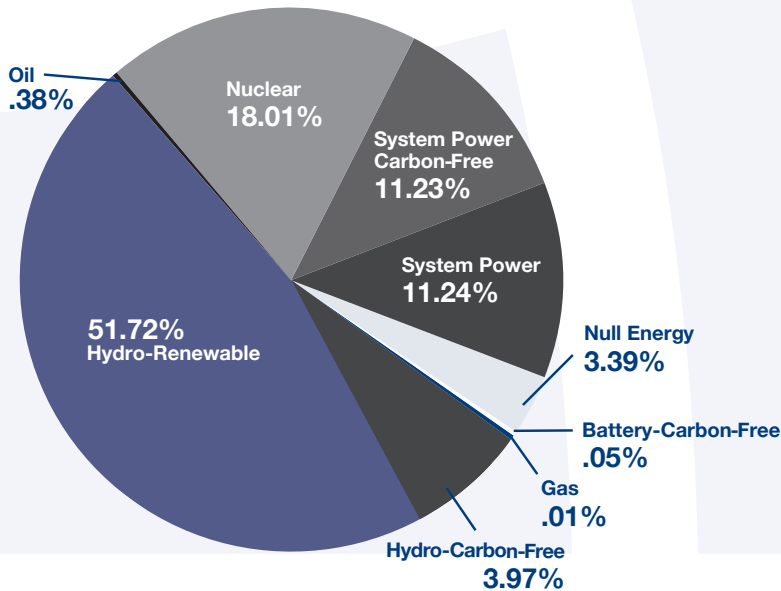
\*\*\* Analysis and Relicensing

\*\*\*\* Load Reducer



The pie chart below shows Holyoke's supply by fuel type as percent (%) of Electrical load.

### HOLYOKE GAS & ELECTRIC DEPARTMENT 2018 ENERGY MIX AS % OF ELECTRICAL LOAD



**In 2018, 51.72% of HG&E's electric load was renewable and carbon-free, while an additional 33.26% was carbon-free, not renewable (nuclear, battery, carbon-free system power and hydro). Hence, 84.98% of HG&E's Electrical load is considered carbon-free.**

The System Power signifies various term length, bilateral contracts representative of system mix within ISO-NE that were procured during the summer time frame, and System Power Carbon-Free represents long-term, on-peak, bilateral contracts with nuclear certificates attached. In 2018, HG&E extended a 10-year Power transaction for another eight years, through December of 2029, retaining carbon- and emission-free nuclear certificates and lowering energy costs.

During 2018, the Department proactively pursued and hosted low-cost, carbon-free projects to secure and further enhance the energy portfolio. Four new utility-scale and four new residential solar projects, totaling 1.224 MW-dc, began commercial operation at various times throughout 2018. HG&E currently hosts 28 solar projects (17 utility-scale, nine residential, two commercial), with a corresponding output of 17.886 MW-dc.

Utility-scale projects resulted in 18,409 MWh of load reduction, while residential and commercial customer technologies resulted in 55,670 kWh of system load reduction in 2018. Energy from these local solar

projects is offsetting the Department's demand and reducing future costs for all customers.

Beginning in February 2017, HG&E developed a Community Solar Program, open to all residential customers who have chosen to participate (opt in) in the program. Currently 2,310 customers are participating in this program. The Community Solar Program allows residential customers to receive the benefits of solar without the expense of installing a system at their location. The Mt. Tom Solar project, totaling 4.500 MW-ac, and the newly operational Kelly Way 2 project, totaling 0.603 MW-ac, were designated as community solar projects. The community shared solar load reduction generated total savings of \$66,789 with those participating in the program. Additionally, in 2018, a total of \$17,831 was provided to the Holyoke Housing Authority from three solar systems (Aegis Energy, Gary Rome and Hadley Mills) that were set up under the Low or Moderate Income (LMI) Solar Program.

A total of 257,822 MWh of net generation was produced from the Department-owned hydro resources, which continued to help drive down the overall cost of power. During 2018, the hydro preference power credit for residential customers generated a total savings of \$1,142,675 (\$898,684 from Department-owned hydro and \$243,991 from NYPA entitlements).

The hydroelectric system, including the Hadley Falls Dam and the Holyoke Canal hydro facilities, was recertified by the Low Impact Hydropower Institute (LIHI) with an effective date through December 31, 2024, allowing the Department to register for Massachusetts Class I and II status. In 2018, 10.91% of Hadley Falls 1 and 2 were MA Class I Certified. The majority of the canal units are MA Class II certified, with the exception of City 4J, which is 100% MA Class I, and six canal units that are certified with small percentages as MA Class I. Sale of these certificates resulted in \$2,896,777 of revenue to the Department in 2018.

HG&E proactively works throughout the year to improve reliability by maintaining and making upgrades to its 9.25 circuit miles of pool transmission facilities (PTF). Ensuring that all transmission lines and processes are up to date allows HG&E to meet future needs and reduce transmission costs. Transmission Regional Network Service (RNS) rates decreased 1.37% from \$111.96/kW-year to \$110.43/ kW-year in June 2018. The Department's RNS annual charge of \$6,962,630 was offset by 9.25 circuit miles, with three transmission substations, of PTF revenues of \$4,082,441 and peak shaving solar and hydro offsets of \$773,992, reducing the Department's annual RNS charge to \$2,106,197.

Holyoke achieved Green Community status in 2010 and is committed to efficiency, conservation, and sustainability. The Department's replacement of high-pressure sodium lights with more efficient light-emitting diode (LED) lighting technology has, on average, reduced the city's streetlight consumption by 60%. The city realized over \$100,000 in savings from these replacements in 2018.



Mount Tom Solar and Battery Storage Facility

From left: TJ Robak, Adam Jasonkowski, and Ed Griffin



# TELECOMMUNICATIONS

HG&E's commercial network, now in its 20th year of operation, provides high-speed Internet and network connectivity via fiber optic lines to business-class customers located in Holyoke, Chicopee, downtown Springfield, and throughout the Pioneer Valley. Both the Department itself and the City receive services from the network. The service platforms are industry-standard Carrier Ethernet and Internet Protocol (IP), supporting speeds up to 10 Gbps (gigabits per second).

## TELECOMMUNICATIONS HELP DESK

HG&E administers a centralized help desk, accepting support calls from customers, City of Holyoke employees, and internal staff. As a telecom utility, HG&E offers 24x7 network monitoring services and an on-call support structure to ensure maximum network uptime, as well as the best possible customer experience.

The help desk received 2,481 tickets. 924 issues for HG&E department employees, 961 for the city of Holyoke, and 596 for commercial

customers. Of the 2,481 trouble reports received, 2,404 tickets were resolved.

## COMMERCIAL NETWORK UPGRADES

As customer needs grow and application requirements evolve, HG&E's network investments continue. In 2018, HG&E completed major network maintenance and equipment software updates throughout customer access, network transport, and Internet routing systems. In addition, HG&E initiated a feasibility study for a Holyoke fiber to the premise project. As further data is gathered, HG&E expects a gradual build-out analysis to be completed in 2020.

## COMMERCIAL NETWORK EXPANSION

In 2018, the Department continued fiber optic Wide Area Networking (WAN) services throughout the Pioneer Valley. Within this service territory, HG&E is focused on providing fiber optic WAN services for large, complex

institutions. For example, HG&E provides support for a regional institution with six locations, offering 10Gbps of bandwidth and carrier Ethernet over fiber connecting all locations. In 2018, two of HG&E's larger managed service customers recontracted with HG&E for another five-year term. This customer loyalty demonstrates the importance of developing long-term, lasting customer relationships in an ever-evolving, highly competitive environment.

### **CARRIER INTERCONNECTION**

In 2018, HG&E further developed interconnection relationships with regional fiber Ethernet carriers, in order to service core customers with locations outside of the existing footprint. These interconnections allow HG&E the flexibility to provide additional services outside of the previous service boundaries.

HG&E is a next-generation provider, having designed, engineered, and implemented full IPv6 Internet routing and peering with upstream Internet carriers. In 2018, the Telecom Division upgraded its two primary wholesale Internet feeds from 2Gbps each to 5Gbps each. Currently, HG&E has an Internet capacity of 10Gbps with capacity to grow up to 20Gbps with no additional capital investments.

### **UTILITY OPERATIONS NETWORK UPGRADES**

In addition to maintaining commercial network customers, the Division continued its support for the design, operation, and maintenance of HG&E's internal operations network and information intelligence needs. In 2018, the Department finalized the selection of a new utility operations network infrastructure, broken down into three phases. The selected vendor will begin phase one of three in Q1 2019 with an anticipated project completion in mid-2020.

### **CITY OF HOLYOKE NETWORK CONSULTING**

HG&E is responsible for ongoing maintenance, installation, and operation of the City of Holyoke's network, which includes providing PC support, hardware replacement, and security improvements.

### **CYBERSECURITY**

As cyber threats continue to evolve, both internal and external, HG&E remains committed to continually improving its cybersecurity posture. Pursuant to these goals, HG&E maintains an umbrella cyber threat detection and mitigation system at its Internet gateways. This system provides blanket attack protection, in real time, to all HG&E Internet subscribers and users. HG&E also performs regular user awareness training and vulnerability testing to ensure compliance with cybersecurity policies and best practices.

In 2018, HG&E purchased a new SIEM (Security Information and Event Management) platform to help manage cyber threats from a Department-wide systems approach. This important cybersecurity tool is anticipated to be completed in 2019.

### **WHOLESALE BROADBAND SERVICES**

HG&E developed a last-mile strategy, including the design, engineering, and implementation of a residential wholesale broadband platform. Leveraging its current network infrastructure, HG&E is scaling support for communities that seek to build their own networks, but need an experienced network operator. HG&E is in a unique position to help communities achieve their broadband goals. As of 2018, HG&E has a Network Operator or ISP presence in three rural communities, as well as several potential opportunities on the radar for 2019. HG&E utilizes the Massachusetts Broadband Institute (MBI) regional fiber optic network to connect with these rural communities.

In 2018, HG&E entered into an Intergovernmental Agreement (IGA) with Shutesbury Broadband Committee/MLP Board as Project Manager for Shutesbury's fiber-to-the-home network project.

In 2018, HG&E and Chicopee Electric Light (CEL) entered into an IGA for network operator and wholesale Internet services, as CEL evaluates an incremental build-out of a fiber-to-the-premise network over the next several years.

Also in 2018, HG&E and South Hadley Electric Light Department (SHELD) entered into an IGA for business wholesale Internet services, as well as business development and network consulting services.



# GOODWILL



HG&E's Winter Safety and Energy Conservation Talk

**Community involvement is a central belief of the public power philosophy, and the Department is proud of the role it takes in making Holyoke a better place to call home.**

In 2018, HG&E offered support to several major community events, including the Hispanic Family Festival, the St. Patrick's Day Parade, and the Holyoke Fireworks, which are underwritten by the Department.

In total, \$127,635 in sponsorships and \$17,886 in labor was provided for nonprofit causes.

**NEIL J. MORIARTY JR. SCHOLARSHIP FOR CADET ENGINEERS**

The Cadet Engineer program is dedicated to the memory of our late commission chairperson, Neil J. Moriarty, Jr. He often noted that the admission of new students into the program was one of the most rewarding actions that the commission made each year.



The program offers aid to Holyoke students who are pursuing Bachelor of Science degrees in engineering. Antoine Rodriguez and Joseph Cavanaugh were admitted as the 2018 cadets.

**ECONOMIC DEVELOPMENT**

In 2018, the Department provided \$31,394 in additional discounts to businesses that have relocated or expanded within the city under the Economic Development Discount Program. This program provides an additional 10% off participants' gas and electric bills for a three-year period.

The Department also offers a similar program for residential customers, under which first-time Holyoke homebuyers can receive 10% off of their first three years of gas and electric bills. In 2018, \$108,950 was provided under this program.

CONTRIBUTION	AMOUNT
Nonprofit Sponsorships	\$127,635
Nonprofit Labor	\$17,886
Cadet Engineer Scholarship	\$44,951
Payment in Lieu of Taxes	\$1,080,940
Municipal Payment Discounts	\$367,351
Discounted Street Lighting	\$423,558
Economic Development Discount	\$31,394
New Homeowner Discount	\$108,950
Energy Conservation Assistance	\$808,637
<b>TOTAL COMMUNITY SUPPORT</b>	<b>\$3,011,302</b>



# **HOLYOKE GAS AND ELECTRIC**

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

## **FINANCIAL STATEMENTS**

Including Independent Auditors' Report

As of and for the Years Ended December 31, 2018 and 2017



# HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

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## INDEPENDENT AUDITORS' REPORT

To the Utility Commission  
Holyoke Gas and Electric  
Holyoke, Massachusetts

We have audited the accompanying financial statements of Holyoke Gas and Electric and Holyoke Gas and Electric OPEB Trust, enterprise and fiduciary funds, respectively, of the City of Holyoke, Massachusetts, as of and for the years ended December 31, 2018 and 2017, and the related notes to the financial statements, as listed in the table of contents. Hereafter the funds will collectively be referred to as "Holyoke Gas and Electric."

### ***Management's Responsibility for the Financial Statements***

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### ***Auditors' Responsibility***

Our responsibility is to express opinions on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Holyoke Gas and Electric's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Holyoke Gas and Electric's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

### ***Opinions***

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Holyoke Gas and Electric as of December 31, 2018 and 2017, and the respective changes in financial position and cash flows, where applicable, for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## ***Emphasis of Matters***

As discussed in Note 1, the financial statements present only the Holyoke Gas and Electric enterprise and fiduciary funds and do not purport to, and do not, present fairly the financial position of the City of Holyoke, Massachusetts, as of December 31, 2018 and 2017 and the respective changes in financial position or cash flows, where applicable, for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinions are not modified with respect to this matter.

As discussed in Note 1, Holyoke Gas and Electric has adopted the provisions of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, effective January 1, 2018. Our opinions are not modified with respect to this matter.

## ***Other Matters***

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the required supplementary information as listed in the table of contents be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Supplementary Information*

Our audits were conducted for the purpose of forming opinions on the financial statements as a whole. The supplemental information as listed in the table of contents is presented for purposes of additional analysis and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental information is fairly stated in all material respects in relation to the financial statements as a whole.

*Baker Tilly Virchow Krause, LLP*

Madison, Wisconsin  
May 13, 2019

**MANAGEMENT'S DISCUSSION  
AND ANALYSIS**

# HOLYOKE GAS & ELECTRIC

## MANAGEMENT'S DISCUSSION AND ANALYSIS As of and for the years ended December 31, 2018, 2017, and 2016 UNAUDITED

The management of Holyoke Gas & Electric (HG&E) offers all persons interested in the financial position of the utility this narrative overview and analysis of the utility's financial performance during the years ending December 31, 2018, 2017, and 2016. You are invited to read this narrative in conjunction with the utility's financial statements.

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### FINANCIAL HIGHLIGHTS

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- > Operating revenues for the utility increased by \$8,656,582, or 13%, in 2018. Electric operating revenues increased by \$6,231,755, or 14%, which was primarily due a 5% increase in unit (kWh) sales for the year coupled with additional revenue from a rate increase that went into effect in January of 2018. Renewable energy certificate (REC) sales also increased by \$2,091,792 in 2018 which further increased revenues. Gas operating revenues increased by \$2,424,827, or 12%. The increase in gas revenues was primarily due to an 8% increase in unit (Mcf) sales for the year.
- > Fuel expenses increased by \$2,519,844, or 10% in 2018. Electric fuel expenses increased by \$1,826,655, or 11%, which was primarily due to a \$1,531,118, or 46% increase in capacity costs from 2017, which resulted in the need for the electric rate increase discussed above. Gas fuel expenses increased by \$693,190, or 7% due to increased consumption.
- > Non-fuel expenses decreased by \$596,971, or 2%, in 2018. The non-fuel decrease from 2017 was primarily due to a decrease in the Department's reported expense related to the OPEB plan. This decrease in OPEB expense was the result of a change in the accounting for this obligation that went into effect in 2018 under Government Accounting Standards Board (GASB) statement 75. These decreases were offset by an increase in pension expense from 2018, which is determined by an actuarial valuation of the Department's pension obligation.
- > Depreciation expense increased by \$204,592, or 3% in 2018 as a result of an overall increase in capital assets due to ongoing capital improvement and replacement projects undertaken by the Department.
- > Other revenue and expenses decreased by \$9,861,302, or 194% in 2018. Unfavorable market performance in the latter half of 2018 resulted in an overall reduction in the value of investments of \$5,481,022 compared with favorable market performance in 2017 that resulted in overall investment gains of \$4,240,936.
- > The Departments' total net position decreased by \$1,460,291, or 2% in 2018 from the combined activities of HG&E, Holyoke Solar Cooperative, and the Massachusetts Clean Energy Cooperative. This decrease was due to a reduction in the market value of investments experienced during the year as well as a required accounting adjustment related to the OPEB plan and GASB Statement 75, which took effect in 2018. The cumulative accounting adjustment in 2018 resulted in an entry to decrease ending net position by \$7,769,565 for 2018. These decreases were offset by the positive operating results discussed above.

# HOLYOKE GAS & ELECTRIC

MANAGEMENT'S DISCUSSION AND ANALYSIS  
As of and for the years ended December 31, 2018, 2017, and 2016  
UNAUDITED

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## **OVERVIEW OF THE FINANCIAL STATEMENTS/USING THIS REPORT**

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The HG&E Commission is a three member board comprised of three local citizens. Nominated by the mayor and approved by the city council, each member has a six year term when approved. One member comes up for re-appointment every two years on a rotating schedule. HG&E provides Electric, Gas and Telecommunications services to the City of Holyoke.

The gas division has a distribution system that covers the City and the eastern portion of Southamptton, Massachusetts. There are approximately 12,000 meters and 185 miles of main pipes. The division also operates a Liquefied Natural Gas plant that is used to meet peak demand during the winter months. In addition to these services, gas and electric appliance repair is offered to the customers.

The electric division operates and maintains five substations, 163+ miles of pole lines, 40+ miles of underground distribution, 9.25 miles of overhead transmission, 2,484 transformers and 4,122 streetlights. There are approximately 18,000 electric customers.

HG&E also owns and operates over 50 MW of hydro-electric generation capacity within the City of Holyoke. The Holyoke Gas & Electric Hydroelectric system, including the Hadley Falls Dam and the Holyoke Canal hydro facilities, generated a total of 243,831 MWh of net generation which continued to help drive down the overall cost of power.

The Department is a member of the Massachusetts Municipal Wholesale Electric Company (MMWEC), a public corporation and a political subdivision of the Commonwealth of Massachusetts. Through MMWEC, HG&E has partial ownership (entitlements) to the following projects; Stony Brook Peaking Unit, Millstone Unit # 3, Seabrook Nuclear Power Station, and Wyman projects.

In addition to offering some of the lowest electric rates in the Commonwealth, in 2018, 51.72% of HG&E's electricity sold at retail was renewable and 84.98% of HG&E's electricity sold at retail is considered carbon free.

### ***Other***

Please refer to the table of contents for the various sections included in this report. The utility is a self-supporting entity and follows enterprise fund reporting; accordingly, the financial statements are presented using the economic resources measurement focus and the accrual basis of accounting. Enterprise fund statements offer short- and long-term financial information about the activities and operations of the utility.

- > The Statement of Net Position includes all of the utility's assets, deferred outflows of resources, liabilities, and deferred inflows of resources and provides information about the nature and amount of investments in resources and the obligations to creditors. This statement provides the basis for evaluating the capital structure and assessing the liquidity and financial flexibility of the utility.
- > The Statements of Revenues, Expenses, and Changes in Net Position provide an indication of the utility's financial health.
- > The Statements of Cash Flows report the cash provided and used by operating activities, as well as other cash sources such as investment income and cash payments for repayment of bonds and capital additions.

# HOLYOKE GAS & ELECTRIC

## MANAGEMENT'S DISCUSSION AND ANALYSIS As of and for the years ended December 31, 2018, 2017, and 2016 UNAUDITED

### UTILITY FINANCIAL ANALYSIS

An analysis of the utility's financial position begins with a review of the Statements of Net Position, and the Statements of Revenues, Expenses and Changes in Net Position report information. These two statements report the utility's net position and changes therein. The utility's net position, the difference between assets, deferred outflows of resources, liabilities, and deferred inflows of resources, is key to measuring the financial health of the utility. Over time, increases or decreases in the net position value are an indicator of whether the financial position is improving or deteriorating. However, it should be noted that the financial position can also be affected by other non-financial factors, including economic conditions, customer growth, climate conditions and new regulations.

A summary of the utility's Statements of Net Position is presented below in Table 1.

**Table 1**  
**Condensed Statements of Net Position**

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Current and Other Assets	\$ 104,048,300	\$ 107,349,516	\$ 100,916,004
Capital Assets	<u>161,890,376</u>	<u>153,946,443</u>	<u>151,572,786</u>
<b>TOTAL ASSETS</b>	<u>265,938,676</u>	<u>261,295,959</u>	<u>252,488,790</u>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>	<u>14,010,975</u>	<u>13,651,645</u>	<u>10,409,130</u>
Long-term Debt Outstanding	90,900,224	86,843,997	91,798,159
Other Liabilities	<u>55,201,312</u>	<u>55,213,611</u>	<u>48,587,255</u>
<b>TOTAL LIABILITIES</b>	<u>146,101,536</u>	<u>142,057,608</u>	<u>140,385,414</u>
<b>DEFERRED INFLOWS OF RESOURCES</b>	<u>45,663,791</u>	<u>43,245,381</u>	<u>42,509,501</u>
Net Investment in Capital Assets	81,123,246	75,636,861	68,881,826
Restricted for Debt Service	7,490,357	8,090,879	7,951,554
Unrestricted Assets	<u>(429,279)</u>	<u>5,916,875</u>	<u>3,169,625</u>
<b>TOTAL NET POSITION</b>	<u>\$ 88,184,324</u>	<u>\$ 89,644,615</u>	<u>\$ 80,003,005</u>

Current and other assets decreased by \$3,301,216, or 3% in 2018. Most of the decrease was in the Departments' rate stabilization and other investment accounts as a result of unfavorable market performance during the year. These decreases were offset by a \$2,111,063 increase in cash as a result of a new escrow account for unspent funds related to the 2018 Holyoke 17L Substation Project borrowing.

# HOLYOKE GAS & ELECTRIC

## MANAGEMENT'S DISCUSSION AND ANALYSIS As of and for the years ended December 31, 2018, 2017, and 2016 UNAUDITED

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### UTILITY FINANCIAL ANALYSIS (cont.)

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Capital assets increased by \$7,943,933, or 5% in 2018. This increase was the result of the Holyoke 17L Substation Replacement project as well as other ongoing capital improvement and replacement projects undertaken by the Department.

Long-term debt outstanding increased by \$4,056,227, or 5% in 2018. The increase was the result of a new \$9,500,000 loan taken out by the Department during the year to finance the Holyoke 17L Substation Replacement project. The increase was offset by scheduled debt repayments during the year.

Other liabilities decreased by \$12,299, or .02% in 2018. The change was due to a decrease in the margin line of credit account as a result of improved cash flow as well as financing received for the Holyoke 17L substation project during the year. The Department's net pension liability decreased as well. This decrease was largely offset by the Department's net OPEB Liability. 2018 is the first year that this liability was recorded on the Department's balance sheet as a result of Government Accounting Standards Board (GASB) statement 75.

#### ***Change in Net Position***

Net investment in capital assets, which are discussed more in the capital assets section, increased by \$5,486,385, or 7% in 2018 as a result of continued plant replacements and additions associated with the ongoing capital improvement plan.

Net position restricted for debt service decreased by \$600,522, or 7% due to unrealized investment losses incurred in the collateral accounts for the Department's bonds and notes payable.

Unrestricted net position is the net amount of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not "invested in capital assets" or "restricted for debt service". Unrestricted assets decreased \$6,346,154, or 107.26% in 2018. This decrease was due to a required accounting adjustment related to the OPEB plan and GASB Statement 75, which took effect in 2018. The cumulative accounting adjustment in 2018 resulted in an entry to decrease ending net position by \$7,769,565 for 2018.



## HOLYOKE GAS & ELECTRIC

MANAGEMENT'S DISCUSSION AND ANALYSIS  
As of and for the years ended December 31, 2018, 2017, and 2016  
UNAUDITED

### UTILITY FINANCIAL ANALYSIS (cont.)

**Table 2**  
**Condensed Statement of Revenue, Expenses, and Changes in Net Position**

	<b>2018</b>	<b>2017</b>	<b>2016</b>
<b>OPERATING REVENUES</b>	<u>\$ 75,378,339</u>	<u>\$ 66,721,756</u>	<u>\$ 67,291,468</u>
<b>OPERATING EXPENSES</b>	<u>63,209,573</u>	<u>61,082,108</u>	<u>58,336,073</u>
Operating Income	<u>12,168,766</u>	<u>5,639,648</u>	<u>8,955,395</u>
<b>OTHER REVENUES (EXPENSES)</b>	<u>(4,778,812)</u>	<u>5,082,492</u>	<u>(4,284,676)</u>
Change in Net Position before Transfers	<u>7,389,954</u>	<u>10,722,140</u>	<u>4,670,719</u>
<b>TRANSFERS</b>	<u>(1,080,680)</u>	<u>(1,080,530)</u>	<u>(1,080,628)</u>
<b>Change in Net Position</b>	<u>6,309,274</u>	<u>9,641,610</u>	<u>3,590,091</u>
NET POSITION - Beginning of Year	89,644,615	80,003,005	76,412,914
Cumulative Effect of a change in acct. principle	<u>(7,769,565)</u>	<u>-</u>	<u>-</u>
<b>NET POSITION - End of Year</b>	<u>\$ 88,184,324</u>	<u>\$ 89,644,615</u>	<u>\$ 80,003,005</u>

As previously noted, the Statement of Net Position shows the change in financial position. The specific nature or source of these changes then becomes more evident in the Statements of Revenues, Expenses and Changes in Net Position as shown above in Table 2.

During 2018, operating revenues increased \$8,656,583 or 12.97%. This increase in revenue was due to a combination of higher electric and gas consumption for the year, additional revenue from an electric rate increase in 2018 and higher electric renewable energy sales for the year.

Operating expenses increased by \$2,127,465 or 3% overall. This was due to increased fuel costs (\$2,519,844), a decrease in operating & maintenance costs (\$596,971) and higher depreciation expenses (\$204,592) discussed in the financial highlights section.

The Departments' total net position decreased by \$1,460,291, or 2% in 2018 from the combined activities of HG&E, Holyoke Solar Cooperative, and the Massachusetts Clean Energy Cooperative discussed in more detail in the financial highlights section.

# HOLYOKE GAS & ELECTRIC

MANAGEMENT'S DISCUSSION AND ANALYSIS  
As of and for the years ended December 31, 2018, 2017, and 2016  
UNAUDITED

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**UTILITY FINANCIAL ANALYSIS (cont.)**

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**Table 3**  
**Condensed Statements of Cash Flows**

	<b>2018</b>	<b>2017</b>	<b>2016</b>
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>	<u>\$ 20,377,685</u>	<u>\$ 10,895,812</u>	<u>\$ 15,173,622</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>	<u>(1,758,788)</u>	<u>19,172,897</u>	<u>9,113,966</u>
<b>NET CASH USED IN NONCAPITAL FINANCING ACTIVITIES</b>	<u>(1,080,680)</u>	<u>(1,080,530)</u>	<u>(1,080,628)</u>
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>	<u>(14,487,489)</u>	<u>(17,638,754)</u>	<u>(19,746,981)</u>
Increase in Cash and Cash Equivalents	3,050,728	11,349,425	3,459,979
CASH AND CASH EQUIVALENTS - Beginning of Year	<u>68,725,387</u>	<u>57,375,962</u>	<u>53,915,983</u>
<b>CASH AND CASH EQUIVALENTS - END OF YEAR</b>	<u>\$ 71,776,115</u>	<u>\$ 68,725,387</u>	<u>\$ 57,375,962</u>
<b>NONCASH FINANCING ACTIVITY</b>			
Change in Costs Recoverable in Future - Pollution	<u>\$ 50,466</u>	<u>\$ 146,452</u>	<u>\$ 146,770</u>
Loss on Retirement of Fixed Assets	<u>\$ 150,529</u>	<u>\$ 166,102</u>	<u>\$ 4,921,735</u>
Amortization of Premium on Bonds Payable	<u>\$ 843,983</u>	<u>\$ 851,963</u>	<u>\$ 853,851</u>

Cash flows from operating activities increased by \$ 9,481,873, primarily because of an increase in cash received from customers (\$10,640,714) which was slightly offset by an increase in cash paid to suppliers (\$1,016,704). These increases were the result of increased operating revenues and higher fuel costs during the year.

Cash flows from investing activities decreased by \$20,931,685. This decrease was due to a repayment of \$11,264,631 on the line of credit during the year as a result of positive operating results and receipt of the financing proceeds from the Holyoke 17L substation borrowing that closed during the year. Investment income was \$9,540,552 lower in 2018 than 2017 as a result of unfavorable market performance in the latter part of the year.

Cash flows from capital and related financing activities increased by \$3,151,265 in 2018. The increase from 2018 represents normal cash payments on plant and equipment as well as payments on bonds and notes. The Department had additional cash expenditures related to the Holyoke 17L substation project that were financed through a \$9,500,000 loan taken out by the Department during the year.

Cash & cash equivalents increased by \$3,050,728.

## HOLYOKE GAS & ELECTRIC

MANAGEMENT'S DISCUSSION AND ANALYSIS  
As of and for the years ended December 31, 2018, 2017, and 2016  
UNAUDITED

### UTILITY FINANCIAL ANALYSIS (cont.)

**Table 4**  
**Capital Assets – Electric**

	<b>2018</b>	<b>2017</b>	<b>2016</b>
Capital Assets			
Land	\$ 4,804,065	\$ 4,773,373	\$ 4,773,373
Plant, property, and equipment	203,105,275	189,525,887	184,525,730
<b>Total Capital Assets</b>	207,909,340	194,299,260	189,299,103
Construction Work in Progress	120,251	1,712,183	1,297,536
Less: Accumulated Depreciation	(72,042,300)	(67,159,881)	(62,782,639)
<b>NET CAPITAL ASSETS - ELECTRIC</b>	<b>\$ 135,987,291</b>	<b>\$ 128,851,562</b>	<b>\$ 127,814,000</b>

Electric plant, property and equipment increased by \$13,579,388, or 7% in 2018 as a result of ongoing replacements of the electric division's substation, transmission and distribution infrastructure as well as the completion of phase 1 of the Holyoke 17L substation replacement project.

Construction work in progress decreased by \$1,591,932 primarily due to completion of phase 1 of the Holyoke 17L substation replacement project that is currently ongoing.

Accumulated depreciation increased by \$4,882,419 due to an increase in depreciation expense associated with an overall increase in capital assets due to ongoing replacements of older Department infrastructure.

# HOLYOKE GAS & ELECTRIC

MANAGEMENT'S DISCUSSION AND ANALYSIS  
As of and for the years ended December 31, 2018, 2017, and 2016  
UNAUDITED

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## UTILITY FINANCIAL ANALYSIS (cont.)

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**Table 5**  
**Capital Assets – Gas**

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Capital Assets			
Land	\$ 214,304	\$ 214,304	\$ 214,304
Plant, property, and equipment	<u>54,313,384</u>	<u>52,163,744</u>	<u>49,330,471</u>
<b>Total Capital Assets</b>	54,527,688	52,378,048	49,544,775
Construction Work in Progress	41,474	49,967	334,815
Less: Accumulated Depreciation	<u>(28,666,076)</u>	<u>(27,333,134)</u>	<u>(26,120,804)</u>
<b>NET CAPITAL ASSETS - GAS</b>	<u>\$ 25,903,086</u>	<u>\$ 25,094,881</u>	<u>\$ 23,758,786</u>

Gas plant, property and equipment increased by \$2,149,640, or 4% in 2018 due to ongoing replacements of bare steel and cast iron services & mains. During 2018, net capital assets increased \$808,204 which was mostly maintenance capital in nature. Land values remained the same in 2018.

Further details on capital assets are included in Note 3.

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## LONG-TERM DEBT

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As of December 31, 2018, Holyoke Gas & Electric had \$66,386,667 in bonds payable as well as \$17,270,335 in notes payable. The bonds have decreased \$ 3,678,333 since 2017. Notes payable have increased \$8,618,519 since 2017 due to the issuance of a new \$9,500,000 loan in 2018 to finance the Holyoke 17L substation project.

Details of the existing debt are included in Note 8.

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## CURRENTLY KNOWN FACTS/ECONOMIC CONDITIONS

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HG&E continues its aggressive maintenance and capital improvement program to upgrade its infrastructure in order to maintain system reliability performance objectives for all facets of the operation.

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## CONTACTING UTILITY'S FINANCIAL MANAGEMENT

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This financial report is designed to provide our customers, investors and creditors with a general overview of the Utility's finances. If you have questions about this report, or need additional financial information, contact Holyoke Gas & Electric Department at 99 Suffolk St, Holyoke Massachusetts 01040 or (413) 536 9300.

## HOLYOKE GAS AND ELECTRIC

### STATEMENTS OF NET POSITION

As of December 31, 2018 and 2017

	2018	2017
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash and investments	\$ 13,216,662	\$ 6,838,698
Restricted Assets		
Collateralized investments for margin account	2,771,987	8,277,541
Redemption account	2,630,198	2,654,222
Customer accounts receivable - net	8,305,565	7,235,669
Accounts receivable - City of Holyoke	15,090	15,090
Note receivable - current portion	461,132	1,755,616
Materials and supplies	2,835,861	2,865,142
Fuel for electric generation and gas in storage	706,015	495,331
Prepaid expense	2,392,260	2,378,827
Other receivables	1,223,780	1,593,022
Total Current Assets	34,558,550	34,109,158
<b>NONCURRENT ASSETS</b>		
Restricted Assets		
Accounts required under bond indenture/note payable	9,285,248	9,489,454
Construction escrow account	2,111,063	-
Customers' deposits	1,538,881	1,562,522
Note receivable - after one year	7,906,621	8,367,755
Hi-Lite assistance loans	1,972,635	2,141,562
Other Assets		
Purchased power accounts	368,510	362,755
Rate stabilization accounts	45,134,811	49,983,776
Costs recoverable in future - pollution	120,258	170,724
Other investments	188,390	188,390
Accrued other post employment benefits	-	43,421
Intangible assets	863,333	929,999
Capital Assets		
Plant, property and equipment in service	262,437,028	246,677,307
Construction in progress	161,725	1,762,150
	262,598,753	248,439,457
Less: Accumulated depreciation	100,708,377	94,493,014
Total Capital Assets	161,890,376	153,946,443
Total Noncurrent Assets	231,380,126	227,186,801
Total Assets	265,938,676	261,295,959
<b>DEFERRED OUTFLOWS OF RESOURCES</b>		
OPEB related amounts	1,527,080	-
Pension related amounts	12,483,895	13,651,645
Total Deferred Outflows of Resources	14,010,975	13,651,645

	<u>2018</u>	<u>2017</u>
<b>LIABILITIES</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable	\$ 6,646,607	\$ 5,900,174
Customers' deposits	1,357,236	1,255,783
Accrued liabilities	900,032	1,044,253
Current portion - accrued compensated absences	252,883	191,782
Current portion - accrued environmental costs	120,000	165,000
Accrued charges - current	437,902	294,067
Liabilities Payable from Restricted Assets		
Margin credit account	2,771,987	8,277,541
Current portion - leases, bonds and notes payable	4,647,553	4,392,293
Accrued interest	1,391,925	1,444,759
Total Current Liabilities	<u>18,526,125</u>	<u>22,965,652</u>
<b>LONG-TERM LIABILITIES AND CREDITS</b>		
Bonds payable - long-term	62,593,334	66,386,667
Plus: Premium on bonds payable	<u>7,159,677</u>	<u>8,003,660</u>
	69,753,011	74,390,327
Notes payable - long-term	16,457,171	7,977,832
Leases payable - long term	42,489	83,545
Accrued compensated absences	3,076,190	2,992,039
Net OPEB liability	8,900,872	-
Unearned revenue	2,970,744	2,487,820
Reserve fund for note receivable	444,737	444,737
Net pension liability	<u>25,930,197</u>	<u>30,715,656</u>
Total Long-Term Liabilities and Credits	<u>127,575,411</u>	<u>119,091,956</u>
Total Liabilities	<u>146,101,536</u>	<u>142,057,608</u>
<b>DEFERRED INFLOWS OF RESOURCES</b>		
Regulatory deferral	725,885	-
Pension related amounts	3,668,057	1,975,532
Rate stabilization reserve	<u>41,269,849</u>	<u>41,269,849</u>
Total Deferred Inflows of Resources	<u>45,663,791</u>	<u>43,245,381</u>
<b>NET POSITION</b>		
Net investment in capital assets	81,123,246	75,636,861
Restricted for debt service	7,490,357	8,090,879
Unrestricted	<u>(429,279)</u>	<u>5,916,875</u>
<b>TOTAL NET POSITION</b>	<u>\$ 88,184,324</u>	<u>\$ 89,644,615</u>

See accompanying notes to financial statements.

## HOLYOKE GAS AND ELECTRIC

### STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

For the Years Ended December 31, 2018 and 2017

	2018	2017
<b>OPERATING REVENUES</b>		
Gas charges for service	\$ 23,305,415	\$ 20,880,587
Electric and telecommunications charges for service	<u>52,072,924</u>	<u>45,841,169</u>
Total Operating Revenues	<u>75,378,339</u>	<u>66,721,756</u>
<b>OPERATING EXPENSES</b>		
Gas operation and maintenance	17,875,351	17,226,845
Depreciation - gas plant and equipment	<u>1,573,195</u>	<u>1,488,197</u>
Total Gas Operating Expenses	<u>19,448,546</u>	<u>18,715,042</u>
Electric and telecommunications operation and maintenance	38,113,944	36,839,576
Depreciation - electric and telecom plant and equipment	<u>5,647,083</u>	<u>5,527,490</u>
Total Electric and Telecommunications Operating Expenses	<u>43,761,027</u>	<u>42,367,066</u>
Total Operating Expenses	<u>63,209,573</u>	<u>61,082,108</u>
<b>OPERATING INCOME</b>		
Gas	3,856,869	2,165,545
Electric and telecommunications	<u>8,311,897</u>	<u>3,474,103</u>
Total Operating Income	<u>12,168,766</u>	<u>5,639,648</u>
<b>OTHER REVENUES (EXPENSES)</b>		
Investment income - net of fees	3,627,829	3,446,422
Net gain (loss) on investments	(5,481,022)	4,240,937
Interest expense	(3,121,491)	(2,917,304)
Miscellaneous income (expense)	858,123	901,246
Amortization of intangible assets	(66,667)	(66,667)
Net gain (loss) - plant retirements	(568,443)	(567,432)
Net gain - merchandise jobbing	53,721	136,967
Taxes - other	<u>(80,862)</u>	<u>(91,677)</u>
Total Other Revenues (Expenses)	<u>(4,778,812)</u>	<u>5,082,492</u>
Change in Net Position Before Transfers	7,389,954	10,722,140
<b>TRANSFERS</b>		
Payment in lieu of taxes - City of Holyoke	<u>(1,080,680)</u>	<u>(1,080,530)</u>
<b>Change in Net Position</b>	6,309,274	9,641,610
NET POSITION - Beginning of Year	<u>89,644,615</u>	<u>80,003,005</u>
Cumulative effect of a change in accounting principle	<u>(7,769,565)</u>	<u>-</u>
<b>NET POSITION - END OF YEAR</b>	<u>\$ 88,184,324</u>	<u>\$ 89,644,615</u>

See accompanying notes to financial statements.

# HOLYOKE GAS AND ELECTRIC

## STATEMENTS OF CASH FLOWS For the Years Ended December 31, 2018 and 2017

	2018	2017
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Cash received from customers	\$ 77,859,803	\$ 67,219,089
Cash paid to suppliers	(42,560,046)	(41,543,342)
Cash paid to employees	(14,922,072)	(14,779,935)
Net Cash Flows From Operating Activities	20,377,685	10,895,812
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Proceeds from sale of investments	5,162,336	7,482,162
Purchase of investments	-	(2,170,988)
Investment income (loss) - net of fees	(1,853,193)	7,687,359
Proceeds (repayment of) from margin credit account	(5,505,554)	5,759,077
Repayments on notes receivable	437,623	415,287
Net Cash Flows From Investing Activities	(1,758,788)	19,172,897
<b>NET CASH USED IN NONCAPITAL FINANCING ACTIVITIES</b>		
Payment in lieu of taxes and other property taxes	(1,080,680)	(1,080,530)
Net Cash Used in Noncapital Financing Activities	(1,080,680)	(1,080,530)
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>		
Net investment in plant, property and equipment	(15,452,067)	(9,629,522)
Proceeds from note payable	9,500,000	-
Payments on bonds and notes payable	(4,559,814)	(4,218,399)
Interest paid on bonds, notes and leases payable	(3,975,608)	(3,790,833)
Net Cash Flows From Capital and Related Financing Activities	(14,487,489)	(17,638,754)
<b>Increase in Cash and Cash Equivalents</b>	3,050,728	11,349,425
CASH AND CASH EQUIVALENTS - Beginning of Year	68,725,387	57,375,962
<b>CASH AND CASH EQUIVALENTS - END OF YEAR</b>	\$ 71,776,115	\$ 68,725,387
<b>SUPPLEMENTAL NONCASH FINANCING ACTIVITY</b>		
Change in costs recoverable in future - pollution	\$ 50,466	\$ 146,452
Loss on retirement of fixed assets	\$ 150,529	\$ 166,102
Amortization of premium on bonds payable	\$ 843,983	\$ 851,963



	<u>2018</u>	<u>2017</u>
<b>SCHEDULE OF RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES</b>		
Operating income	\$ 12,168,766	\$ 5,639,648
Adjustments to Reconcile Operating Income to Net Cash Provided by Operating Activities		
Depreciation	7,220,278	7,015,687
Non-operating Income	764,315	879,869
Changes in operating assets and liabilities (Increase) decrease in		
Accounts receivable	(1,069,896)	(1,087,900)
Materials and supplies	29,281	8,719
Fuel for electric generation and gas in storage	(210,684)	(6,663)
Prepaid expense	(13,433)	60,220
Accounts receivable - City of Holyoke	-	(90)
Other receivables	634,884	(153,128)
Hi-Lite assistance and Constellation loans	1,486,922	195,173
Accounts payable	907,779	(196,605)
Customers' deposits	101,453	60,437
Accrued liabilities	439,838	841,222
Accrued compensated absences	145,252	24,082
Pension and OPEB related deferrals and liabilities	(2,277,536)	(2,531,311)
Accrued environmental costs	50,466	146,452
Total Adjustments	<u>8,208,919</u>	<u>5,256,164</u>
<b>NET CASH PROVIDED BY OPERATING ACTIVITIES</b>	<b><u>\$ 20,377,685</u></b>	<b><u>\$ 10,895,812</u></b>
<b>RECONCILIATION OF CASH AND CASH EQUIVALENTS TO THE STATEMENTS OF NET POSITION</b>		
Cash and investments	\$ 13,216,662	\$ 6,838,698
Collateralized investments for margin account	2,771,987	8,277,541
Redemption account	2,630,198	2,654,222
Accounts required under bond indenture/note payable	9,285,248	9,489,454
Construction escrow account	2,111,063	-
Customer deposits	1,538,881	1,562,522
Purchased power accounts	368,510	362,755
Rate stabilization accounts	45,134,811	49,983,776
Other investments	188,390	188,390
Total Cash and Investments	<u>77,245,750</u>	<u>79,357,358</u>
Less: Noncash equivalents	<u>(5,469,635)</u>	<u>(10,631,971)</u>
<b>CASH AND CASH EQUIVALENTS</b>	<b><u>\$ 71,776,115</u></b>	<b><u>\$ 68,725,387</u></b>

See accompanying notes to financial statements.

## HOLYOKE GAS AND ELECTRIC OPEB TRUST

### STATEMENTS OF FIDUCIARY NET POSITION

#### FIDUCIARY FUND

As of December 31, 2018 and 2017

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	<u>2018</u>	<u>2017</u>
	<b>ASSETS</b>	
Investments	\$ 9,435,034	\$ 8,828,728
Total Assets	<u>9,435,034</u>	<u>8,828,728</u>
	<b>LIABILITIES</b>	
Total Liabilities	<u>-</u>	<u>-</u>
	<b>NET POSITION</b>	
Net Position Restricted for OPEB	<u>\$ 9,435,034</u>	<u>\$ 8,828,728</u>

See accompanying notes to financial statements.

## HOLYOKE GAS AND ELECTRIC OPEB TRUST

### STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION FIDUCIARY FUND

For the Years Ended December 31, 2018 and 2017

	<u>2018</u>	<u>2017</u>
<b>ADDITIONS</b>		
Employer contributions	\$ 1,200,000	\$ 1,200,000
Investment income (loss)	(562,047)	865,894
Employee contributions - direct payment of member benefits	384,133	346,439
Employer contributions - direct payment of member benefits	<u>574,584</u>	<u>824,241</u>
Total Additions	<u>1,596,670</u>	<u>3,236,574</u>
<b>DEDUCTIONS</b>		
Benefit payments, including refunds of member contributions	958,717	1,170,680
Advisory fees	<u>31,647</u>	<u>25,532</u>
Total Deductions	<u>990,364</u>	<u>1,196,212</u>
<b>Net Increase in Net Position</b>	606,306	2,040,362
NET POSITION - Beginning of Year	<u>8,828,728</u>	<u>6,788,366</u>
<b>NET POSITION - END OF YEAR</b>	<u>\$ 9,435,034</u>	<u>\$ 8,828,728</u>

See accompanying notes to financial statements.

# HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

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## **NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

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The accounting policies of Holyoke Gas and Electric (“Department”) conform to accounting principles generally accepted in the United States of America as applicable to governmental units. The accepted standard-setting body for establishing governmental accounting and financial reporting principles is the Governmental Accounting Standards Board (GASB).

### ***REPORTING ENTITY***

The financial statements present information on the activities of the Department, an enterprise fund of the City of Holyoke, Massachusetts (the “City”) and its component units, Holyoke Solar Cooperative and Massachusetts Clean Energy Cooperative Corporation. Component units are legally separate organizations for which the Department is financially accountable or other organizations for which the nature and significance of their relationship with the Department are such that their exclusion would cause the reporting entity’s financial statements to be misleading. The Department is financially accountable if: (1) it appoints a voting majority of the organization’s governing body and it is able to impose its will on that organization; (2) it appoints a voting majority of the organization’s governing body and there is a potential for the organization to provide specific financial benefits to, or impose specific financial burdens on, the primary government; and (3) the organization is fiscally dependent on and there is a potential for the organization to provide specific financial benefits to, or impose specific financial burdens on, the Department. Certain legally separate, tax exempt organizations should also be reported as a component unit if all of the following criteria are met: (1) the economic resources received or held by the separate organization are entirely or almost entirely for the direct benefit of the Department, its component units, or its constituents; (2) the Department or its component units, is entitled to, or has the ability to access, a majority of the economic resources received or held by the separate organization; and (3) the economic resources received or held by an individual organization that the Department, or its component units, is entitled to, or has the ability to otherwise access, are significant to the Department.

The Department provides gas, electric, water and telecommunications services to its customers, substantially all of whom are local residents and commercial and industrial businesses. Approximately 69% of the Department’s revenues were derived from its electric division in both 2018 and 2017.

Component units are reported using one of two methods, discrete presentation or blending. Generally, component units should be discretely presented in a separate column in the financial statements. A component unit should be reported as part of the Department using the blending method if it meets any one of the following criteria: (1) the Department and the component unit have substantively the same governing body and a financial benefit or burden relationship exists; (2) the Department and the component unit have substantively the same governing body and management of the primary government has operational responsibility for the component unit; (3) the component unit serves or benefits, exclusively or almost exclusively, the Department rather than its citizens; or (4) the total debt of the component unit will be paid entirely or almost entirely from resources of the Department.

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

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### **NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)**

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#### ***REPORTING ENTITY (cont.)***

##### ***Blended Component Units***

The Holyoke Solar Cooperative (Solar Coop) is a cooperative organized in Massachusetts, in December 2010, and is owned by the Department (its original Member). Solar Coop engages in transactions associated with the purchase, acquisition, distribution, sale, resale, supply and disposition of energy or energy-related services to wholesale or retail customers. The Solar Coop is included in the enterprise fund. The Solar Coop does not issue separate financial statements.

The Massachusetts Clean Energy Cooperative Corporation (“Clean Energy Coop”) was organized in Massachusetts, in March 2013. The initial members are the Department and the Massachusetts Municipal Wholesale Electric Company (“MMWEC”). The business of the Clean Energy Coop is managed by the board of directors, a majority of which consist of members of the Department's management or Commission. The Clean Energy Coop was formed to finance, purchase, own, lease or otherwise acquire, hold, and use property; transact any business associated with the property; and the purchase, acquisition, generation, transformation, distribution, sale, resale, supply and provision of energy and telecommunications products and services, which will include, but is not limited to, the purchase and sale of the electrical capacity of the Hadley Falls Station hydroelectric generator unit #1 in Holyoke. The Clean Energy Coop is included in the enterprise fund. Separately issued financial statements of the Clean Energy Coop may be obtained from the Department's office.

The Cooperatives are organized under Chapters 157 and 164: Section 47C of the State of Massachusetts Statutes and are subject to the same federal and state laws and regulations applicable to municipal lighting plants or other public entities that provide those services.

All intercompany account balances and transactions have been eliminated in the basic financial statements.

##### ***Other Post-Employment Benefit (OPEB) Trust***

The OPEB Trust fund is a fiduciary fund that is used to account for and report resources that are required to be held in trust for the members and beneficiaries of the OPEB plan. The OPEB Trust was established in October 2014.

##### ***Rate Regulation***

The rates of the Department are approved by the Department's Board of Commissioners. Rate schedules are filed with the Massachusetts Department of Public Utilities (DPU). While the DPU exercises general supervisory authority over the Department, the rates are not subject to DPU approval.

# HOLYOKE GAS AND ELECTRIC

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## **NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)**

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### ***MEASUREMENT FOCUS, BASIS OF ACCOUNTING AND FINANCIAL STATEMENT PRESENTATION***

The Department is presented as an enterprise and fiduciary fund of the City. Enterprise and fiduciary funds are used to account for operations that are financed and operated in a manner similar to private business or when the governing body has decided that the determination of revenues earned, costs, incurred, and net income is necessary for management accountability. The OPEB trust fund is used to report resources that are held in trust by the Department for the members and beneficiaries of the defined benefit postemployment welfare plan. The financial statements have been presented using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis, revenues are recognized when earned, and expenses are recorded when an obligation has been incurred.

In June 2015, the GASB issued Statement No. 74 – *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. This statement established requirements for financial reporting and disclosures for governments that have defined benefit and defined contribution other postemployment benefit plans administered through a trust. The utility adopted this statement effective January 1, 2017.

In June 2015, the GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions*. This statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions, as amended*, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans, for OPEB*. This standard was implemented January 1, 2018. The cumulative impact of implementation is shown in Note 17.

In June 2018, the GASB issued Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*. This statement establishes requirements for interest cost incurred before the end of a construction period. The utility adopted this statement effective January 1, 2018.

### ***USE OF ESTIMATES***

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

### ***ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION***

#### ***Deposits and Investments***

##### **Cash and Cash Equivalents**

For purposes of the statement of cash flows, the Department considers all highly liquid investments with an initial maturity of three months or less when acquired to be cash equivalents.

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#### **NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)**

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##### ***ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)***

###### **Investments**

Investments totaling \$20,390 represent the cost of the Department's equity in New England Hydro-Transmission Corporation and New England Hydro-Transmission Electric Company. These investments represent 00.2653% (percent) of the issued common stock of these untraded companies. In addition, the Department has invested \$168,000 with the Public Utility Mutual Insurance Company (PUMIC). See Note 15 for additional information related to PUMIC. These investments are carried at original cost.

Investments in debt and equity securities are recorded at fair value (See Note 2).

Investments of the fiduciary fund are limited to investing in assets as a prudent investor would, by considering purposes, terms, distribution requirements, and other circumstances of the trust.

###### ***Accounts Receivable***

Accounts receivable are stated net of an allowance for uncollectible accounts of \$515,204 at December 31, 2018 and 2017. Management provides for probable uncollectible amounts through a charge to earnings and a credit to the valuation allowance based on its collection history and its assessment of the current status of individual accounts. Balances that are still outstanding after management has used reasonable collection efforts are written off through a charge to the valuation allowance and a credit to accounts receivable.

###### ***Hi-Lite Assistance Loans***

Hi-Lite assistance loans are receivables from residential and commercial customers for loans used to make energy efficient improvements to their property, secured by municipal liens. Loan amounts and terms vary based on the project type but are generally 3 to 5 years with 0% interest.

###### ***Materials, Supplies and Fuel***

Materials, supplies and fuel are valued at the lower of cost or market utilizing the average cost method. All materials are intended to be used in operations and are not intended for resale.

###### ***Prepaid Expense***

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items. This includes the purchase of prepaid power.

###### ***Plant, Property, and Equipment***

Additions to and replacements of plant, property and equipment are recorded at cost. The cost of plant, property and equipment retired, less accumulated depreciation and salvage, is charged against revenue in the year retired. The cost of repairs and minor renewals is charged to maintenance expense.

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### **NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)**

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#### ***ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)***

##### ***Interest Capitalized***

In 2017, the Department followed the policy of capitalizing interest as a component of the cost of plant, property and equipment in service constructed for its own use and when a specific debt issue is borrowed for a specific project consistent with GASB accounting rules. During the year ended December 31, 2017, there was no interest capitalized. The Department adopted GASB Statement No. 89 effective January 1, 2018, and therefore no longer capitalizes interest as a component of the cost of plant.

##### ***Intangible Assets***

Intangible assets are recorded at cost. Intangible assets subject to amortization include a franchise area fee to sell the electrical output associated with the December 2001 hydroelectric project purchase. Franchise fees are being amortized on a straight-line basis over the remaining lives of the respective licenses.

##### ***Line of Credit - Margin Credit Account***

The Department received funds through the use of a margin account with their investment advisor as of December 31, 2018 and 2017. The investments held in the Department's investment account with their investment advisor are considered collateral for the borrowing. If the investments in the margin account decline in value, so does the value of the collateral supporting the borrowing, and, as a result, the investment advisor may take action, such as issue a margin call or sell investments or other assets held in any of the Department's accounts held with the investment advisor. These funds received are recorded as a current liability and the subsequent investment as a restricted asset.

##### ***Environmental Matters***

Expenditures that result from the remediation of an existing condition caused by past operations and that do not contribute to current or future revenues are expensed. Liabilities are recognized for remedial activities when the cleanup is probable, and the cost can be reasonably estimated. A related asset for pollution costs recoverable in future has been recorded according to the *General Standards of Accounting for the Effects of Regulation* included in GASB Statement No. 62.

##### ***Pensions***

For purposes of measuring the net pension liability, and deferred outflows of resources related to pensions, and pension expense, information about the fiduciary net position of the City of Holyoke Retirement System ("the plan") and additions to/deductions from the plan's fiduciary net position have been determined on the same basis as they are reported by the plan. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms, investments are reported at fair value.



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### NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

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#### **ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)**

##### ***Net OPEB Liability***

For purposes of measuring the net OPEB liability (asset), deferred outflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the City of Holyoke's OPEB Plan ("the plan") administered to Department employees through the Department's Trust, and additions to/deductions from the plan's fiduciary net position have been determined on the same basis as they are reported by the plan. For this purpose, the plan recognizes benefit payments when due and payable in accordance with the benefit terms. Investments are reported at fair value, except for money market investments and participating interest-earning investment contracts that have a maturity at the time of purchase of one year or less, which are reported at cost.

##### ***Deferred Outflow of Resources***

A deferred outflow of resources represents a consumption of net position that applies to a future period and will not be recognized as an outflow of resources (expense) until that future time.

##### ***Energy Tax***

The Department is required to collect, on behalf of the State of Massachusetts, an energy tax based on 6.25% of gross sales to its commercial customers. The Department's policy is to exclude these energy taxes from revenue when collected and expenses when paid, and instead, record the collection and payment of energy taxes through a liability account.

##### ***Compensated Absences***

Substantially all employees receive compensation for vacations, holidays, illness, and certain other qualifying absences. The number of days compensated in the various categories of absence is based generally on length of services. Compensated absences, which have been earned but not paid, have been accrued in the accompanying consolidated financial statements, based on current rates of pay.

##### ***Long-Term Obligations***

Long-term debt and other obligations are reported as liabilities. Bond premiums are being amortized using the effective-interest method over the lives of the bonds. The balance at year end for premiums is shown as an increase in the liability section of the statement of net position.

##### ***Unearned Revenues***

The Department collects charges from customers that will be used to pay for future pollution remediation costs. In the event that fees collected are in excess of actual pollution remediation costs, these charges may require refunds to customers and are therefore classified as a liability on the balance sheet.

##### ***Regulatory Deferral***

Regulatory deferral amounts represent reimbursements on infrastructure projects and customer/developer contributions that will be depreciated and recognized as revenue in matching amounts over future periods.

## **HOLYOKE GAS AND ELECTRIC**

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### **NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)**

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#### ***ASSETS, DEFERRED OUTFLOWS OF RESOURCES, LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION (cont.)***

##### ***Deferred Inflows of Resources***

A deferred inflow of resources represents an acquisition of net position that applies to a future period and, therefore, will not be recognized as an inflow of resources (revenue) until that future time. Rate stabilization reserves are reported as deferred inflows of resources for regulated business-type activities.

##### ***Net Position***

The difference between assets, deferred outflows of resources, liabilities, and deferred inflows of resources is net position. There are three components of net position: net investment in capital assets, restricted for debt service, and unrestricted.

Net investment in capital assets consists of capital assets, less accumulated depreciation, reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets.

Net position is restricted when constraints placed on its use are either: (1) externally imposed by creditors [such as through debt covenants], grantors, contributors, or laws or regulations of other governments; or (2) imposed by law through constitutional provisions or enabling legislation. The Department's restricted net position as of December 31, 2018 and 2017 is related to the bond debt fund requirements, collateral required under note payable, and funds reserved for payments on note receivable.

Unrestricted net position represents the net amount of assets and liabilities that are not "invested in property, plant and equipment" or "restricted for debt service."

When both restricted and unrestricted resources are available for use, it is the Department's policy to use restricted resources first, then unrestricted resources as they are needed.

#### ***REVENUES AND EXPENSES***

##### ***Revenue Recognition***

The Department distinguishes operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with the Department's principal ongoing operations. The principal operating revenues of the Department are charges to customers for sales and services. Operating expenses for an enterprise fund includes the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not making this definition are reported as nonoperating revenues and expenses.

Operating revenues are recognized on the basis of cycle billings rendered monthly, net of discounts. Revenues are not accrued for services delivered beyond such cycle billing dates.

# HOLYOKE GAS AND ELECTRIC

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NOTES TO FINANCIAL STATEMENTS  
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## NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

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### **REVENUES AND EXPENSES** (cont.)

#### **Revenue Recognition** (cont.)

Discounts reported for the year ended December 31, 2018 and 2017 that have directly reduced Operating Revenue in the Statement of Revenue, Expenses and Changes in Net Position are as follows:

	<u>2018</u>	<u>2017</u>
Gas	\$ 2,215,219	\$ 1,912,921
Electric	<u>3,922,706</u>	<u>3,545,492</u>
Totals	<u>\$ 6,137,925</u>	<u>\$ 5,458,413</u>

#### **Expense Allocation**

Expenses associated with a particular division of the Department are charged to that division. For the years ended December 31, 2018 and 2017, shared expenses including administrative and supporting costs are allocated to each division as follows:

Gas	35.0%
Electric and Telecommunications	65.0%

#### **Depreciation**

Depreciation is recorded on a straight-line basis using an annual rate of 3% of depreciable plant, property and equipment in service. The rate is in accordance with Massachusetts Department of Public Utilities regulations.

#### **EFFECT OF NEW ACCOUNTING STANDARDS ON CURRENT PERIOD FINANCIAL STATEMENTS**

GASB has approved GASB Statement No. 83, *Certain Asset Retirement Obligations*, Statement No. 84, *Fiduciary Activities*, Statement No. 87, *Leases*, Statement No. 88, *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements*, and Statement No. 90, *Majority Equity Interests - an amendment of GASB Statements No. 14 and No. 61*.

When they become effective, application of these standards may restate portions of these financial statements.

#### **COMPARATIVE DATA**

Certain amounts presented in the prior year data may have been reclassified in order to be consistent with the current year's presentation.

## HOLYOKE GAS AND ELECTRIC

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### NOTES TO FINANCIAL STATEMENTS

As of and for the Years Ended December 31, 2018 and 2017

#### **NOTE 2 – DEPOSITS AND INVESTMENTS**

The Department participates in a cash and investment pool maintained by the city. In addition, the Department holds certain cash separately from the pool.

Custody and use of restricted assets are subject to requirements and restrictions imposed under contractual agreements, bond indentures, and the General Laws of the Commonwealth of Massachusetts, and are not available for normal operating purposes. Purchased power funds are on deposit with Massachusetts Municipal Wholesale Electric Company (MMWEC) to pay for energy and related services as required under existing agreements. Rate stabilization funds are amounts set aside to be used to stabilize current and future power costs. Postemployment benefit funds have been segregated by the Department to cover certain healthcare and life insurance benefits (See Notes 11 and 12).

The Department invests various funds in debt and equity securities held by Flynn Financial Partners Ltd. and US Bank. All investments must be made in securities or deposits as authorized by Massachusetts General Laws, Chapter 44, Sections 54, 55 and 55B. Investments are stated at fair value.

The Department's deposits and investments as of December 31, 2018 were comprised of the following:

	Statement Balances	Carrying Value	Associated Risks
Demand deposits	\$ 12,948,424	\$ 15,323,175	Custodial credit risk
U.S. agencies – implicitly guaranteed	3,999,962	3,999,962	Credit risk, Custodial credit risk, Interest rate risk, Concentration of credit risk
State & local bonds	476,434	476,434	Credit risk, Custodial credit risk, Interest rate risk
Mutual funds – bond funds	6,606,428	6,606,428	Credit risk, Interest rate risk
Mutual funds – other than bond funds	59,366,961	59,366,961	N/A
Corporate bonds	101,554	101,554	Credit risk, Custodial credit risk, Interest rate risk
Certificates of deposit (CD) - negotiable	806,265	806,270	Credit risk, Custodial credit risk, Interest rate risk
<b>Totals</b>	<b><u>\$ 84,306,028</u></b>	<b><u>\$ 86,680,784</u></b>	

#### Reconciliation to Statement of Net Position

Cash and investments	\$ 13,216,662
Collateralized investments for margin account	2,771,987
Redemption account	2,630,198
Accounts required under bond indenture/notes payable	9,285,248
Customer deposits	1,538,881
Construction escrow account	2,111,063
Purchased power accounts	368,510
Rate stabilization accounts	45,134,811
Other investments	188,390
OPEB Trust –Statement of fiduciary net position (separate financial statement)	<u>9,435,034</u>
<b>Total</b>	<b><u>\$ 86,680,784</u></b>

## HOLYOKE GAS AND ELECTRIC

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### NOTES TO FINANCIAL STATEMENTS

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#### **NOTE 2 – DEPOSITS AND INVESTMENTS (cont.)**

The Department's deposits and investments at as of December 31, 2017 were comprised of the following:

	Statement Balances	Carrying Value	Associated Risks
Demand deposits	\$ 3,955,682	\$ 10,813,084	Custodial credit risk
U.S. agencies – implicitly guaranteed	6,824,053	6,824,053	Credit risk, Custodial credit risk, Interest rate risk, Concentration of credit risk
State & local bonds	1,082,828	1,082,828	Credit risk, Custodial credit risk, Interest rate risk
Mutual funds – bond funds	4,917,506	4,917,506	Credit risk, Interest rate risk
Mutual funds – other than bond funds	62,011,915	62,011,915	N/A
Corporate bonds	1,693,188	1,693,188	Credit risk, Custodial credit risk, Interest rate risk
Certificates of deposit (CD) - negotiable	843,512	843,512	Credit risk, Custodial credit risk, Interest rate risk
<b>Totals</b>	<b>\$ 81,328,684</b>	<b>\$ 88,186,086</b>	
 Reconciliation to Statement of Net Position			
Cash and investments		\$ 6,838,698	
Collateralized investments for margin account		8,277,541	
Redemption account		2,654,222	
Accounts required under bond indenture/notes payable		9,489,454	
Customer deposits		1,562,522	
Purchased power accounts		362,755	
Rate stabilization accounts		49,983,776	
Other investments		188,390	
OPEB Trust –Statement of fiduciary net position (separate financial statement)		8,828,728	
 Total		 <b>\$ 88,186,086</b>	

## HOLYOKE GAS AND ELECTRIC

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### NOTES TO FINANCIAL STATEMENTS As of and for the Years Ended December 31, 2018 and 2017

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#### **NOTE 2 – DEPOSITS AND INVESTMENTS (cont.)**

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Deposits in each local and area bank are insured by the FDIC in the amount of \$250,000 for time and savings accounts (including NOW accounts) and \$250,000 for demand deposit accounts (interest-bearing and noninterest-bearing). In addition, if deposits are held in an institution outside of the state in which the government is located, insured amounts are further limited to a total of \$250,000 for the combined amount of all deposit accounts.

The Securities Investor Protection Corporation (SIPC), created by the Securities Investor Protection Act of 1970, is an independent government-sponsored corporation (not an agency of the U.S. government).

SIPC membership provides account protection up to a maximum of \$500,000 per customer, of which \$100,000 may be in cash. \$500,000 of the Department's investments and \$500,000 of the OPEB Trust investments are covered by SIPC. Additionally, through Lloyds of London, accounts have securities coverage subject to a \$575 million aggregate firm limit. Coverage limits per customer are not available. The value of investments subject to Lloyds of London coverage was \$2,346,888 in 2018 and \$6,934,517 in 2017 for the Department; and \$451,203 in 2018 and \$462,950 in 2017 for the OPEB trust.

#### ***FAIR VALUE***

The Department categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

The valuation methods for recurring fair value measurements as of December 31, 2018 are as follows:

- > Institutional bond quotes for U.S. government agency securities, and state and local bonds
- > Quoted market prices for identical assets for mutual funds – bond funds and mutual funds – other than bond funds
- > Quoted market prices for similar assets for corporate bonds and certificates of deposits

<u>Investment Type</u>	<u>Total</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
U.S. agencies – implicitly guaranteed	\$ 3,999,962	\$ -	\$ 3,999,962	\$ -
State & local bonds	476,434	-	476,434	-
Mutual funds – bond funds	6,606,428	6,606,428	-	-
Mutual funds – other than bond funds	59,366,961	59,366,961	-	-
Corporate bonds	101,554	-	101,554	-
Certificate of deposit	806,270	-	806,270	-
Totals	<u>\$ 71,357,609</u>	<u>\$ 65,973,389</u>	<u>\$ 5,384,220</u>	<u>\$ -</u>

## HOLYOKE GAS AND ELECTRIC

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### NOTES TO FINANCIAL STATEMENTS

As of and for the Years Ended December 31, 2018 and 2017

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#### NOTE 2 – DEPOSITS AND INVESTMENTS (cont.)

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##### *FAIR VALUE* (cont.)

The valuation methods for recurring fair value measurements as of December 31, 2017 are as follows:

- > Institutional bond quotes for U.S. government agency securities, and state and local bonds
- > Quoted market prices for identical assets for mutual funds – bond funds and mutual funds – other than bond funds
- > Quoted market prices for similar assets for corporate bonds and certificates of deposits

Investment Type	Total	Level 1	Level 2	Level 3
U.S. agencies – implicitly guaranteed	\$ 6,824,053	\$ -	\$ 6,824,053	\$ -
State & local bonds	1,082,828	-	1,082,828	-
Mutual funds – bond funds	4,917,506	4,917,506	-	-
Mutual funds – other than bond funds	62,011,915	62,011,915	-	-
Corporate bonds	1,693,188	-	1,693,188	-
Certificate of deposit	843,512	-	843,512	-
Totals	\$ 77,373,002	\$ 66,929,421	\$ 10,443,581	\$ -

##### ***Custodial Credit Risk***

###### **Deposits**

Custodial credit risk is the risk that the Department's deposits may not be returned to the Department. Uninsured, uncollateralized, deposits subject to custodial credit risk were \$8,454,745 in 2018 and \$5,574,325 in 2017.

###### **Investments**

For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, the Department will not be able to recover the value of their investments or collateral securities that are in the possession of an outside party. The Department's investment policy addresses credit risk by defining allowable investments.

# HOLYOKE GAS AND ELECTRIC

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## NOTES TO FINANCIAL STATEMENTS

As of and for the Years Ended December 31, 2018 and 2017

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### NOTE 2 – DEPOSITS AND INVESTMENTS (cont.)

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#### *Interest Rate Risk*

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The Department does not have a formal investment policy that limits investment maturities.

At December 31, 2018, the Department's investments were as follows:

Investment Type	Fair Value	Maturity in Years		
		Less Than 1	1-4	5-10
U.S. agencies – implicitly guaranteed	\$ 3,999,962	\$ 858,560	\$ 2,899,848	\$ 241,554
State and local bonds	476,434	349,864	-	126,570
Mutual funds – bond funds	6,606,428	-	-	6,606,428
Corporate bonds	101,554	101,554	-	-
CDs – negotiable	806,270	431,999	374,271	-
Totals	<u>\$ 11,990,648</u>	<u>\$ 1,741,977</u>	<u>\$ 3,274,119</u>	<u>\$ 6,974,552</u>

At December 31, 2017, the Department's investments were as follows:

Investment Type	Fair Value	Maturity in Years		
		Less Than 1	1-4	5-10
U.S. agencies – implicitly guaranteed	\$ 6,824,053	\$ 1,005,248	\$ 5,325,213	\$ 493,592
State and local bonds	1,082,828	500,394	350,214	232,220
Mutual funds – bond funds	4,917,506	-	-	4,917,506
Corporate bonds	1,693,188	997,453	695,735	-
CDs – negotiable	843,512	100,840	742,672	-
Totals	<u>\$ 15,361,087</u>	<u>\$ 2,603,935</u>	<u>\$ 7,113,834</u>	<u>\$ 5,643,318</u>



## HOLYOKE GAS AND ELECTRIC

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NOTES TO FINANCIAL STATEMENTS  
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### NOTE 2 – DEPOSITS AND INVESTMENTS (cont.)

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#### *Credit Risk*

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The Department does not have a separate formal policy regarding credit risk.

As of December 31, 2018, the Department's investments were rated as follows:

<u>Investment Type</u>	<u>Standard &amp; Poor's</u>	<u>Moody's Investment Service</u>	<u>Composite</u>
U.S. Agencies – implicitly guaranteed	AA+	AAA	N/A
State and local bonds	AA+ to AAA	AAA	N/A
Mutual funds – bond funds	N/A	N/A	B to BBB
Corporate bonds	A	A2	N/A
CDs – negotiable	N/A	N/A	N/A

As of December 31, 2017, the Department's investments were rated as follows:

<u>Investment Type</u>	<u>Standard &amp; Poor's</u>	<u>Moody's Investment Service</u>	<u>Composite</u>
U.S. Agencies – implicitly guaranteed	AA+	AAA	N/A
State and local bonds	AA+ to AA	AA2 to AAA	N/A
Mutual funds – bond funds	N/A	N/A	B
Corporate bonds	AA to BBB	AA2 to BAA3	N/A
CDs – negotiable	N/A	N/A	N/A

#### **Concentration of Credit Risk**

Concentration of credit risk is the risk of loss attributed to the magnitude of the Department's investment in a single issuer. In 2018 and 2017, there were no investments in any one issuer that represented greater than 5% of total investments.

**HOLYOKE GAS AND ELECTRIC**  
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NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

**NOTE 3 – PLANT, PROPERTY AND EQUIPMENT**

Plant, property and equipment as of December 31, 2018 consist of the following:

	Balance 1/1/18	Increases	Decreases	Balance 12/31/18
Utility Plant not Being Depreciated				
Gas				
Land	\$ 214,304	\$ -	\$ -	\$ 214,304
Construction in progress	49,967	2,013,006	2,021,498	41,474
	<u>264,271</u>	<u>2,013,006</u>	<u>2,021,498</u>	<u>255,778</u>
Electric/Telecommunications				
Land	4,773,373	30,692	-	4,804,065
Construction in progress	1,712,183	3,426,020	5,017,952	120,251
	<u>6,485,556</u>	<u>3,456,712</u>	<u>5,017,952</u>	<u>4,924,316</u>
Total Utility Plant Not Being Depreciated	<u>6,749,827</u>	<u>5,469,718</u>	<u>7,039,450</u>	<u>5,180,094</u>
Utility Plant Being Depreciated				
Gas				
Plant investment	49,129,879	2,245,739	291,466	51,084,154
Office furniture and equipment	1,407,584	19,332	-	1,426,916
Transportation and communication equipment	1,351,082	127,521	-	1,478,603
Other	275,199	48,513	-	323,712
	<u>52,163,744</u>	<u>2,441,104</u>	<u>291,466</u>	<u>54,313,384</u>
Electric/Telecommunications				
Plant investment	180,620,342	22,824,277	9,524,492	193,920,128
Office furniture and equipment	3,176,871	45,091	30,219	3,191,743
Transportation and communication equipment	5,098,883	198,562	-	5,297,445
Other	629,790	66,169	-	695,959
	<u>189,525,886</u>	<u>23,134,099</u>	<u>9,554,711</u>	<u>203,105,274</u>
Total Utility Plant Being Depreciated	<u>241,689,630</u>	<u>25,575,203</u>	<u>9,846,177</u>	<u>257,418,659</u>

*Note: Immaterial differences may exist due to rounding*

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

### NOTES TO FINANCIAL STATEMENTS

As of and for the Years Ended December 31, 2018 and 2017

#### **NOTE 3 – PLANT, PROPERTY AND EQUIPMENT (cont.)**

	Balance 1/1/18	Increases	Decreases	Balance 12/31/18
Less: Accumulated depreciation				
Gas				
Plant investment	\$ (24,877,205)	\$ (1,369,639)	\$ 231,970	\$ (26,014,874)
Office furniture and equipment	(1,173,309)	(2,485)	-	(1,175,794)
Transportation and communication equipment	(1,048,137)	(169,629)	-	(1,217,766)
Other	(234,483)	(23,159)	-	(257,642)
	<u>(27,333,134)</u>	<u>(1,564,912)</u>	<u>231,970</u>	<u>(28,666,076)</u>
Electric/Telecommunications				
Plant investment	(60,678,628)	(5,033,224)	757,837	(64,954,015)
Office furniture and equipment	(2,521,245)	(18,452)	15,110	(2,524,588)
Transportation and communication equipment	(3,521,554)	(576,631)	-	(4,098,185)
Other	(438,453)	(27,060)	-	(465,513)
	<u>(67,159,880)</u>	<u>(5,655,366)</u>	<u>772,947</u>	<u>(72,042,300)</u>
Total Accumulated Depreciation	<u>(94,493,014)</u>	<u>(7,220,279)</u>	<u>1,004,916</u>	<u>(100,708,377)</u>
Total Utility Plant Being Depreciated, Net				
Gas	24,830,612	876,192	59,496	25,647,308
Electric	<u>122,366,002</u>	<u>17,478,733</u>	<u>8,781,764</u>	<u>131,062,971</u>
	<u>147,196,614</u>	<u>18,354,925</u>	<u>8,841,260</u>	<u>156,710,279</u>
Total Utility Plant, Net				
Gas	25,094,885	2,889,198	2,080,995	25,903,088
Electric	<u>128,851,558</u>	<u>20,935,445</u>	<u>13,799,716</u>	<u>135,987,287</u>
Net Capital Assets	<u>\$ 153,946,443</u>	<u>\$ 23,824,642</u>	<u>\$ 15,880,711</u>	<u>\$ 161,890,376</u>

*Note: Immaterial differences may exist due to rounding*

**HOLYOKE GAS AND ELECTRIC**  
(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

**NOTE 3 – PLANT, PROPERTY AND EQUIPMENT (cont.)**

Plant, property and equipment as of December 31, 2017 consist of the following:

	Balance 1/1/17	Increases	Decreases	Balance 12/31/17
<b>Utility Plant not Being Depreciated</b>				
<b>Gas</b>				
Land	\$ 214,304	\$ -	\$ -	\$ 214,304
Construction in progress	334,815	2,129,738	2,414,586	49,967
	<u>549,119</u>	<u>2,129,738</u>	<u>2,414,586</u>	<u>264,271</u>
<b>Electric/Telecommunications</b>				
Land	4,773,373	-	-	4,773,373
Construction in progress	1,297,536	4,850,760	4,436,113	1,712,183
	<u>6,070,909</u>	<u>4,850,760</u>	<u>4,436,113</u>	<u>6,485,556</u>
Total Utility Plant Not Being Depreciated	<u>6,620,028</u>	<u>6,980,498</u>	<u>6,850,699</u>	<u>6,749,827</u>
<b>Utility Plant Being Depreciated</b>				
<b>Gas</b>				
Plant investment	46,460,460	2,906,885	237,466	49,129,879
Office furniture and equipment	1,347,273	60,311	-	1,407,584
Transportation and communication equipment	1,247,539	167,188	63,645	1,351,082
Other	275,199	-	-	275,199
	<u>49,330,471</u>	<u>3,134,384</u>	<u>301,111</u>	<u>52,163,744</u>
<b>Electric/Telecommunications</b>				
Plant investment	175,952,890	5,710,151	1,042,699	180,620,342
Office furniture and equipment	2,998,807	178,064	-	3,176,871
Transportation and communication equipment	5,012,013	335,276	248,406	5,098,883
Other	562,020	67,770	-	629,790
	<u>184,525,730</u>	<u>6,291,261</u>	<u>1,291,105</u>	<u>189,525,886</u>
Total Utility Plant Being Depreciated	<u>233,856,201</u>	<u>9,425,645</u>	<u>1,592,216</u>	<u>241,689,630</u>

*Note: Immaterial differences may exist due to rounding*

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

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### NOTE 3 – PLANT, PROPERTY AND EQUIPMENT (cont.)

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	Balance 1/1/17	Increases	Decreases	Balance 12/31/17
Less: Accumulated depreciation				
Gas				
Plant investment	\$ (23,750,048)	\$ (1,331,096)	\$ 203,939	\$ (24,877,205)
Office furniture and equipment	(1,129,765)	(43,544)	-	(1,173,309)
Transportation and communication equipment	(1,029,667)	(82,115)	63,645	(1,048,137)
Other	(211,324)	(23,159)	-	(234,483)
	(26,120,804)	(1,479,914)	267,584	(27,333,134)
Electric/Telecommunications				
Plant investment	(56,593,561)	(4,995,192)	910,125	(60,678,628)
Office furniture and equipment	(2,400,416)	(120,829)	-	(2,521,245)
Transportation and communication equipment	(3,378,411)	(391,549)	248,406	(3,521,554)
Other	(410,251)	(28,202)	-	(438,453)
	(62,782,639)	(5,535,772)	1,158,531	(67,159,880)
Total Accumulated Depreciation	(88,903,443)	(7,015,686)	1,426,115	(94,493,014)
Total Utility Plant Being Depreciated, Net				
Gas	23,209,667	1,654,472	33,527	24,830,612
Electric	121,743,091	755,486	132,575	122,366,002
	144,952,758	2,409,958	166,102	147,196,614
Total Utility Plant, Net				
Gas	23,758,786	3,784,211	2,448,112	25,094,885
Electric	127,814,000	5,606,246	4,568,688	128,851,558
	151,572,786	9,390,457	7,016,800	153,946,443
Net Capital Assets	\$ 151,572,786	\$ 9,390,457	\$ 7,016,800	\$ 153,946,443

*Note: Immaterial differences may exist due to rounding*

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

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### NOTE 4 – NOTE RECEIVABLE

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	<u>2018</u>	<u>2017</u>
Note receivable from Holyoke Solar, LLC (separate non-related entity) due to the Solar Coop in monthly installments of \$74,191 including interest at 5.25%, secured by the Solar Installation Property, matures December 2031.	\$ 8,367,753	\$ 8,805,376
Note receivable from Scannell Solar, LLC due to the Solar Coop in one lump sum payment including interest at 5.25%, secured by the Solar Installation Property, matures in December 2017. If not paid off by maturity date, the loan converts to a 10-year loan including interest at 6.5% due December 2028.	-	1,317,995
Less: amount due within one year	<u>(461,132)</u>	<u>(1,755,616)</u>
Note Receivable - Due After One Year	<u>\$ 7,906,621</u>	<u>\$ 8,367,755</u>

The Holyoke Solar, LLC note, and security agreement also requires the borrower to establish a Reserve Account to be held in an interest-bearing savings account equal to no less than 6 months of principal and interest debt service payments. The Solar Coop shall use the Reserve Account to cure any failure of the borrower to pay when due any principal or interest payment. If the Reserve Account is not used by the Solar Coop during the first 6 years, the Reserve Account shall be decreased to no less than 2 months of principal and interest debt service payments. The Reserve Account was established with a required balance of \$444,737. The account balance at December 31, 2018 and 2017 was \$452,116 and \$451,208, respectively.

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### NOTE 5 – OTHER RECEIVABLES

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Other receivables, all due within one year, consist of the following as of December 31, 2018 and 2017:

	<u>2018</u>	<u>2017</u>
Springfield Water and Sewer	\$ 87,097	\$ 33,979
Massachusetts Department of Transportation	97,266	217,860
Accrued interest receivable	17,345	47,065
Miscellaneous other receivables	<u>1,022,072</u>	<u>1,294,118</u>
Totals	<u>\$ 1,223,780</u>	<u>\$ 1,593,022</u>

**HOLYOKE GAS AND ELECTRIC**  
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NOTES TO FINANCIAL STATEMENTS  
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**NOTE 6 – INTANGIBLE ASSETS**

		2018	
	Life in Years	Gross Carrying Amount	Accumulated Amortization
2001 franchise fees	30	\$ 2,000,000	\$ 1,136,667
		2017	
	Life in Years	Gross Carrying Amount	Accumulated Amortization
2001 franchise fees	30	\$ 2,000,000	\$ 1,070,001

Aggregate amortization expense was \$66,667 for the years ended December 31, 2018 and 2017. Estimated annual aggregate amortization expense is \$66,667 for the five years subsequent to 2018.

**NOTE 7 – RATE STABILIZATION RESERVE**

The Department established a rate stabilization reserve which will be used for rate stabilization in the development of future rates and allow the Department to remain competitive under various market conditions by either purchasing replacement power or using reserves to mitigate the Department's exposure. Each year the Department determines the amount to be charged or credited to the reserve. The Department has set aside funds which will be used to offset these reserves. The reserve balance at December 31, 2018 and 2017 is \$41,269,849 and is reported as a deferred inflow of resources.

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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### NOTES TO FINANCIAL STATEMENTS

As of and for the Years Ended December 31, 2018 and 2017

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#### NOTE 8 – LONG-TERM OBLIGATIONS

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General Obligation Bonds – Issued through the City of Holyoke Original issue amount: \$30,532,000 Date of issue: April 2012 Bonds mature annually 2013-2031 Interest rates range from 2.0% - 5.0%	\$ 23,190,000
Revenue Bonds – Massachusetts Clean Energy Cooperative Corporation - Series 2013 Original issue amount: \$49,885,000 Date of issue: April 2013 Bonds mature annually 2015-2032 Interest rates range from 3.0% - 5.0%	42,780,000
Clean Renewable Energy Bond – Boatlock Hydroelectric Station Project - 2009 Series A Original issue amount: \$2,500,000 Date of issue: January 2009 Bonds mature annually 2010-2020 Interest rate: 1.5% Secured by revenues of the Department	416,667
Less: Amount due within one year	<u>(3,793,333)</u>
Bonds Payable – Due After One Year	<u>\$ 62,593,334</u>

Principal maturing and interest payments are anticipated to be as follows:

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2019	\$ 3,793,333	\$ 3,134,311	\$ 6,927,644
2020	3,953,334	2,974,103	6,927,437
2021	3,930,000	2,783,676	6,713,676
2022	4,085,000	2,626,476	6,711,476
2023	4,275,000	2,437,876	6,712,876
2024 – 2028	24,525,000	9,038,234	33,563,234
2029 – 2032	<u>21,825,000</u>	<u>2,621,500</u>	<u>24,446,500</u>
Totals	<u>\$ 66,386,667</u>	<u>\$ 25,616,176</u>	<u>\$ 92,002,843</u>



## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

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### NOTE 8 – LONG-TERM OBLIGATIONS (cont.)

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The Department is required to satisfy certain bond covenant requirements in connection with the bonds payable. In addition, the notes payable detailed on the following page also have funding requirements. The following funds are required as part of the bond and note agreements:

	<u>2018</u>	<u>2017</u>
<u>Revenue Bonds</u>		
Debt service reserve fund	\$ 4,535,645	\$ 4,493,143
Redemption account		
Reserve and contingency fund	473,923	497,747
Principal account	1,106,421	1,067,500
Bond interest fund	1,049,854	1,088,975
<u>Clean Renewable Energy Bond</u>		
Debt service reserve fund	<u>258,646</u>	<u>257,867</u>
Sub-Total Related to Bonds	<u>7,424,489</u>	<u>7,405,232</u>
<u>Notes Payable</u>		
Collateral account	4,038,841	4,287,236
Reserve fund	<u>452,116</u>	<u>451,208</u>
Sub-Total Related to Notes	<u>4,490,957</u>	<u>4,738,444</u>
Total Funds Required Under Bond Indenture/Note Payable	<u>\$ 11,915,446</u>	<u>\$ 12,143,676</u>

During 2018, Holyoke Solar Cooperative provided financing to the Department in the amount of \$9,500,000 related to the construction and management of a new substation. As a result of this event, a construction escrow account was created and represents remaining funds received that have not yet been drawn on for construction. These funds in escrow are requested for disbursement as project costs are incurred. As of December 31, 2018, the balance in the construction escrow account was \$2,111,063.

# HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

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## NOTE 8 – LONG-TERM OBLIGATIONS (cont.)

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### Notes Payable

Note payable to bank, secured by revenues of the Department, monthly payments of \$20,587 including interest at 5.25% through maturity date of October 2018.	\$	-
Note payable to bank, secured by all assets of the Holyoke Solar Cooperative, monthly payments of \$6,346 including interest at 4.47%, matures in September 2031.		739,280
Note payable to bank, secured by all assets of the Holyoke Solar Cooperative, monthly payments of \$29,820 including interest at 4.00%, matures in September 2031.		3,574,315
Note payable to bank, secured by all assets of the Holyoke Solar Cooperative, monthly payments of \$29,470 including interest at 3.40%, Matures in September 2031.		
A pledge of securities as collateral, with a value of \$3,665,947 at December 31, 2017 is also required under this note.		3,665,947
Note payable to bank, secured by revenues of the Department with a lien on all business assets on Holyoke Solar Cooperative and a pledge of the service contract between the Department and Holyoke Solar Cooperative, monthly payments of \$57,558 including interest at 3.94%, matures in April 2038.		9,290,793
Less: Amount due within one year		<u>(813,164)</u>
Notes Payable – Due After One Year	\$	<u>16,457,171</u>

Principal maturing and interest payments are anticipated to be as follows:

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2019	\$ 813,164	\$ 670,819	\$ 1,483,983
2020	844,141	639,842	1,483,983
2021	880,026	603,957	1,483,983
2022	915,529	568,453	1,483,982
2023	952,466	531,517	1,483,983
2024 – 2028	5,368,079	2,051,834	7,419,913
2029 – 2033	4,752,890	948,246	5,701,136
2034 – 2038	<u>2,744,040</u>	<u>248,996</u>	<u>2,993,036</u>
Totals	<u>\$ 17,270,335</u>	<u>\$ 6,263,664</u>	<u>\$ 23,533,999</u>

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

### NOTES TO FINANCIAL STATEMENTS As of and for the Years Ended December 31, 2018 and 2017

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#### NOTE 8 – LONG-TERM OBLIGATIONS (cont.)

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##### *CHANGES IN LONG-TERM LIABILITIES*

Long-term liability activities for the years ended December 31, 2018 are as follows:

	Balance 1/1/18	Additions	Reductions	Balance 12/31/18	Current Portion
Long-term bonds and loans					
Bonds payable	\$ 70,065,000	\$ -	\$ 3,678,333	\$ 66,386,667	\$ 3,793,333
Premium on bonds	8,003,660	-	843,983	7,159,677	-
Notes payable	8,651,816	9,500,000	881,481	17,270,335	813,164
Leases payable	123,521	-	39,976	83,545	41,056
	<u>86,843,997</u>	<u>9,500,000</u>	<u>5,443,773</u>	<u>90,900,224</u>	<u>4,647,553</u>
Other long-term liabilities					
Net pension liability	30,715,656	-	4,785,459	25,930,197	-
Compensated absences	3,183,821	337,034	191,782	3,329,073	252,883
Other postemployment benefits (asset) liability	(43,421)	8,944,293	-	8,900,872	-
Environmental costs	165,000	-	45,000	120,000	120,000
Unearned revenue	2,487,820	647,924	165,000	2,970,744	-
Reserve fund for note receivable	444,737	-	-	444,737	-
	<u>444,737</u>	<u>-</u>	<u>-</u>	<u>444,737</u>	<u>-</u>
Total Long-Term Liabilities	<u>\$ 123,797,610</u>	<u>\$ 19,429,251</u>	<u>\$ 10,631,014</u>	<u>\$ 132,595,847</u>	<u>\$ 5,020,436</u>

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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NOTES TO FINANCIAL STATEMENTS  
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### NOTE 8 – LONG-TERM OBLIGATIONS (cont.)

#### CHANGES IN LONG-TERM LIABILITIES (cont.)

Long-term liability activities for the years ended December 31, 2017 are as follows:

	Balance 1/1/17	Additions	Reductions	Balance 12/31/17	Current Portion
Long-term bonds and loans					
Bonds payable	\$ 73,598,333	\$ -	\$ 3,533,333	\$ 70,065,000	\$ 3,678,333
Premium on bonds	8,855,623	-	851,963	8,003,660	-
Notes payable	9,336,882	-	685,066	8,651,816	673,984
Leases payable	7,321	167,188	50,988	123,521	39,976
	<u>91,798,159</u>	<u>167,188</u>	<u>5,121,350</u>	<u>86,843,997</u>	<u>4,392,293</u>
Other long-term liabilities					
Net pension liability	30,700,334	3,726,487	3,711,165	30,715,656	-
Compensated absences	3,159,739	223,371	199,289	3,183,821	191,782
Other postemployment benefits (asset)	(3,423)	1,979,075	2,019,073	(43,421)	-
Environmental costs	305,000	-	140,000	165,000	165,000
Unearned revenue	1,964,616	663,204	140,000	2,487,820	-
Reserve fund for note receivable	444,737	-	-	444,737	-
	<u>444,737</u>	<u>-</u>	<u>-</u>	<u>444,737</u>	<u>-</u>
Total Long-Term Liabilities	<u>\$ 128,369,162</u>	<u>\$ 6,759,325</u>	<u>\$ 11,330,877</u>	<u>\$ 123,797,610</u>	<u>\$ 4,749,075</u>

#### REVENUE DEBT

The Department has pledged future revenues, net of certain operating expenses to repay revenue bonds issued in 2013. Proceeds from the bonds provided financing for improvements to the Hadley Falls generating station. The bonds are payable solely from revenues generated by the power purchase agreement with MMWEC through 2032. Annual principal and interest payments on the bonds are expected to require 100% of the Clean Energy Coop future gross revenues from MMWEC. The principal and interest remaining to be paid on the bonds is \$60,380,800. Principal and interest paid in 2018 and 2017 were \$4,312,950 and \$4,315,150, respectively. Total customer net revenues in 2018 and 2017 were \$4,312,750 and \$4,307,247, respectively. Customer revenues began in 2016 to coincide with the first bond principal payment due.

**HOLYOKE GAS AND ELECTRIC**  
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NOTES TO FINANCIAL STATEMENTS  
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**NOTE 9 – BLENDED COMPONENT UNITS**

The following schedules provide details of the blended component units' balances, activities, and eliminations.

COMBINING SCHEDULE OF NET POSITION  
As of December 31, 2018

<b>ASSETS</b>	HGE	Holyoke Solar	Mass Clean Energy	Eliminations	Total
<b>Current Assets</b>					
Cash and investments	\$ 8,960,426	\$ 4,112,645	\$ 143,591	\$ -	\$ 13,216,662
<b>Restricted Assets</b>					
Collateralized investments for margin account	2,771,987	-	-	-	2,771,987
Redemption account	-	-	2,630,198	-	2,630,198
Customer accounts receivable - net	8,293,933	11,632	-	-	8,305,565
Accounts receivable - City of Holyoke	15,090	-	-	-	15,090
Note receivable - current portion	-	461,132	-	-	461,132
Materials and supplies	2,835,861	-	-	-	2,835,861
Fuel for electric generation and gas in storage	706,015	-	-	-	706,015
Prepaid expense	2,392,260	-	41,081,764	(41,081,764)	2,392,260
Other receivables	1,217,408	6,372	-	-	1,223,780
<b>Total Current Assets</b>	<u>27,192,980</u>	<u>4,591,781</u>	<u>43,855,553</u>	<u>(41,081,764)</u>	<u>34,558,550</u>
<b>Noncurrent Assets</b>					
<b>Restricted Assets</b>					
Accounts required under bond indenture/note payable	258,646	4,490,957	4,535,645	-	9,285,248
Construction escrow account	-	2,111,063	-	-	2,111,063
Customers' deposits	1,538,881	-	-	-	1,538,881
Other receivables - after one year	-	7,906,621	-	-	7,906,621
Hi-Lite assistant loans	1,972,635	-	-	-	1,972,635
Advances to other funds	431,000	7,181,862	-	(7,612,862)	-
<b>Other Assets</b>					
Purchased power accounts	368,510	-	-	-	368,510
Rate stabilization accounts	45,134,811	-	-	-	45,134,811
Costs recoverable in future - pollution	120,258	-	-	-	120,258
Other investments	188,390	-	-	-	188,390
Accrued other post employment benefits	-	-	-	-	-
Intangible assets	863,333	-	-	-	863,333
<b>Capital Assets</b>					
Plant, property and equipment in service	262,437,028	-	-	-	262,437,028
Construction in progress	161,725	-	-	-	161,725
	<u>262,598,753</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>262,598,753</u>
Less: Accumulated depreciation	<u>(100,708,377)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(100,708,377)</u>
<b>Total Capital Assets</b>	<u>161,890,376</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>161,890,376</u>
<b>Total Noncurrent Assets</b>	<u>212,766,840</u>	<u>21,690,503</u>	<u>4,535,645</u>	<u>(7,612,862)</u>	<u>231,380,126</u>
<b>Total Assets</b>	<u>239,959,820</u>	<u>26,282,284</u>	<u>48,391,198</u>	<u>(48,694,626)</u>	<u>265,938,676</u>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>					
OPEB related amounts	1,527,080	-	-	-	1,527,080
Pension related amounts	12,483,895	-	-	-	12,483,895

**HOLYOKE GAS AND ELECTRIC**  
(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

**NOTE 9 – BLENDED COMPONENT UNITS (cont.)**

COMBINING SCHEDULE OF NET POSITION (cont.)  
As of December 31, 2018

LIABILITIES	HGE	Holyoke Solar	Mass Clean Energy	Eliminations	Total
<b>Current Liabilities</b>					
Accounts payable	\$ 6,641,256	\$ 5,351	\$ -	\$ -	\$ 6,646,607
Customers' deposits	1,357,236	-	-	-	1,357,236
Accrued liabilities	900,032	-	-	-	900,032
Current portion - accrued compensated absences	252,883	-	-	-	252,883
Current portion - accrued environmental costs	120,000	-	-	-	120,000
Accrued charges - current	437,902	-	-	-	437,902
<b>Liabilities Payable from Restricted Assets</b>					
Margin credit account	2,771,987	-	-	-	2,771,987
Current portion - bonds and notes payable	1,614,389	813,164	2,220,000	-	4,647,553
Accrued interest	345,650	-	1,046,275	-	1,391,925
<b>Total Current Liabilities</b>	<u>14,441,335</u>	<u>818,515</u>	<u>3,266,275</u>	<u>-</u>	<u>18,526,125</u>
<b>Long-Term Liabilities</b>					
Bonds payable - long-term	22,033,334	-	40,560,000	-	62,593,334
Plus: Unamortized premium on bonds payable	1,860,051	-	5,299,626	-	7,159,677
	23,893,385	-	45,859,626	-	69,753,011
Notes payable - long-term	-	16,457,171	-	-	16,457,171
Leases payable - long term	42,489	-	-	-	42,489
Accrued compensated absences	3,076,190	-	-	-	3,076,190
Net OPEB liability	8,900,872	-	-	-	8,900,872
Unearned revenue	44,052,508	-	-	(41,081,764)	2,970,744
Advances from other funds	7,181,862	444,737	431,000	(7,612,862)	444,737
Net pension liability	25,930,197	-	-	-	25,930,197
<b>Total Long-Term Liabilities</b>	<u>113,077,503</u>	<u>16,901,908</u>	<u>46,290,626</u>	<u>(48,694,626)</u>	<u>127,575,411</u>
<b>Total Liabilities</b>	<u>127,518,838</u>	<u>17,720,423</u>	<u>49,556,901</u>	<u>(48,694,626)</u>	<u>146,101,536</u>
<b>DEFERRED INFLOWS OF RESOURCES</b>					
Regulatory deferral	725,885	-	-	-	725,885
Pension related amounts	3,668,057	-	-	-	3,668,057
Rate stabilization reserve	41,269,849	-	-	-	41,269,849
<b>Total Deferred Inflows of Resources</b>	<u>45,663,791</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>45,663,791</u>
<b>NET POSITION</b>					
Net investment in plant, property and equipment	136,382,602	-	-	(55,259,356)	81,123,246
Restricted for debt service	(87,004)	3,677,793	3,899,568	-	7,490,357
Unrestricted (deficit)	(55,507,432)	4,884,068	(5,065,271)	55,259,356	(429,279)
<b>TOTAL NET POSITION (DEFICIT)</b>	<u>\$ 80,788,166</u>	<u>\$ 8,561,861</u>	<u>\$ (1,165,703)</u>	<u>\$ -</u>	<u>\$ 88,184,324</u>

**HOLYOKE GAS AND ELECTRIC**  
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NOTES TO FINANCIAL STATEMENTS  
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**NOTE 9 – BLENDED COMPONENT UNITS (cont.)**

COMBINING SCHEDULE OF REVENUES, EXPENSES AND CHANGES IN NET POSITION  
For the Year Ended December 31, 2018

	HGE	Holyoke Solar	Mass Clean Energy	Eliminations	Total
<b>OPERATING REVENUES</b>	\$ 75,378,339	\$ 283,152	\$ 4,312,750	\$ (4,595,902)	\$ 75,378,339
<b>OPERATING EXPENSES</b>					
Operation and maintenance	57,464,804	173,193	2,947,200	(4,595,902)	55,989,295
Depreciation - plant and equipment	7,220,278	-	-	-	7,220,278
Total Operating Expenses	64,685,082	173,193	2,947,200	(4,595,902)	63,209,573
<b>Operating Income</b>	10,693,257	109,959	1,365,550	-	12,168,766
<b>NONOPERATING OTHER REVENUES (EXPENSES)</b>					
Investment income - net of fees	2,939,634	886,247	53,208	(251,260)	3,627,829
Net gain (loss) on investments	(4,911,242)	(537,002)	(32,778)	-	(5,481,022)
Interest expense	(1,293,178)	(582,257)	(1,497,316)	251,260	(3,121,491)
Miscellaneous income (expense)	870,197	80,019	-	(92,093)	858,123
Amortization of intangible assets	(66,667)	-	-	-	(66,667)
Net gain (loss) - disposal of assets	(568,443)	-	-	-	(568,443)
Net gain - merchandise jobbing	53,721	-	-	-	53,721
Taxes - other	(172,955)	-	-	92,093	(80,862)
Total Other Revenues (Expenses)	(3,148,933)	(152,993)	(1,476,886)	-	(4,778,812)
Change in Net Position Before Transfers	7,544,324	(43,034)	(111,336)	-	7,389,954
<b>TRANSFERS</b>					
Payment in lieu of taxes - City of Holyoke	(1,080,680)	-	-	-	(1,080,680)
<b>Change in Net Position</b>	6,463,644	(43,034)	(111,336)	-	6,309,274
NET POSITION (Deficit) - Beginning of Year	82,094,087	8,604,895	(1,054,367)	-	89,644,615
Cumulative effect of a change in accounting principle	(7,769,565)	-	-	-	(7,769,565)
<b>NET POSITION (Deficit) - END OF YEAR</b>	<u>\$ 80,788,166</u>	<u>\$ 8,561,861</u>	<u>\$ (1,165,703)</u>	<u>\$ -</u>	<u>\$ 88,184,324</u>

**HOLYOKE GAS AND ELECTRIC**  
(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

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**NOTE 9 – BLENDED COMPONENT UNITS (cont.)**

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**CONDENSED COMBINING SCHEDULE OF CASH FLOWS**  
For the Year Ended December 31, 2018

<b>NET CASH FLOWS FROM (USED IN)</b>	<u>HGE</u>	<u>Holyoke Solar</u>	<u>Mass Clean Energy</u>	<u>Eliminations</u>	<u>Total</u>
Operating activities	\$ 15,771,464	\$ 339,037	\$ 4,267,184	\$ -	\$ 20,377,685
Investing activities	(5,750,111)	3,439,622	551,701	-	(1,758,788)
Noncapital financing activities	(1,080,680)	-	-	-	(1,080,680)
Capital and related financing activities	<u>(11,229,885)</u>	<u>1,055,346</u>	<u>(4,312,950)</u>	<u>-</u>	<u>(14,487,489)</u>
Net Increase (Decrease) in Cash and Cash Equivalents	(2,289,212)	4,834,005	505,935	-	3,050,728
CASH AND CASH EQUIVALENTS - Beginning of Year	<u>59,922,087</u>	<u>4,066,321</u>	<u>4,736,979</u>	<u>-</u>	<u>68,725,387</u>
<b>CASH AND CASH EQUIVALENTS - END OF YEAR</b>	<u><b>\$ 57,632,875</b></u>	<u><b>\$ 8,900,326</b></u>	<u><b>\$ 5,242,914</b></u>	<u><b>\$ -</b></u>	<u><b>\$ 71,776,115</b></u>



# HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

## NOTES TO FINANCIAL STATEMENTS

As of and for the Years Ended December 31, 2018 and 2017

### NOTE 9 – BLENDED COMPONENT UNITS (cont.)

The following schedules provide details of the blended component units' balances, activities, and eliminations.

#### COMBINING SCHEDULE OF NET POSITION As of December 31, 2017

ASSETS	HGE	Holyoke	Mass Clean	Eliminations	Total
		Solar	Energy		
<b>Current Assets</b>					
Cash and investments	\$ 4,207,096	\$ 2,476,975	\$ 154,627	\$ -	\$ 6,838,698
Due from other funds	-	-	-	-	-
Restricted Assets					
Collateralized investments for margin account	7,196,000	1,081,541	-	-	8,277,541
Redemption account	-	-	2,654,222	-	2,654,222
Customer accounts receivable - net	7,084,120	151,549	-	-	7,235,669
Accounts receivable - City of Holyoke	15,090	-	-	-	15,090
Note receivable - current portion	-	1,755,616	-	-	1,755,616
Materials and supplies	2,865,142	-	-	-	2,865,142
Fuel for electric generation and gas in storage	495,331	-	-	-	495,331
Prepaid expense	2,378,827	-	44,016,176	(44,016,176)	2,378,827
Other receivables	1,573,918	19,104	-	-	1,593,022
Total Current Assets	<u>25,815,524</u>	<u>5,484,785</u>	<u>46,825,025</u>	<u>(44,016,176)</u>	<u>34,109,158</u>
<b>Noncurrent Assets</b>					
Restricted Assets					
Accounts required under bond indenture/note payable	257,867	4,738,444	4,493,143	-	9,489,454
Customers' deposits	1,562,522	-	-	-	1,562,522
Other receivables - after one year	-	8,367,755	-	-	8,367,755
Hi-Lite assistant loans	2,141,562	-	-	-	2,141,562
Advances to other funds	431,000	-	-	(431,000)	-
Other Assets					
Purchased power accounts	362,755	-	-	-	362,755
Rate stabilization accounts	49,983,776	-	-	-	49,983,776
Costs recoverable in future - pollution	170,724	-	-	-	170,724
Other investments	188,390	-	-	-	188,390
Accrued other post employment benefits	43,421	-	-	-	43,421
Intangible assets	929,999	-	-	-	929,999
Capital Assets					
Plant, property and equipment in service	246,677,307	-	-	-	246,677,307
Construction in progress	1,762,150	-	-	-	1,762,150
	<u>248,439,457</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>248,439,457</u>
Less: Accumulated depreciation	(94,493,014)	-	-	-	(94,493,014)
Total Capital Assets	<u>153,946,443</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>153,946,443</u>
Total Noncurrent Assets	<u>210,018,459</u>	<u>13,106,199</u>	<u>4,493,143</u>	<u>(431,000)</u>	<u>227,186,801</u>
Total Assets	<u>235,833,983</u>	<u>18,590,984</u>	<u>51,318,168</u>	<u>(44,447,176)</u>	<u>261,295,959</u>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>					
OPEB related amounts	-	-	-	-	-
Pension related amounts	13,651,645	-	-	-	13,651,645

# HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

## NOTES TO FINANCIAL STATEMENTS

As of and for the Years Ended December 31, 2018 and 2017

### NOTE 9 – BLENDED COMPONENT UNITS (cont.)

#### COMBINING SCHEDULE OF NET POSITION (cont.)

As of December 31, 2017

	HGE	Holyoke Solar	Mass Clean Energy	Eliminations	Total
<b>LIABILITIES</b>					
<b>Current Liabilities</b>					
Accounts payable	\$ 5,891,233	\$ 8,941	\$ -	\$ -	\$ 5,900,174
Customers' deposits	1,255,783	-	-	-	1,255,783
Accrued liabilities	1,044,253	-	-	-	1,044,253
Current portion - accrued compensated absences	191,782	-	-	-	191,782
Current portion - accrued environmental costs	165,000	-	-	-	165,000
Accrued charges - current	294,067	-	-	-	294,067
<b>Liabilities Payable from Restricted Assets</b>					
Margin credit account	7,196,000	1,081,541	-	-	8,277,541
Current portion - bonds and notes payable	1,784,255	473,038	2,135,000	-	4,392,293
Accrued interest	355,784	-	1,088,975	-	1,444,759
<b>Total Current Liabilities</b>	<b>18,178,157</b>	<b>1,563,520</b>	<b>3,223,975</b>	<b>-</b>	<b>22,965,652</b>
<b>Long-Term Liabilities</b>					
Bonds payable - long-term	23,606,667	-	42,780,000	-	66,386,667
Plus: Unamortized premium on bonds payable	2,066,100	-	5,937,560	-	8,003,660
	25,672,767	-	48,717,560	-	74,390,327
Notes payable - long-term	-	7,977,832	-	-	7,977,832
Leases payable - long term	83,545	-	-	-	83,545
Accrued compensated absences	2,992,039	-	-	-	2,992,039
Net OPEB liability	-	-	-	-	-
Unearned revenue	46,503,996	-	-	(44,016,176)	2,487,820
Advances from other funds	-	444,737	431,000	(431,000)	444,737
Net pension liability	30,715,656	-	-	-	30,715,656
<b>Total Long-Term Liabilities</b>	<b>105,968,003</b>	<b>8,422,569</b>	<b>49,148,560</b>	<b>(44,447,176)</b>	<b>119,091,956</b>
<b>Total Liabilities</b>	<b>124,146,160</b>	<b>9,986,089</b>	<b>52,372,535</b>	<b>(44,447,176)</b>	<b>142,057,608</b>
<b>DEFERRED INFLOWS OF RESOURCES</b>					
<b>Regulatory deferral</b>					
Pension related amounts	1,975,532	-	-	-	1,975,532
Rate stabilization reserve	41,269,849	-	-	-	41,269,849
<b>Total Deferred Inflows of Resources</b>	<b>43,245,381</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>43,245,381</b>
<b>NET POSITION</b>					
Net investment in plant, property and equipment	126,489,421	-	-	(50,852,560)	75,636,861
Restricted for debt service	(97,917)	4,265,406	3,923,390	-	8,090,879
Unrestricted (deficit)	(44,297,417)	4,339,489	(4,977,757)	50,852,560	5,916,875
<b>TOTAL NET POSITION (DEFICIT)</b>	<b>\$ 82,094,087</b>	<b>\$ 8,604,895</b>	<b>\$ (1,054,367)</b>	<b>\$ -</b>	<b>\$ 89,644,615</b>

**HOLYOKE GAS AND ELECTRIC**  
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NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

**NOTE 9 – BLENDED COMPONENT UNITS (cont.)**

COMBINING SCHEDULE OF REVENUES, EXPENSES AND CHANGES IN NET POSITION  
For the Year Ended December 31, 2017

	HGE	Holyoke Solar	Mass Clean Energy	Eliminations	Total
<b>OPERATING REVENUES</b>	\$ 66,721,756	\$ 279,461	\$ 4,307,247	\$ (4,586,708)	\$ 66,721,756
<b>OPERATING EXPENSES</b>					
Operation and maintenance	55,556,538	148,115	2,948,476	(4,586,708)	54,066,421
Depreciation - plant and equipment	7,015,687	-	-	-	7,015,687
Total Operating Expenses	<u>62,572,225</u>	<u>148,115</u>	<u>2,948,476</u>	<u>(4,586,708)</u>	<u>61,082,108</u>
<b>Operating Income</b>	<u>4,149,531</u>	<u>131,346</u>	<u>1,358,771</u>	<u>-</u>	<u>5,639,648</u>
<b>NONOPERATING OTHER REVENUES (EXPENSES)</b>					
Investment income - net of fees	2,690,416	684,777	71,229	-	3,446,422
Net gain (loss) on investments	3,990,320	207,086	43,531	-	4,240,937
Interest expense	(972,852)	(367,716)	(1,576,736)	-	(2,917,304)
Miscellaneous income (expense)	902,918	(1,672)	-	-	901,246
Amortization of intangible assets	(66,667)	-	-	-	(66,667)
Net gain (loss) - disposal of assets	(567,432)	-	-	-	(567,432)
Net gain - merchandise jobbing	136,967	-	-	-	136,967
Mt. Tom property assessment expense	(11,909)	-	-	-	(11,909)
Taxes - other	(79,768)	-	-	-	(79,768)
Total Other Revenues (Expenses)	<u>6,021,993</u>	<u>522,475</u>	<u>(1,461,976)</u>	<u>-</u>	<u>5,082,492</u>
Change in Net Position Before Transfers	10,171,524	653,821	(103,205)	-	10,722,140
<b>TRANSFERS</b>					
Payment in lieu of taxes - City of Holyoke	(1,080,530)	-	-	-	(1,080,530)
<b>Change in Net Position</b>	9,090,994	653,821	(103,205)	-	9,641,610
NET POSITION (Deficit) - Beginning of Year	<u>73,003,093</u>	<u>7,951,074</u>	<u>(951,162)</u>	<u>-</u>	<u>80,003,005</u>
<b>NET POSITION (Deficit) - END OF YEAR</b>	<u>\$ 82,094,087</u>	<u>\$ 8,604,895</u>	<u>\$ (1,054,367)</u>	<u>\$ -</u>	<u>\$ 89,644,615</u>

**HOLYOKE GAS AND ELECTRIC**  
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NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

**NOTE 9 – BLENDED COMPONENT UNITS (cont.)**

CONDENSED COMBINING SCHEDULE OF CASH FLOWS  
For the Year Ended December 31, 2017

NET CASH FLOWS FROM (USED IN)	HGE	Holyoke Solar	Mass Clean Energy	Eliminations	Total
Operating activities	\$ 6,857,639	\$ 118,331	\$ 3,919,842	\$ -	\$ 10,895,812
Investing activities	14,991,475	1,136,382	3,045,040	-	19,172,897
Noncapital financing activities	(1,080,530)	-	-	-	(1,080,530)
Capital and related financing activities	(12,500,505)	(823,099)	(4,315,150)	-	(17,638,754)
Net Increase (Decrease) in Cash and Cash Equivalents	<u>8,268,079</u>	<u>431,614</u>	<u>2,649,732</u>	-	<u>11,349,425</u>
CASH AND CASH EQUIVALENTS - Beginning of Year	<u>51,654,008</u>	<u>3,634,707</u>	<u>2,087,247</u>	-	<u>57,375,962</u>
<b>CASH AND CASH EQUIVALENTS - END OF YEAR</b>	<b><u>\$ 59,922,087</u></b>	<b><u>\$ 4,066,321</u></b>	<b><u>\$ 4,736,979</u></b>	<b><u>\$ -</u></b>	<b><u>\$ 68,725,387</u></b>

**NOTE 10 – RETIREMENT PLANS**

***GENERAL INFORMATION ABOUT THE PENSION PLAN***

Substantially all full-time employees participate in the Holyoke Contributory Retirement System, a cost sharing multiple employer defined benefit public employee retirement system. The system is partially funded by employee contributions. The plan provides pension benefits, deferred allowances and death and disability benefits. Retirement allowance is based on the following factors: age, length of creditable service, level of salary, and group classification. Age at retirement and group classification determine a benefit rate. Percentages are specified in Chapter 32 of the Massachusetts General Laws. Participants may elect to receive their retirement in one of three optional forms of payment.

Member employers are required by state statutes to make contributions to the plan. Contributions are determined by the Commonwealth of Massachusetts Division of Public Employee Retirement Administration (PERA).

Covered employees are required by state statute to contribute a fixed percentage of their earnings into the plan. The percentage varies from 5 to 9 percent depending upon date of hire. All employees hired after January 1, 1979 contribute an additional 2% on all gross regular earnings over \$30,000 per year.

Members hired on or after April 2, 2012 are covered by the provisions of Chapter 32 as amended by Chapter 176 of the Acts of 2011 and Chapter 139 of the Acts of 2012.

The plan issues a publicly available financial report that includes financial statements and required supplementary information. This report may be obtained by writing or calling the plan as follows: Attn: Cheryl Dugre, Executive Director, Holyoke Retirement Board, City Hall Annex - Room 207, Holyoke, Massachusetts 01040, 413 534 2179.

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

### NOTES TO FINANCIAL STATEMENTS

As of and for the Years Ended December 31, 2018 and 2017

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#### NOTE 10 – RETIREMENT PLANS (cont.)

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##### *PENSION LIABILITIES, PENSION EXPENSE, AND DEFERRED OUTFLOWS OF RESOURCES RELATED TO PENSIONS*

At December 31, 2018, the Department reported a liability of \$25,930,197, for its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2017 and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of January 1, 2018. No material changes in the assumptions or benefit terms occurred between the actual valuation date and the measurement date. The Department's proportion of the net pension liability was based on the Department's share of appropriations of the pension plan relative to the appropriations of all participating employers. At December 31, 2017 the Department's proportion was 21.866772% which was an increase of 0.800400% from its proportion measured as of January 1, 2017.

At December 31, 2017, the Department reported a liability of \$30,715,656, for its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2016 and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of January 1, 2016 and rolled forward to December 31, 2016. No material changes in the assumptions or benefit terms occurred between the actual valuation date and the measurement date. The Department's proportion of the net pension liability was based on the Department's share of appropriations of the pension plan relative to the appropriations of all participating employers. At December 31, 2016 the Department's proportion was 21.066372% which was an increase of 0.327139% from its proportion measured as of January 1, 2016.

For the year ended December 31, 2018 and 2017, the Department recognized pension expense of \$1,931,654 and \$1,219,856, respectively.

At December 31, 2018 and 2017, the utility reported deferred outflows of resources from the following sources:

	<u>2018</u>	<u>2017</u>
	Deferred Outflows of Resources	Deferred Outflows of Resources
Net differences between projected and actual earnings on pension plan	\$ 689,566	\$ 4,623,621
Changes of actuarial assumptions	4,743,071	3,307,958
Changes in proportion and differences between employer contributions and proportionate share of contributions	3,194,419	2,094,173
Employer contributions subsequent to the measurement date	<u>3,856,839</u>	<u>3,625,893</u>
Total	<u>\$ 12,483,895</u>	<u>\$ 13,651,645</u>

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
City of Holyoke, Massachusetts)

### NOTES TO FINANCIAL STATEMENTS

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#### **NOTE 10 – RETIREMENT PLANS (cont.)**

***PENSION LIABILITIES, PENSION EXPENSE, AND DEFERRED OUTFLOWS OF RESOURCES RELATED TO PENSIONS (cont.)***

At December 31, 2018 and 2017, the utility reported deferred inflows of resources from the following sources:

	2018	2017
	Deferred Inflows of Resources	Deferred Inflows of Resources
Differences between projected and actual experiences	\$ 3,651,853	\$ 1,965,280
Differences in proportion and differences between employer contributions and proportionate share of contributions	16,204	10,252
Total	\$ 3,668,057	\$ 1,975,532

Deferred outflows related to pension resulting from the Department's employer contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended December 31, 2018. \$3,856,839 is reported for the Department. Other amounts reported as deferred outflows of resources related to pension will be recognized in pension expense as follows:

	Deferred Outflows of Resources	Deferred Inflows of Resources
<u>Year Ended December 31</u>		
2019	\$ 2,890,579	\$ 904,005
2020	2,676,496	904,005
2021	1,619,090	804,892
2022	682,729	628,694
2023	758,161	426,459
Thereafter	1	2
Total	\$ 8,627,056	\$ 3,668,057

***Actuarial assumptions:*** The total pension liability was determined by an actuarial valuation as of January 1, 2018, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.25%
Salary Increases	4.00% - 4.50%
Investment Rate of Return	7.50%
Cost of Living Adjustments	3% of first \$12,000

## HOLYOKE GAS AND ELECTRIC

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### NOTES TO FINANCIAL STATEMENTS

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#### NOTE 10 – RETIREMENT PLANS (cont.)

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***PENSION LIABILITIES, PENSION EXPENSE, AND DEFERRED OUTFLOWS OF RESOURCES RELATED TO PENSIONS*** (cont.)

***Actuarial assumptions:*** (cont.)

Pre-retirement:	RP-2000 Employee Mortality Table projected generationally using Scale BB2D from 2009
Healthy Retiree:	RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year for females projected generationally using Scale MP-2017
Disabled Retiree:	RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year projected generationally using Scale MP-2017

Below are the actuarial assumptions from the January 1, 2016 actuarial valuation.

Inflation	3.50%
Salary Increases	4.25% - 4.75%
Investment Rate of Return	7.625%
Cost of Living Adjustments	3% of first \$12,000
Pre-retirement:	RP-2000 Employee Mortality Table projected generationally using Scale BB2D from 2009
Healthy Retiree:	RP-2000 Healthy Annuitant Mortality Table projected using Scale BB2D from 2009
Disabled Retiree:	RP-2000 Healthy Annuitant Mortality Table projected generationally using Scale BB2D from 2015

## HOLYOKE GAS AND ELECTRIC

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NOTES TO FINANCIAL STATEMENTS  
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### NOTE 10 – RETIREMENT PLANS (cont.)

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#### *PENSION LIABILITIES, PENSION EXPENSE, AND DEFERRED OUTFLOWS OF RESOURCES RELATED TO PENSIONS (cont.)*

*The long term expected rate of return on pension plan investments* was determined using a building-block method in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2018 and 2017 are summarized in the following table:

<u>Asset Class</u>	<u>2018 Long-Term Expected Real Rate of Return</u>	<u>2017 Long-Term Expected Real Rate of Return</u>
Domestic equity	6.15%	6.44%
International developed markets equity	7.11%	7.40%
International emerging markets equity	9.41%	9.42%
Core fixed income	1.68%	2.02%
High-yield fixed income	0.00%	4.43%
Real estate	4.90%	5.00%
Commodities	0.00%	4.43%
Hedge fund, GTAA, Risk parity	3.94%	3.75%
Private equity	10.28%	10.47%



## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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### NOTES TO FINANCIAL STATEMENTS

As of and for the Years Ended December 31, 2018 and 2017

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#### NOTE 10 – RETIREMENT PLANS (cont.)

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##### *PENSION LIABILITIES, PENSION EXPENSE, AND DEFERRED OUTFLOWS OF RESOURCES RELATED TO PENSIONS (cont.)*

*Discount Rate:* The discount rate used to measure the total pension liability in 2018 and 2017 was 7.50% and 7.625%, respectively. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and the City of Holyoke Retirement system contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate:* The following presents the net pension liability of the Department, calculated using the discount rate of 7.50% and 7.625%, as well as what the Department's net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate.

The sensitivity analysis as of December 31, 2018 follows:

	1% Decrease to Discount Rate (6.50%)	Current Discount Rate (7.50%)	1% Increase to Discount Rate (8.50%)
The Department's proportionate share of the net position liability	\$ 36,142,318	\$ 25,930,197	\$ 17,312,235

The sensitivity analysis as of December 31, 2017 follows:

	1% Decrease to Discount Rate (6.625%)	Current Discount Rate (7.625%)	1% Increase to Discount Rate (8.625%)
The Department's proportionate share of the net position liability	\$ 40,269,051	\$ 30,715,656	\$ 22,646,905

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#### NOTE 11 – OTHER POSTEMPLOYMENT BENEFITS – HOLYOKE GAS AND ELECTRIC

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The Department implemented GASB No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, effective January 1, 2018. The cumulative effect of the change in net position due to the change in accounting standard is shown as a change in beginning net position for 2018. See Note 17 for further details. The prior year balances for deferred outflows of resources, deferred inflows of resources, and the net OPEB liability were not restated due to the measurement date used for the calculation of the balances and the timing of the information received by the Plan.

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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NOTES TO FINANCIAL STATEMENTS  
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### NOTE 11 – OTHER POSTEMPLOYMENT BENEFITS – HOLYOKE GAS AND ELECTRIC (cont.)

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#### *GENERAL INFORMATION ABOUT THE OPEB PLAN*

**Plan Description:** The Department's policy is to provide certain healthcare and life insurance benefits to eligible retirees, their dependents, or their survivors through the City of Holyoke's single employer postemployment welfare benefit plan.

**Benefits Provided:** Medical and prescription drug benefits are provided to all eligible retirees through a variety of plans offered by Blue Cross Blue Shield of Massachusetts and Health New England. The Holyoke Gas and Electric Department also pays 50% of the retiree life insurance premium and 50% of the dental premium (non-Medicare retirees only).

**Employees covered by benefit terms** At December 31, 2018, the following employees were covered by the benefit terms:

Inactive plan members or beneficiaries currently receiving benefit payments	189
Active plan members	<u>142</u>
Total Members	<u><u>331</u></u>

**Contributions:** For the year ended December 31, 2018, the Department's average contribution rate was 14.17% of covered-employee payroll. Plan members are not required to contribute to the plan.

#### *NET OPEB LIABILITY*

The Department's net OPEB liability was measured as of December 31, 2018, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of that date.

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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### NOTES TO FINANCIAL STATEMENTS

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#### NOTE 11 – OTHER POSTEMPLOYMENT BENEFITS – HOLYOKE GAS AND ELECTRIC (cont.)

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##### **NET OPEB LIABILITY** (cont.)

**Actuarial assumptions:** The total OPEB liability in the actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Inflation	3.5%
Salary increases	Service-related increases for Group 1: 6.0% per year decreasing over 9 years to 4.25% per year Service-related increases for Group 4: 7.0% per year decreasing over 6 years to 4.75% per year
Investment rate of return	6.25%
Non-Medicare medical/prescription drug cost Healthcare cost trend rates	6.50% per year graded down by the Getzen model to an ultimate rate of 3.84% per year
Medicare medical/prescription drug cost Healthcare cost trend rates	6.50% per year graded down by the Getzen model to an ultimate rate of 3.84% per year
Dental/Administrative Healthcare cost trend rates	6.50% per year graded down by the Getzen model to an ultimate rate of 3.84% per year
Pre-retirement Mortality Rates	6.50% per year graded down by the Getzen model to an ultimate rate of 3.84% per year
Healthy Mortality Rates	PubG.H-2010 Mortality Table with MP-2018 Mortality Scale
Disabled Mortality Rates	PubG.H-2010 Mortality Table with MP-2018 Mortality Scale
Asset Valuation Method	Market Value

The long term expected rate of return on pension plan investments was determined using a building-block method in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2018 are summarized in the following table:

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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### NOTES TO FINANCIAL STATEMENTS

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#### **NOTE 11 – OTHER POSTEMPLOYMENT BENEFITS – HOLYOKE GAS AND ELECTRIC (cont.)**

##### **NET OPEB LIABILITY (cont.)**

Asset Class	2018 Long-Term Expected Real Rate of Return
Closed-End Funds	6.25%

**Discount rate:** The discount rate is a blend of the long-term expected rate of return on OPEB Trust assets and a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rate of AA/Aa or higher as shown in the Bond Buyer 20-Bond General Obligation Index (4.10% as of December 31, 2018). The blending is based on the sufficiency of projected assets to make projected benefit payments.

##### **CHANGES IN NET OPEB LIABILITY**

	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) – (b)
Balances at 12/31/2017	\$ 16,554,872	\$ 8,828,729	\$ 7,726,143
Changes for the Year			
Service cost	594,872	-	594,872
Interest	1,008,278	-	1,008,278
Differences between expected and actual experience	289,069	-	289,069
Changes in assumptions	463,399	-	463,399
Contributions – employer	-	1,774,584	(1,774,584)
Contributions – employee	384,133	384,133	-
Net investment income	-	(562,048)	562,048
Benefit payments	(958,717)	(958,717)	-
Administrative expense	-	(31,647)	31,647
Net changes	1,781,034	606,305	1,174,729
Balances at 12/31/2018	\$ 18,335,906	\$ 9,435,034	\$ 8,900,872

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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NOTES TO FINANCIAL STATEMENTS  
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### NOTE 11 – OTHER POSTEMPLOYMENT BENEFITS – HOLYOKE GAS AND ELECTRIC (cont.)

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**Sensitivity of the net OPEB liability to changes in the discount rate:** The following presents the net OPEB liability of the Department, as well as what the Department's net OPEB liability would be if it were calculated using a discount rate that is 1-percentage point lower (5.25%) or 1-percentage-point higher (7.25%) than the current discount rate:

The sensitivity analysis as of December 31, 2018 follows:

	1% Decrease (5.25%)	Discount Rate (6.25%)	1% Increase (7.25%)
Net OPEB liability	\$ 11,486,781	\$ 8,900,872	\$ 6,794,680

**Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates:** The following presents the net OPEB liability of the Department, as well as what the Department's net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rates:

The sensitivity analysis as of December 31, 2018 follows:

	1% Decrease	Healthcare Cost Trend Rates	1% Increase
Net OPEB liability	\$ 5,255,511	\$ 8,900,872	\$ 13,483,570

### **OPEB EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES RELATED TO OPEB**

For the year ended December 31, 2018, the Department recognized OPEB expense of \$1,422,233. At December 31, 2018, the Department reported deferred outflows of resources related to OPEB from the following sources.

	Deferred Outflows of Resources
Net differences between projected and actual earnings on pension plan	\$ 244,328
Changes of actuarial assumptions	391,677
Net differences between projected and actual investment earnings on pension plan investment	<u>891,075</u>
Total	<u>\$ 1,527,080</u>

## HOLYOKE GAS AND ELECTRIC

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NOTES TO FINANCIAL STATEMENTS  
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### NOTE 11 – OTHER POSTEMPLOYMENT BENEFITS – HOLYOKE GAS AND ELECTRIC (cont.)

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#### *OPEB EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES RELATED TO OPEB* (cont.)

Deferred outflows of resources related to OPEB will be recognized in OPEB expense as follows:

Year Ended December 31:

2019	\$	339,232
2020		339,232
2021		339,232
2022		339,231
2023		116,463
Thereafter		<u>53,690</u>
Total	\$	<u>1,527,080</u>

#### *OTHER POSTEMPLOYMENT BENEFIT DISCLOSURES REQUIRED UNDER GASB No. 45*

GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, requires that other postemployment benefits (OPEB), primarily healthcare, be accounted for on an accrual basis rather than on a pay-as-you-go basis. The effect is the recognition of an actuarially required contribution as an expense on the consolidated statement of revenues, expenses and change in net position when a future retiree earns their postemployment benefits, rather than when they use their postemployment benefit. To the extent that an entity does not fund their actuarially required contribution, a postemployment benefit liability is recognized on the statement of net position over time.

#### *FUNDING POLICY*

The Department is not required to provide funding for OPEB, other than the pay-as-you go amount necessary to provide current benefits to retirees and eligible beneficiaries/dependents. The cost of providing these benefits was \$824,241 for 182 retirees in 2017. In 2017, the Department contributed assets into a separate legal trust, Holyoke Gas and Electric OPEB Trust, for the payment of future OPEB obligations. Contributions were \$1,200,000 in 2017.

#### *ANNUAL OPEB COST AND NET OPEB OBLIGATION*

The Department's annual OPEB cost (expense) is calculated based on the annual required contribution (ARC) of the employer, an amount that was actuarially determined in accordance with the parameters of GASB Statement No. 45. The projected unit credit method was used in the actuarial valuations prepared as of December 31, 2015, which is the basis for the 2017 ARC calculation.

**HOLYOKE GAS AND ELECTRIC**

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NOTES TO FINANCIAL STATEMENTS  
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**NOTE 11 – OTHER POSTEMPLOYMENT BENEFITS – HOLYOKE GAS AND ELECTRIC (cont.)**

**ANNUAL OPEB COST AND NET OPEB OBLIGATION (cont.)**

The following table shows the elements of the Department's annual OPEB cost, the amounts actually contributed, and changes in the Department's net OPEB obligation as of December 31, 2017:

	<u>2017</u>
Annual required contribution	\$ 1,978,662
Interest on net OPEB obligation	(214)
Adjustment to annual required contribution	<u>627</u>
Annual OPEB cost	1,979,075
Contributions made	<u>(2,019,073)</u>
Change in Net OPEB Obligation	(39,998)
Net OPEB Obligation (Asset) – Beginning	<u>(3,423)</u>
Net OPEB Obligation (Asset) – Ending	<u>\$ (43,421)</u>

The Department's annual OPEB cost, the percentage of annual OPEB cost contributed, and the net OPEB obligation for year ended December 31, 2017 and the two preceding years were:

<u>Period Ended</u>	<u>Annual OPEB Cost</u>	<u>Percentage of Annual OPEB Costs Contributed</u>	<u>Net OPEB Obligation (Asset)</u>
December 31, 2017	\$1,979,075	102.0%	\$(43,421)
December 31, 2016	1,886,633	102.9%	(3,423)
December 31, 2015	1,634,479	114.2%	50,722

**FUNDED STATUS AND FUNDING PROGRESS**

The most recent actuarial valuation date was December 31, 2015. The funded status of the plan as of December 31, 2015 was as follows:

Actuarial accrued liability (AAL)	\$ 14,805,656
Actuarial value of plan assets	<u>5,350,291</u>
Unfunded Actuarial Accrued Liability (UAAL)	<u>\$ 9,455,365</u>
Funded ratio (actuarial value of plan assets/AAL)	36.1%
Covered payroll (active plan members)	N/A
UAAL as a percentage of covered payroll	N/A

## HOLYOKE GAS AND ELECTRIC

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### NOTES TO FINANCIAL STATEMENTS

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#### **NOTE 11 – OTHER POSTEMPLOYMENT BENEFITS - HOLYOKE GAS AND ELECTRIC (cont.)**

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##### ***ACTUARIAL METHODS AND ASSUMPTIONS***

Actuarial valuations of an ongoing plan involve estimates for the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, presents multiyear trend information that shows whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing benefit costs between the employer and plan members to that point. The methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

In the June 30, 2015, actuarial valuation, the projected unit credit actuarial cost method was used. The actuarial assumptions include a 6.25% investment rate of return and an annual healthcare cost trend rate of 10.0% for nonmedicare plans and 5.5% for Medicare plans initially, and then 7.5% reduced by decrements of 0.5% for five years to an ultimate rate of 5.0%. Both rates include a 3.5% inflation assumption. The actuarial value of Retiree Health Plan assets was determined using techniques that spread the effects of short-term volatility in the market value of investments over a three-year period. The plans' unfunded actuarial accrued liability is being amortized as a level percentage of projected payroll on a closed basis. The amortization period at December 31, 2017 was 6 years.

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#### **NOTE 12 – OTHER POSTEMPLOYMENT BENEFITS ADMINISTERED THROUGH A TRUST – FIDUCIARY FUND**

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##### ***PLAN DESCRIPTION***

As part of the Department's Fiduciary Funds, the Department's policy is to provide certain healthcare and life insurance benefits to eligible retirees, their dependents, or their survivors through the City of Holyoke's single employer postemployment welfare benefit plan. The Department created a trust in 2014 to administer these benefits. The trust accounts for the portions of the active members retirees' premiums paid by the Department for health insurance, dental coverage, and life insurance.



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NOTES TO FINANCIAL STATEMENTS  
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### NOTE 12 – OTHER POSTEMPLOYMENT BENEFITS ADMINISTERED THROUGH A TRUST – FIDUCIARY FUND

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#### *PLAN DESCRIPTION* (cont.)

**Plan membership:** At December 31, 2018 and 2017, the Holyoke Gas and Electric Department plan membership consisted of the following:

	<u>2018</u>	<u>2017</u>
Inactive plan members or beneficiaries currently receiving benefit payments	189	181
Active plan members	<u>142</u>	<u>106</u>
Total Members	<u><u>331</u></u>	<u><u>287</u></u>

**Benefits provided:** Medical and prescription drug benefits are provided to all eligible retirees through a variety of plans offered by Blue Cross Blue Shield of Massachusetts and Health New England. The Holyoke Gas and Electric Department also pays 50% of the retiree life insurance premium and 50% of the dental premium (non-Medicare retirees only).

**Contributions:** For the years ended December 31, 2018 and 2017, the Department's average contribution rate was 14.17% and 16.61% of covered-employee payroll, respectively. Plan members are not required to contribute to the plan.

#### *INVESTMENTS*

**Investment policy:** It is the policy of the Department to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. Investments are limited to investing in assets as a prudent investor would, by considering purposes, terms, distribution requirements, and other circumstances of the trust. The following were the Department's investment allocations as of December 31, 2018 and 2017:

<u>Asset Class</u>	<u>2018 Allocation</u>	<u>2017 Allocation</u>
Mutual funds, ETFs and closed-end funds	87.27%	86.30%
Cash and cash equivalents	<u>12.73</u>	<u>13.70</u>
Total	<u><u>100%</u></u>	<u><u>100%</u></u>

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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### NOTES TO FINANCIAL STATEMENTS

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#### **NOTE 12 – OTHER POSTEMPLOYMENT BENEFITS ADMINISTERED THROUGH A TRUST – FIDUCIARY FUND (cont.)**

##### ***NET OPEB LIABILITY OF THE DEPARTMENT***

The components of the net OPEB liability of the Department at December 31, 2018 and 2017, were as follows:

	2018	2017
Total OPEB liability	\$ 18,335,906	\$ 16,554,872
Plan fiduciary net position	9,435,034	8,828,728
Department's Net OPEB Liability	\$ 8,900,872	\$ 7,726,144
Plan fiduciary net position as a percentage of the total OPEB liability	51.46%	53.33%

**Actuarial assumptions:** The total OPEB liability in 2018 was determined by an actuarial valuation as of December 31, 2018, while the total OPEB liability in 2017 was determined by an actuarial valuation as of June 30, 2015, using the following actuarial assumptions as specified by year

##### **For study as of December 31, 2018:**

Inflation	3.5%
Salary increases	Service-related increases for Group 1: 6.0% per year decreasing over 9 years to 4.25% per year Service-related increases for Group 4: 7.0% per year decreasing over 6 years to 4.75% per year
Investment rate of return	6.25%
Non-Medicare medical/prescription drug cost Healthcare cost trend rates	6.50% per year graded down by the Getzen model to an ultimate rate of 3.84% per year
Medicare medical/prescription drug cost Healthcare cost trend rates	6.50% per year graded down by the Getzen model to an ultimate rate of 3.84% per year
Dental/Administrative Healthcare cost trend rates	6.50% per year graded down by the Getzen model to an ultimate rate of 3.84% per year
Pre-retirement Mortality Rates	6.50% per year graded down by the Getzen model to an ultimate rate of 3.84% per year
Healthy Mortality Rates	PubG.H-2010 Mortality Table with MP-2018 Mortality Scale
Disabled Mortality Rates	PubG.H-2010 Mortality Table with MP-2018 Mortality Scale
Asset Valuation Method	Market Value

**HOLYOKE GAS AND ELECTRIC**  
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**NOTE 12 – OTHER POSTEMPLOYMENT BENEFITS ADMINISTERED THROUGH A TRUST – FIDUCIARY FUND (cont.)**

***NET OPEB LIABILITY OF THE DEPARTMENT (cont.)***

**For study as of June 30, 2015**

Inflation	3.5%	
		Service-related increases for Group 1: 6.0% per year decreasing over 9 years to 4.25% per year
		Service-related increases for Group 4: 7.0% per year decreasing over 6 years to 4.75% per year
Salary increases		
Investment rate of return	6.25%	
Non-Medicare medical/prescription drug cost Healthcare cost trend rates		10.0%, then 7.5%, decreasing 0.5% per year for 5 years to an ultimate level of 5.0% per year
Medicare medical/prescription drug cost Healthcare cost trend rates		5.5%, then 7.5%, decreasing 0.5% per year for 5 years to an ultimate level of 5.0% per year
Dental/Administrative Healthcare cost trend rates	5.0%	
Pre-retirement Mortality Rates		RP-2000 Employee Mortality Table projected generationally with Scale BB2D from 2009
Healthy Mortality Rates		RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB2D from 2009
Disabled Mortality Rates		RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB2D from 2015
Asset Valuation Method		Market Value

GASB Statement No. 74 requires that the total OPEB liability should be determined by an actuarial valuation as of the Plan's most recent fiscal year end, or updated procedures should be performed to roll forward an actuarial valuation of the Plan as of a date no more than 24 months earlier than the Plan's fiscal year-end. The June 30, 2015 actuarial valuation is as of a date more than 24 months before the Plan's fiscal year end. The Department has determined that the difference between the June 30, 2015 and December 31, 2015 valuation is not material.

## HOLYOKE GAS AND ELECTRIC

(Enterprise and Fiduciary Funds of the  
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#### **NOTE 12 – OTHER POSTEMPLOYMENT BENEFITS ADMINISTERED THROUGH A TRUST – FIDUCIARY FUND (cont.)**

##### **NET OPEB LIABILITY OF THE DEPARTMENT (cont.)**

The long term expected rate of return on pension plan investments was determined using a building-block method in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2018 and 2017 are summarized in the following table:

Asset Class	2018 Long-Term Expected Real Rate of Return	2017 Long-Term Expected Real Rate of Return
Closed-End Funds	6.25%	6.25%

**Discount rate:** The discount rate is a blend of the long-term expected rate of return on OPEB Trust assets and a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rate of AA/Aa or higher as shown in the Bond Buyer 20-Bond General Obligation Index (4.10% as of December 31, 2018 and 3.44% as of December 31, 2017). The blending is based on the sufficiency of projected assets to make projected benefit payments.

**Sensitivity of the net OPEB liability to changes in the discount rate:** The following presents the net OPEB liability of the Department, as well as what the Department's net OPEB liability would be if it were calculated using a discount rate that is 1-percentage point lower (5.25%) or 1-percentage-point higher (7.25%) than the current discount rate:

The sensitivity analysis as of December 31, 2018 follows:

	1% Decrease (5.25%)	Discount Rate (6.25%)	1% Increase (7.25%)
Net OPEB liability	\$ 11,486,781	\$ 8,900,872	\$ 6,794,680

The sensitivity analysis as of December 31, 2017 follows:

	1% Decrease (5.25%)	Discount Rate (6.25%)	1% Increase (7.25%)
Net OPEB liability	\$ 9,807,922	\$ 7,726,144	\$ 6,005,289

## HOLYOKE GAS AND ELECTRIC

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#### **NOTE 12 – OTHER POSTEMPLOYMENT BENEFITS ADMINISTERED THROUGH A TRUST – FIDUCIARY FUND (cont.)**

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##### ***NET OPEB LIABILITY OF THE DEPARTMENT (cont.)***

***Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates:*** The following presents the net OPEB liability of the Department, as well as what the Department's net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rates:

The sensitivity analysis as of December 31, 2018 follows:

	<u>1% Decrease</u>	<u>Healthcare Cost Trend Rates</u>	<u>1% Increase</u>
Net OPEB liability	\$ 5,255,511	\$ 8,900,872	\$ 13,483,570

The sensitivity analysis as of December 31, 2017 follows:

	<u>1% Decrease</u>	<u>Healthcare Cost Trend Rates</u>	<u>1% Increase</u>
Net OPEB liability	\$ 5,665,817	\$ 7,726,144	\$ 10,275,336

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#### **NOTE 13 – RELATED PARTY TRANSACTIONS**

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The Massachusetts Clean Energy Cooperative (Clean Energy Coop) signed a power sales contract in April 2013 with its member Massachusetts Wholesale Electric Company (MMWEC). Through this contract, MMWEC will purchase the net electrical capacity of the Hadley Falls Facility from the Clean Energy Coop at a monthly charge as defined in the contract. There were no sales to MMWEC during 2018 and 2017.

There is also an agency contract between the Clean Energy Coop and MMWEC, whereby MMWEC will act as agent for the Clean Energy Coop in the performance of its administrative obligations.

The Department transacted business with Tighe & Bond for engineering services in the amount of \$22,335 in 2018 and \$24,498 in 2017. One of the Department's commissioners has a financial interest in this company, requiring disclosure.

# HOLYOKE GAS AND ELECTRIC

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### NOTE 14 – COMMITMENTS AND CONTINGENCES

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#### *PURCHASED POWER CONTRACTS*

*Short-term power* – On a continuing basis, the Department enters into several short-term power supply contracts for either the purchase or sale of capacity, energy, renewable certificates, or ancillary services with various suppliers. This includes bilateral purchases to meet Department’s shortfall position during the summer months of 2019 through 2021, where commitments were made by end of 2018 in the amount of \$327,024 for 2019 and \$376,008 for the two-year period from 2020-2021.

*Massachusetts Renewable Energy Certificates (RECs)* – On a continuing basis, the Department enters into REC contracts for the sale of Massachusetts Class I, Massachusetts Class II and Maine Existing RECs from its hydro units. These commitments were made by the end of 2018. The summary of the resulting revenues to the Department by year and based on the total certificates sold is shown in the table below:

Contract Date	2019		2020		2021	
	Revenues	Total Certificates	Revenues	Total Certificates	Revenues	Total Certificates
2017	\$ 352,508	15,347	\$ 123,600	6,000	\$ -	-
2018	642,850	28,000	66,000	10,000	423,750	15,000

*Canal hydro power* – In November 2013, the Department entered into an agreement to provide electricity to the Open Square facility and purchase any excess electricity from the operation of the Open Square D and G wheels at a monthly charge as defined in the agreement. The Department does not have any liability associated with these energy purchases as any excess energy beyond contract water rights is at Department discretion under terms with the customer are currently on a month to month basis with a new multi-year agreement planned between parties before year end of 2019.

*Solar power* – In December 2010, the Department, through its subsidiary Holyoke Solar Cooperative, signed a 20-year solar Power Purchase Agreement (PPA) with Holyoke Solar, LLC. The Department has agreed to purchase the electricity produced by two grid-connected solar power facilities which will vary between \$265,000 and \$425,000 annually. After the initial term, this agreement can be renewed for two consecutive five-year terms. In conjunction with this PPA, the Department is leasing, to Holyoke Solar, LLC, the property on which the solar power facility is located at \$100 per usable acre per year for the first 20 years. After the initial term under the PPA, the rate shall be \$3,000 per usable acre per year subject to a 2.5% annual escalation.

In June 2011, the Department signed a 20-year solar Power Sales Agreement with Rivermoor-Citizens Holyoke, LLC. The Department agreed to purchase the electricity produced by the photovoltaic solar electric generation system for an annual payment of between \$48,000 - \$72,000 beginning in February 2013. After the initial term, this agreement shall automatically renew for successive one-year terms, up to a maximum of ten such renewal terms, unless terminated by either party.

In December 2014, the Department signed a 25-year solar Power Sales Agreement with Healthy Planet Partners, LLC. The annual energy payment will vary between \$54,200 and \$61,200 over a twenty-five (25) year contract term beginning October 2015.

## HOLYOKE GAS AND ELECTRIC

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### NOTES TO FINANCIAL STATEMENTS As of and for the Years Ended December 31, 2018 and 2017

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#### NOTE 14 – COMMITMENTS AND CONTINGENCES (cont.)

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##### *PURCHASED POWER CONTRACTS* (cont.)

The Department contracted for several 20-year solar PPA's during 2015 and 2016 with various solar developers and executed interconnection only agreements with a few others. Two C2 Special Solutions Group solar projects had COD of December 2016 under twenty (20) year PPA's signed in October 2015 – with annual total energy payments that will vary between \$101,000 and \$104,000. The Department contracted for several 20-year solar PPA's with various solar developers. Below is a summary for each solar project, which became commercial in 2017 or 2018.

<u>Date of PPA</u>	<u>System Name</u>	<u>Annual Energy Payment</u>	<u>Commercial Operation Date</u>
July 2016	Mt. Tom Solar	\$303,460 to \$335,460 over term	2-3-17
October 2016	AEGIS	\$48,366 to \$53,466 over term	1-4-17
October 2016	Gary Rome	\$37,943 to \$41,944 over term	1-6-17
December 2016	Conklin	\$47,745 to \$49,689 over term	2-24-17
January 2017	Riverside Roof	\$7,686 to \$10,012 over term	5-8-17
June 2017	Walnut Roof	\$7,686 to \$9,616 over term	11-22-17
June 2017	Hadley Mills	\$22,915 to \$28,902 over term	12-29-17
September 2017	Jackson Street	\$7,987 to \$8,786 over term	3-15-18
November 2017	Boys & Girls Club	\$11,531 to \$12,683 over term	4-20-18
October 2015 & reassigned December 2017	Kelly Way 2	\$50,547 to \$51,792 over term	6-4-18
March 2018	YMCA	\$12,907 to \$13,940 over term	12-21-18

*Long-Term Power Transactions* – In December 2011, the Department signed a ten-year contract with Nextera Energy Power Marketing to purchase on-peak physical energy each year at an estimated cost of \$2,400,000. For the three (3) years remaining to the contract, the total future commitment is \$7,237,632. In August 2018, the Department extended this contract for another eight years at an estimated cost of \$16,211,846.

In September 2015, the Department executed a four (4) year contract starting October 1, 2015 with Nextera Energy Power Marketing for around-the-clock energy. The total future commitment for the 9 months remaining to the contract is \$744,685. At the same time, the Department executed a four (4) year contract with the Massachusetts Green High Performance Computing Center, Inc. locking in the Energy Only piece of the rate to cover this transaction.

## HOLYOKE GAS AND ELECTRIC

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### NOTES TO FINANCIAL STATEMENTS

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#### **NOTE 14 – COMMITMENTS AND CONTINGENCES (cont.)**

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##### ***PURCHASED POWER CONTRACTS (cont.)***

In September 2018, the Department executed a thirty-seven (37) month contract starting October 1, 2019 and ending October 31, 2022 with Nextera Energy Power Marketing for around-the-clock energy. The annual energy payment will be around \$1,427,927 and for the 37 months remaining to the contract, the total future comment is \$4,396,923. At the same time, the Department executed a 37-month First Amendment to the above contract with the Massachusetts Green High Performance Computing Center, Inc. locking in the Energy Only piece of the rate and extending the term to cover this transaction.

In December 2013, the Department signed a twenty-five (25) year PPA for energy and capacity out of the Hancock Wind Project, located in Hancock County, Maine. The annual energy payment will be about \$813,200 for this project that had an estimated commercial operation date of December 2016.

In October 2015, the Department contracted with MMWEC to participate at in a new MMWEC owned simple cycle 55 MW peaking unit located in Peabody, MA through the Predevelopment phase. All requirements have been completed in order to participate in the ISO-NE 2021/22 Forward Capacity Auction (FCA) which was held on February 5, 2018. The Department contracted with MMWEC in 2017 prior to the FCA to participate in this project for up to the life of unit with expected COD beginning June 2021. HG&E's estimated portion of construction costs is approximately \$9,100,000. As the project is MMWEC owned, the Department will not carry project debt on its books. The annual total costs will vary between \$355,784 and \$380,237 over the thirty (30) estimated year life of unit.

In December 2015, the Department contracted with Scuderi Clean Energy, LLC under a twenty (20) year PPA for output from a natural gas generating facility. Expected Commercial Operation is unknown at this time. The Department mitigated market and development risk by ensuring interconnection costs are born by other party and that rates under PPA are discounted to full wholesale energy and resulting load reduction cost savings (where and if applicable).

In September 2017, the Department contracted with Mt. Tom Solar, LLC under a twenty (20) year PPA for a lithium-ion battery-based energy storage system (ESS) located at the Mt Tom Solar facility. Testing and limited operation was completed in 2018 and the expected Commercial Operation date will be in 2019 after city permitting is accomplished. Annual fixed capacity payments will be offset by negotiated liquid damages to be paid by Mt. Tom Solar, LLC if the ESS is not operational during monthly transmission or annual capacity events.

*Long-Term Capacity Transaction* – In January 2016, the Department contracted with PSEG through MMWEC under a five (5) year Capacity Load Obligation Transfer contract. This capacity hedge begins June 1, 2019 and ends May 31, 2024 and protects against rising capacity costs in ISO-NE's Rest of System capacity zone in which the Department is located. The annual capacity payment will be \$1,395,000 per year.



## HOLYOKE GAS AND ELECTRIC

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NOTES TO FINANCIAL STATEMENTS  
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### NOTE 14 – COMMITMENTS AND CONTINGENCES (cont.)

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#### *MASSACHUSETTS MUNICIPAL WHOLESALE ELECTRIC COMPANY*

The Department is a Participant in certain Projects of the Massachusetts Municipal Wholesale Electric Company (MMWEC), a public corporation and a political subdivision of the Commonwealth of Massachusetts, created as a means to develop a bulk power supply for its Members and other utilities. MMWEC is authorized to construct, own or purchase ownership interests in, and to issue revenue bonds to finance, electric facilities (Projects). MMWEC has acquired ownership interests in electric facilities operated by other entities and also owns and operates its own electric facilities. MMWEC sells all of the capability (Project Capability) of each of its Projects to its Members and other utilities (Project Participants) under Power Sales Agreements (PSAs). Among other things, the PSAs require each Project Participant to pay its pro rata share of MMWEC's costs related to the Project, which include debt service on the revenue bonds issued by MMWEC to finance the Project, plus 10% of MMWEC's debt service to be paid into a Reserve and Contingency Fund. In addition, should a Project Participant fail to make any payment when due, other Project Participants of that Project may be required to increase (step-up) their payments and correspondingly their Participant's share of that Project's Project Capability to an additional amount not to exceed 25% of their original Participant's share of that Project's Project Capability. Project Participants have covenanted to fix, revise and collect rates at least sufficient to meet their obligations under the PSAs.

MMWEC has issued separate issues of revenue bonds for each of its eight Projects, which are payable solely from, and secured solely by, the revenues derived from the Project to which the bonds relate, plus available funds pledged under MMWEC's Amended and Restated General Bond Resolution (GBR) with respect to the bonds of that Project. The MMWEC revenues derived from each Project are used solely to provide for the payment of the bonds of any bond issue relating to such Project and to pay MMWEC's cost of owning and operating such Project and are not used to provide for the payment of the bonds of any bond issue relating to any other Project.

MMWEC operates the Stony Brook Intermediate Project and the Stony Brook Peaking Project, both fossil-fueled power plants. MMWEC has a 3.7% interest in the W.F. Wyman Unit No. 4 plant, which is operated and owned by its majority owner, FPL Energy Wyman IV, LLC, a subsidiary of NextEra Energy Resources LLC, and a 4.8% ownership interest in the Millstone Unit 3 nuclear unit, operated by Dominion Nuclear Connecticut, Inc. (DNCl), the majority owner and an indirect subsidiary of Dominion Resources, Inc. The operating license for the Millstone Unit 3 nuclear unit extends to November 25, 2045.

A substantial portion of MMWEC's plant investment and financing program is an 11.6% ownership interest in the Seabrook Station nuclear generating unit operated by NextEra Energy Seabrook, LLC (NextEra Seabrook) the majority owner and an indirect subsidiary of NextEra Energy Resources LLC. The operating license for Seabrook Station extends to March 15, 2050.

Pursuant to the PSAs, the MMWEC Seabrook and Millstone Project Participants are liable for their proportionate share of the costs associated with decommissioning the plants, which costs are being funded through monthly Project billings. Also, the Project Participants are liable for their proportionate share of the uninsured costs of a nuclear incident that might be imposed under the Price-Anderson Act (Act). Originally enacted in 1957, the Act has been renewed several times. In July 2005, as part of the Energy Policy Act of 2005, Congress extended the Act until the end of 2025.

## HOLYOKE GAS AND ELECTRIC

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NOTES TO FINANCIAL STATEMENTS  
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### **NOTE 14 – COMMITMENTS AND CONTINGENCES (cont.)**

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#### ***MASSACHUSETTS MUNICIPAL WHOLESALE ELECTRIC COMPANY (cont.)***

The Department has entered into PSAs and Power Purchase Agreements (PPAs) with MMWEC. Under both the PSAs and PPAs, the Department is required to make certain payments to MMWEC payable solely from Department revenues. Under the PSAs, each Participant is unconditionally obligated to make all payments due to MMWEC, whether or not the Project(s) is completed or operating, and notwithstanding the suspension or interruption of the output of the Project(s).

MMWEC is involved in various legal actions. In the opinion of MMWEC management, the outcome of such actions will not have a material adverse effect on the financial position of the company.

As of December 31, 2018, total capital expenditures for MMWEC's Projects amounted to \$1,652,338,000 of which \$47,767,000 represents the amount associated with the Department's Project Capability. MMWEC's debt outstanding for the Projects from Power Supply Project Revenue Bonds totals \$7,110,000, of which no monies are associated with the Department's share of Project Capability. As of December 31, 2018, MMWEC's total future debt service requirement on outstanding bonds issued for the Projects is \$7,419,000, of which no monies are anticipated to be billed to the Department in the future.

In addition, under the PSAs, the Department is required to pay its share of the operation and maintenance (O&M) costs of the Projects in which they participate. The Department's total O&M costs including debt service under the PSAs were \$2,718,000 and \$2,975,000 for the years ended December 31, 2018 and 2017, respectively.

#### ***TELECOMMUNICATIONS CONTRACTS***

The Department has entered into long-term contracts for dedicated point to-point data lines and Internet Access services from several companies. These contracts have three-year terms.

In 2018 the Department entered into a five-year contract with Cross Roads a division of Chicopee Electric Light and a one-year contract with Fiber Sonic a division of South Hadley Electric Light.

In 2017, the Department entered into a five-year contract with Fiber Connect, LLC to provide network operator services.

In 2002, the Department entered into a lease with Fiber Technologies Networks, LLC (Fibertech) for use of the Department's fiber optic lines. The lease provides for an annual payment per route mile for 20 years with an option to renew for an additional five years.

The Department has long-term contracts which range from one to five years with customers for telecommunications services.

## **HOLYOKE GAS AND ELECTRIC**

(Enterprise and Fiduciary Funds of the  
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### **NOTES TO FINANCIAL STATEMENTS**

As of and for the Years Ended December 31, 2018 and 2017

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#### **NOTE 14 – COMMITMENTS AND CONTINGENCES (cont.)**

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##### ***ENVIRONMENTAL PROTECTION AND OTHER ISSUES***

In 1990, the Massachusetts Department of Environmental Protection (MDEP) sent a notice of responsibility to the Department and other parties regarding the presence of coal tar on property known as the gas works, adjacent to the Connecticut River. An investigation of the site has revealed concentrations of contaminants on the site and MDEP classified the area as a priority site. A second notice of responsibility was issued in September 1993 for gas tar deposits in the Connecticut River, effectively separating the gas works into a land site and a river site.

Effective February 2003, the Department increased the gas rates in order to collect additional dollars for clean-up of the gas works site and is accruing amounts, based on management's best estimate of the probable and reasonably estimable costs related to this clean-up. The current estimate for the remaining clean-up of only the land site is approximately \$120,000. No estimate is currently available for the river site. However, the cost of clean-up may be significant and material to the financial statements. The measurement of the accrual for remediation costs is subject to uncertainty, including the evolving nature of environmental regulations and the difficulty in estimating the extent and type of remediation activity that will be utilized. The utility is also in negotiations with another counterparty under a similar order to fund part of the clean-up efforts. A final agreement as to the cost-sharing methodology between the parties has not been reached. The impact of these negotiations may be material to the financial statements but cannot be estimated.

##### ***SOURCES OF LABOR SUPPLY***

Fifty-six percent of the Department's labor force is covered under a collective bargaining agreement between the City of Holyoke Gas and Electric Department and the Holyoke Municipal Gas, Light & Power Guild, Inc. The agreement expired March 31, 2021.

##### ***LINE OF CREDIT – MARGIN ACCOUNT***

As of December 31, 2018 and 2017, the Department received funds of \$2,771,987 and \$8,277,541, respectively, on a line of credit from LPL Financial Investment Advisors. The current interest rate on the line of credit is 3.25%. The interest rate is calculated as a 4.5% discount of LPL base lending rate. The current LPL interest rate on balances over \$1,000,000 is 7.75%. The Department receives a 4.5% discount and is therefore paying 3.25%. The interest rate is subject to change at any time and is based on commercially recognized interest rates, industry conditions relating to the extension of credit and general market conditions. The Department intends to utilize interest and dividend income earned in 2019 to pay down the line of credit. LPL has been authorized to automatically utilize dividend and interest income to pay down the line of credit.

##### ***CLAIMS AND JUDGMENTS***

From time to time, the utility is party to various pending claims and legal proceedings. Although the outcome of such matters cannot be forecasted with certainty, it is the opinion of management and the utility's legal counsel that the likelihood is remote that any such claims or proceedings, other than those listed above, will have a material adverse effect on the utility's financial position or results of operations.

## **HOLYOKE GAS AND ELECTRIC**

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NOTES TO FINANCIAL STATEMENTS  
As of and for the Years Ended December 31, 2018 and 2017

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### **NOTE 15 – RISK MANAGEMENT**

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#### ***CLAIMS AND JUDGMENTS (cont.)***

The utility is exposed to various risks of loss related to torts; theft of, damage to, or destruction of assets; errors, and omissions; workers compensations; and health care of its employees. The utility participates in a public entry risk pool called the PUMIC to provide coverage for the above-mentioned risks except for workers compensation. The following details the coverage through the PUMIC. Settled claims have not exceeded the risk pool coverage in any of the past three years. There were no significant reductions in coverage compared to the prior year.

#### ***PUBLIC ENTITY RISK POOL***

##### ***Public Utility Mutual Insurance Company (PUMIC)***

The PUMIC is a liability insurance company, which is owned by its members. The PUMIC was formed in 1997 to provide general insurance to members of the Public Utility Risk Management Association (PURMA). PURMA is a 501(c)(6) not-for-profit association whose members include municipal utilities and rural cooperatives.

The PUMIC is self-insured up to a maximum of \$1,000,000 of each insurance risk. Losses paid by the PUMIC plus administrative expenses will be recovered through premiums to the participating pool of municipal utilities and rural cooperatives.

Management of each organization consists of a board of directors comprised of representatives elected by the participants. The utility has an employee participating as a board member in each of the organizations.

Financial statements of PUMIC and PURMA can be obtained directly from PUMIC's offices.

The initial investment in PUMIC is refundable upon withdrawal from the organization and has been reported at the original amount of \$168,000.

For general liability purposes, the Department is self-insured up to \$50,000, has self-insurance trust coverage in the amount of \$500,000 and general liability insurance through the risk pool for \$500,000 to \$25,000,000 per occurrence. The Department was also self-insured for workers compensation up to \$250,000 per occurrence through December 31, 2014. The Department has since moved to commercial insurance for workers compensation.

**HOLYOKE GAS AND ELECTRIC**  
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**NOTE 16 – SUBSEQUENT EVENTS**

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The Department evaluated subsequent events through the date that the financial statements were available to be issued, for events requiring recording or disclosure in the financial statements. No events requiring disclosure were noted.

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**NOTE 17 – CUMULATIVE EFFECT OF A CHANGE IN ACCOUNTING PRINCIPLE**

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The Department adopted GASB 75 effective January 1, 2018. The cumulative effect of implementation is reflected as a change in beginning net position as follows:

Net OPEB Liability (Asset) as of January 1, 2018 under GASB 45	\$ (43,421)
Less: Net OPEB Liability as of January 1, 2018 under GASB 75	<u>7,726,144</u>
Net Difference – Cumulative Effect of a Change in Accounting Principle	<u>\$ (7,769,565)</u>

**REQUIRED SUPPLEMENTARY INFORMATION**

## HOLYOKE GAS AND ELECTRIC

### SCHEDULE OF PROPORTIONATE SHARE OF THE NET PENSION LIABILITY City of Holyoke Retirement System Last 10 Fiscal Years\*

The required supplementary information presented below represents the proportionate information for the enterprise funds included in this report.

	2018	2017	2016	2015
Holyoke Gas and Electric's proportion of the net pension liability	21.8667720%	21.0663720%	20.7392330%	20.4671670%
Holyoke Gas and Electric's proportionate share of the net pension liability	\$ 25,930,197	\$ 30,715,656	\$ 30,700,334	\$ 27,426,467
Holyoke Gas and Electric's covered employee payroll	11,779,347	11,381,012	10,862,753	10,776,026
Plan fiduciary net position as a percentage of the total pension liability	71.67%	64.26%	62.55%	64.47%

\* The amounts presented for each fiscal year were determined as of the calendar year-end that occurred within the fiscal year.

### SCHEDULE OF CONTRIBUTIONS - PENSION City of Holyoke Retirement System Last 10 Fiscal Years\*

	2018	2017	2016	2015
Contractually required contributions	\$ 3,856,839	\$ 3,711,165	\$ 3,596,091	\$ 3,526,919
Contributions in relation to the contractually required contributions	(3,856,839)	(3,711,165)	(3,596,091)	(3,526,919)
Contributions deficiency (excess)	-	-	-	-
Holyoke Gas and Electric's covered-employee payroll	12,629,315	11,779,347	11,381,012	10,862,753
Contributions as a percentage of covered-employee payroll	30.54%	31.51%	31.60%	32.47%

\* The amounts presented for each fiscal year were determined as of the calendar year-end that occurred within the fiscal year.

See accompanying notes to required supplementary information.

## HOLYOKE GAS AND ELECTRIC

SCHEDULE OF FUNDING PROGRESS  
OTHER POST-EMPLOYMENT BENEFITS - GASB 45  
December 31, 2018 and 2017

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Projected Unit Credit (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/2015	\$ 5,350,291	\$ 14,805,656	9,455,365	36.1%	N/A	N/A
12/31/2014	4,411,653	11,362,451	6,950,798	38.8%	N/A	N/A
6/30/2013	-	10,596,663	10,596,663	0.0%	N/A	N/A

*Note: the studies completed prior to December 31, 2014 related to the City of Holyoke as a whole and were completed as of the city's fiscal year end. A new study was completed for the Department due to a change in funded status during October 2014. The December 31, 2015 study is the latest study available.*

See accompanying notes to required supplementary information.



## HOLYOKE GAS AND ELECTRIC

### SCHEDULE OF CHANGES OF THE NET OPEB LIABILITY City of Holyoke Retirement System Last 10 Fiscal Years\*

	2018	2017
<b>Total OPEB Liability</b>		
Service Cost	\$ 594,872	\$ 526,946
Interest Cost	1,008,278	998,426
Differences between expected and actual experience	289,069	-
Changes of assumptions	463,399	-
Benefit payments, including refunds of member contributions	<u>(574,584)</u>	<u>(824,241)</u>
Net Change in Total OPEB Liability	<u>1,781,034</u>	<u>701,131</u>
 Total OPEB Liability - Beginning	 <u>16,554,872</u>	 <u>15,853,741</u>
 Total OPEB Liability - Ending	 <u>\$ 18,335,906</u>	 <u>\$ 16,554,872</u>
 <b>Plan Fiduciary Net Position</b>		
Contributions - employer	\$ 1,774,584	\$ 2,024,241
Net investment income (loss)	(593,694)	840,362
Benefit payments, including refunds of member contributions	<u>(574,584)</u>	<u>(824,241)</u>
Net Change in Fiduciary Net Position	<u>606,306</u>	<u>2,040,362</u>
 Plan Fiduciary Net Position - Beginning	 <u>8,828,728</u>	 <u>6,788,366</u>
 Plan Fiduciary Net Position - Ending	 <u>\$ 9,435,034</u>	 <u>\$ 8,828,728</u>
 <b>Net OPEB Liability</b>		
Net OPEB liability	\$ 8,900,872	\$ 7,726,144
Plan's fiduciary net position as a percentage of the total OPEB liability	51.46%	53.33%
Covered-employee payroll	12,520,427	12,187,515
Net OPEB liability as a percentage of covered-employee payroll	71.09%	63.39%

\* The amounts presented for each fiscal year were determined as of the calendar year-end that occurred within the fiscal year. GASB Statement No. 74 was implemented effective January 1, 2017, and therefore only two years are available for disclosure.

See accompanying notes to required supplementary information.

## HOLYOKE GAS AND ELECTRIC

### SCHEDULE OF CONTRIBUTIONS - OTHER POST-EMPLOYMENT BENEFITS City of Holyoke Retirement System Last 10 Fiscal Years\*

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	<u>2018</u>	<u>2017</u>
Actuarially determined contribution	\$ 1,974,179	\$ 1,978,662
Contributions in relation to the actuarially determined contribution	<u>1,774,584</u>	<u>2,024,241</u>
Contribution Deficiency (Excess)	<u>\$ 199,595</u>	<u>\$ (45,579)</u>
Covered-employee payroll	12,520,427	12,187,515
Contributions as a percentage of covered-employee payroll	14.17%	16.61%

\* The amounts presented for each fiscal year were determined as of the calendar year-end that occurred within the fiscal year.  
GASB Statement No. 74 was implemented effective January 1, 2017, and therefore only two years are available for disclosure.

See accompanying notes to required supplementary information.

## HOLYOKE GAS AND ELECTRIC

### NOTES TO REQUIRED SUPPLEMENTARY INFORMATION - PENSIONS For the Year Ended December 31, 2018

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*Changes of benefit terms:* There were no changes of benefit terms for any participating employer in the City of Holyoke Retirement System.

*Changes of assumptions:* The following changes were effective January 1, 2018:

- > Salary increases was lowered from 4.25% - 4.75% to 4.00% - 4.50%
- > The inflation assumption was lowered from 3.50% - 3.25%
- > The investment return assumption was lowered from 7.625% to 7.50%
- > The mortality assumption for healthy retirees changed from RP-2000 Healthy Annuitant Mortality Table projected using Scale BB2D from 2009, to RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year for females projected generationally using Scale MP-2017
- > The mortality assumption for disabled retirees changed from the RP-2000 Healthy Annuitant Mortality Table projected generationally using Scale BB2D from 2015, to RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year projected generationally using Scale MP-2017

## HOLYOKE GAS AND ELECTRIC

### NOTES TO REQUIRED SUPPLEMENTARY INFORMATION – OTHER POST-EMPLOYMENT BENEFITS

For the Year Ended December 31, 2018

*Factors significantly affecting trends in the amounts reported:*

<b>Inflation</b>	3.50%
	Service-related increases for Group 1: 6.0% per year decreasing over 9 years to 4.25% per year Service-related increases for Group 4: 7.0% per year decreasing over 6 years to 4.75% per year
<b>Salary increases</b>	
<b>Investment rate of return</b>	6.25%
<b>Pre-retirement Mortality Rates</b>	PubG.H-2010 Mortality Table with MP-2018 Mortality Scale
<b>Healthy Mortality Rates</b>	PubG.H-2010 Mortality Table with MP-2018 Mortality Scale
<b>Disabled Mortality Rates</b>	PubG.H-2010 Mortality Table with MP-2018 Mortality Scale

*Significant Methods and assumptions used in calculating actuarially determined contributions:*

<b>Valuation Date</b>	Actuarially determined contribution for fiscal year ending December 31, 2018 was determined with the December 31, 2018 actuarial valuation
<b>Actuarial cost method</b>	Entry Age Actuarial Cost Method
<b>Amortization method</b>	Level percent of payroll
<b>Remaining amortization period</b>	6 years from December 31, 2018
<b>Asset valuation method</b>	Market value
<b>Discount rate</b>	6.25%
<b>Inflation</b>	3.50%
<b>Health care trend rates*</b>	6.50% per year graded down by the Getzen model to an ultimate rate of 3.84% per year
<i>Non-Medicare medical/prescription drug</i>	
<i>Medicare medical/prescription drug</i>	5.5%, then 7.5% decreasing by 0.5% for 5 years to an ultimate level of 5.0% per year
<i>Dental/Administrative</i>	5.0%
<b>Contributions</b>	Retiree contributions for medical and prescription drug coverage are expected to increase with medical trend

\*Trends reflect known increases for the first year

**S U P P L E M E N T A R Y   I N F O R M A T I O N**

## HOLYOKE GAS AND ELECTRIC

### SCHEDULES OF OPERATING REVENUES AND EXPENSES - GAS DIVISION

For the Years Ended December 31, 2018 and 2017

	2018	2017
<b>OPERATING REVENUES</b>		
Residential	\$ 9,902,559	\$ 8,579,285
Commercial	10,090,846	8,998,370
Industrial	2,122,488	1,827,713
Municipal	782,649	682,126
Departmental sales	78,644	80,897
Sales for resale	380,335	757,398
Uncollectible accounts	(52,106)	(45,202)
Total Operating Revenues	<b>\$ 23,305,415</b>	<b>\$ 20,880,587</b>
<b>COST OF GAS SOLD</b>		
Purchases - natural gas	\$ 9,585,916	\$ 8,853,326
Liquid natural gas processed	512,365	564,050
Environmental response	165,000	140,000
Supplies and expenses	167,000	179,715
Total Cost of Gas Sold	<b>\$ 10,430,281</b>	<b>\$ 9,737,091</b>
<b>DISTRIBUTION</b>		
Salaries and Wages		
System control and load dispatch	\$ 345,509	\$ 356,336
Supervision and engineering	306,844	240,412
Customer installation	555,093	549,497
Operation	624,187	584,045
Maintenance	987,390	905,819
Supplies and expenses	1,060,758	1,102,999
Total Distribution	<b>\$ 3,879,781</b>	<b>\$ 3,739,108</b>
<b>CUSTOMER ACCOUNTS</b>		
Salaries and Wages		
Meter reading	\$ 65,410	\$ 63,799
Accounting and collection	134,573	155,047
Supplies and expenses	71,149	60,193
Total Customer Accounts	<b>\$ 271,132</b>	<b>\$ 279,039</b>
<b>GENERAL AND ADMINISTRATIVE</b>		
Salaries	\$ 969,177	\$ 936,921
Pensions and benefits	1,545,689	1,672,894
Insurance	108,686	151,767
General supplies and expenses	670,605	710,025
Total General and Administrative	<b>\$ 3,294,157</b>	<b>\$ 3,471,607</b>

## HOLYOKE GAS AND ELECTRIC

### SCHEDULES OF OPERATING REVENUES AND EXPENSES - ELECTRIC AND TELECOMMUNICATIONS DIVISIONS For the Years Ended December 31, 2018 and 2017

	2018	2017
<b>OPERATING REVENUES</b>		
Electric Sales		
Residential	\$ 14,131,712	\$ 12,403,431
Commercial	23,263,362	21,214,721
Industrial	5,872,405	5,601,088
Municipal	2,746,918	2,678,368
Interdepartmental	296,314	292,883
Water	6,300	6,300
Renewable energy revenue	2,896,778	804,986
Cobble Mountain operation - net	573,648	574,360
Telecommunication sales	2,406,321	2,423,055
Uncollectible accounts - electric/hydro	(120,109)	(156,928)
Uncollectible accounts - telecommunications	(725)	(1,095)
	<u>\$ 52,072,924</u>	<u>\$ 45,841,169</u>
<b>COST OF ELECTRICITY/STEAM/WATER SOLD</b>		
Purchases - electricity	\$ 14,965,829	\$ 12,906,594
Salaries and Wages		
Production	1,282,691	1,316,394
Maintenance	1,422,155	1,490,619
Supplies and expenses	2,018,254	2,124,681
Cost of water sold	372,588	389,347
	<u>\$ 20,061,517</u>	<u>\$ 18,227,635</u>
<b>ELECTRIC TRANSMISSION</b>		
Salaries and wages	\$ 688,232	\$ 705,698
Supplies and expenses	817,619	511,541
Transmission by others	2,572,238	3,432,507
	<u>\$ 4,078,089</u>	<u>\$ 4,649,746</u>
<b>DISTRIBUTION</b>		
Electric		
Salaries and Wages		
Lines, equipment and street lights	\$ 2,577,454	\$ 2,729,498
Customer installations	251,674	228,661
Supplies and expenses	3,006,717	2,393,141
Telecommunications distribution	1,532,813	1,346,978
	<u>\$ 7,368,658</u>	<u>\$ 6,698,278</u>
<b>CUSTOMER ACCOUNTS</b>		
Electric		
Salaries and Wages		
Meter reading	\$ 121,494	\$ 124,541
Accounting and collection	249,882	287,941
Supplies and expenses	125,234	105,607
	<u>\$ 496,610</u>	<u>\$ 518,089</u>
<b>GENERAL AND ADMINISTRATIVE</b>		
Electric		
Salaries	\$ 1,808,773	\$ 1,714,237
Pensions and benefits	3,093,678	3,381,025
Insurance	441,376	518,820
General supplies and expenses	1,637,214	2,108,907
Telecommunications general and administrative	603,538	512,956
	<u>\$ 7,584,579</u>	<u>\$ 8,235,945</u>

