

Application for Change of Rates

Public Hearing

Guyana Water Incorporated

Dr Richard Van West-Charles

February 12, 2018





Governance Structure



Water and Sewerage Act

Part XIII – Creation of Guyana Water Incorporated

*90 (1) Guyana Water Inc. shall be constituted as a **public company** limited by shares on or before the appointed day by submission to the Registrar of Companies of the articles of incorporation and other documents that are required under the **Companies Act 1991**, and by the issuance of a certificate of incorporation*





Governance Structure



Water and Sewerage Act

Section 48 (Relationship with the PUC)

48 (1) Subject to section 29, a rate for the supply of water and sewerage services by a public supplier, fixed by the Public Utilities Commission under subsections (1) and (2) of the Public Utilities Commission Act 1999 –

(a) shall be disclosed in such a manner as to show the methods or formulae by which and the principles on which the charges are to be made as well as the prices which are to be charged;

(b) shall be published in a daily newspaper;

(c) may include a **standing charge** in addition to the charge for the actual water and sewerage services supplied; and

(d) may include a charge in respect of any water and sewerage services **meter** fitted by the public supplier on the premises to which it supplies water and sewerage services.



Guiding Principles



▶ **Vision** – To ensure an **efficient, sustainable** and **financially viable** water and sewerage sector delivering a **high quality** to customers.

▶ **Mission** – To deliver **safe, adequate** and **affordable water** and to ensure **safe sewerage systems** for improved **public health** and **sustainable economic development**.





Corporate Governance



BOARD OF DIRECTORS

Responsible for the governance of the Corporation.



CORPORATE ADMINISTRATION

Managing Director (responsible for day to day management) and Executive Directors make up the Corporate Management Team (CMT), a body which reviews and approves operational matters.





Strategic Objectives



- ▶ To ensure that the **government mandate** to provide **clean** and **efficient** water and sewerage services to the country is achieved.
- ▶ To ensure that the Corporation employs personnel who are **educated, skilled and knowledgeable** in the performance of their functional duties for the fulfilment of the Corporation's mission and objective.
- ▶ To ensure that all personnel perform their duties in a **safe** and **efficient** manner, observing all required safety standards and regulations.
- ▶ To ensure that personnel receive **adequate financial remuneration** in accordance with government standards.





Strategic Objectives



- ▶ **100%** accurate customer database.
- ▶ **Electronic** billing and payments.
- ▶ To ensure that the Corporation's **financial viability** is achieved during the life of the plan.
- ▶ Reduction of the debt from **>\$5 billion** dollars.
- ▶ An increase of **active wells** each plan year.





Strategic Objectives



- ▶ To ensure that the **tariffs** are **socially acceptable** and can contribute to the Corporation's **financial viability**.
- ▶ Maintenance of **water quality** at **100%** of **WHO standards** each plan year.
- ▶ The **reduction** of **non-revenue water** (NRW).
- ▶ The refurbishment and construction of treatment plants.
- ▶ The extension of water and sewerage services to all **townships** and **new communities**.





Strategic Objectives



- ▶ The development and operationalization of **water services** to **hinterland communities**.
- ▶ The development of **Watershed Management** for the safe, strategic and efficient use of **water resources**.



“Water is Life, save it”

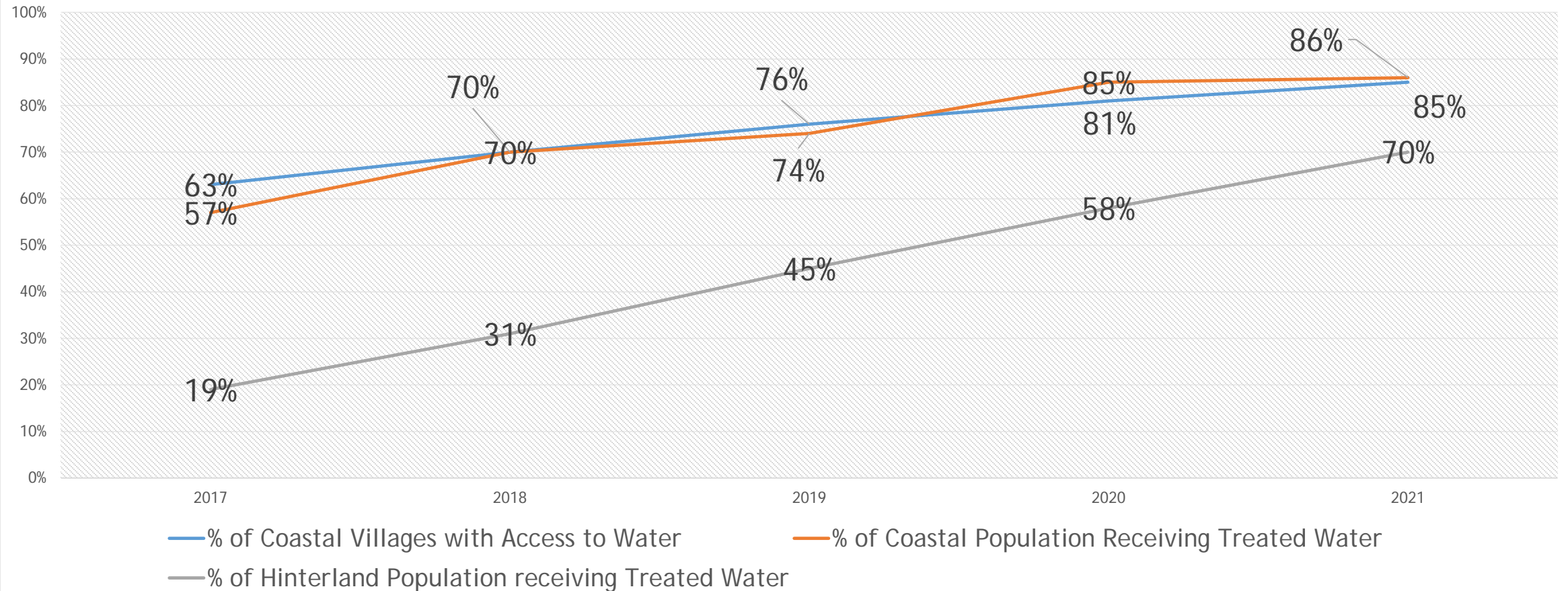


Strategic Objectives

Main KPIs

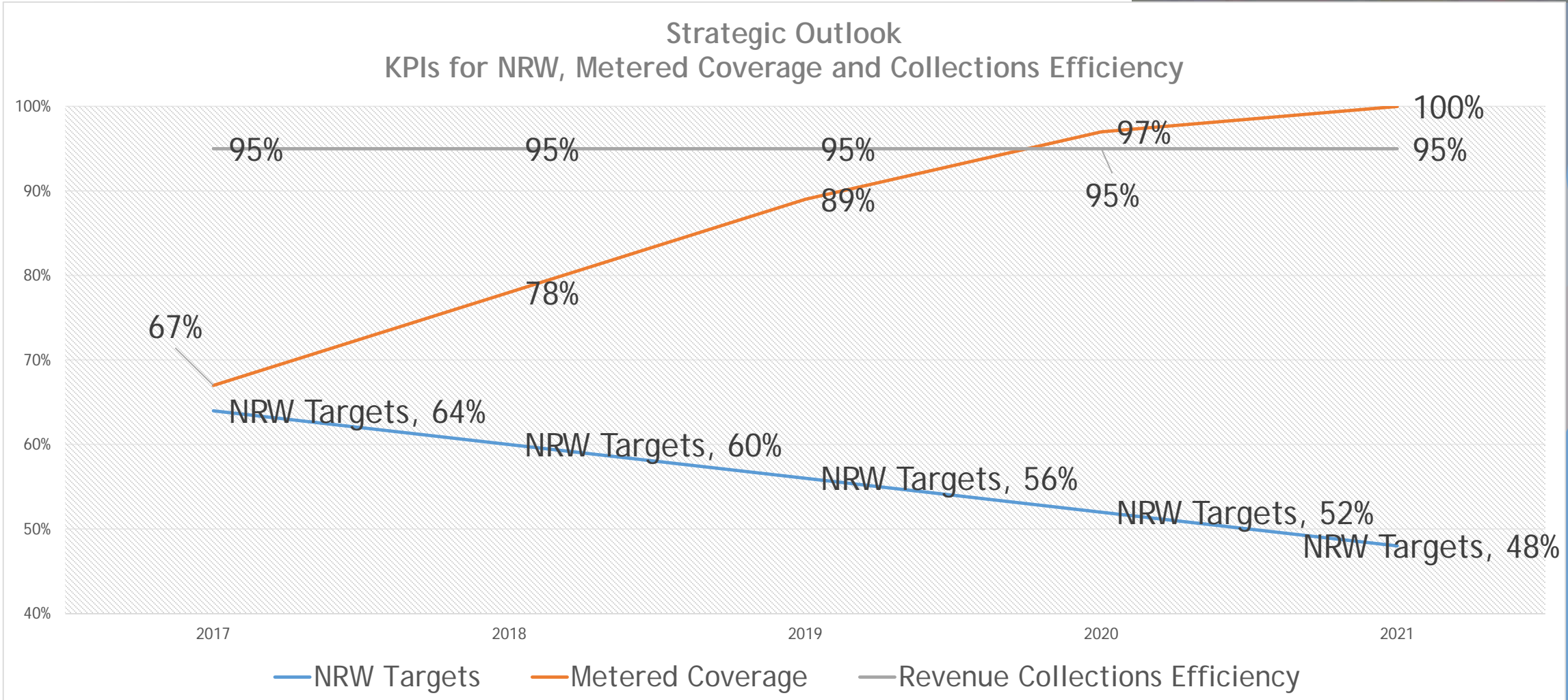


Strategic Outlook
Access to Water KPIs





Strategic Objectives Main KPIs





Administration



Five (5) Cross Functional Areas:

- Organisation and Management
- Water Production and Quality
- Water Distribution and Supply
- Finance, Revenue Collection & Customer Service
- Sanitation





Organisation & Management



- ▶ International Women's Day
- ▶ World Water Day
- ▶ Contract signing for the construction of 3 wells with De Ruiters
- ▶ Contract signing for design and construction of 3 WTPs with Sinohydro
- ▶ Distribution of filters to Bartica schools and health center and Kamarang hospital





Organisation & Management

- ▶ Participation in Labour Day parade
- ▶ Participation in Occupational Health & Safety walk
- ▶ Contract signing for Water Supply Improvement Project in Matthew's Ridge, Region 1
- ▶ Participation in Tosaos Council
- ▶ Co-hosting of CWWA 2017 Conference and Exhibition
- ▶ Year-in-Review press conference, Launch of Customer App and Website





Organisation & Management



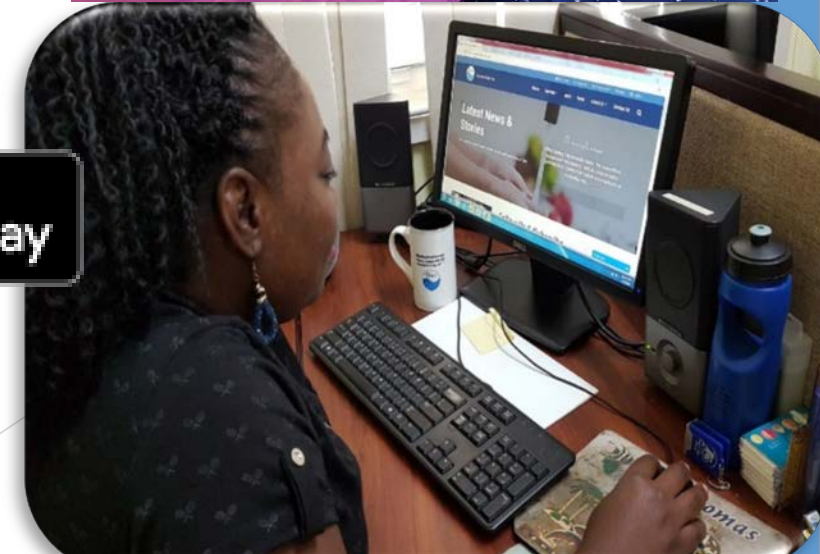
- ▶ GW I was able to advance training in the management and maintenance of photovoltaic system for 14 Indigenous communities in Region 9 where 28 persons were trained.
- ▶ Training was conducted in the area of Health and Safety for more than 25 persons that supervise project implementation.
- ▶ 6 persons were trained in well drilling techniques in Oklahoma.
- ▶ Training commenced in Water Distribution modelling for 8 persons.
- ▶ A new commercial office was commissioned in Lethem, Region 9 to provide improved working conditions for the staff and enhance customer services.
- ▶ A team in Mahdia, Region 8 has been trained to manage and maintain the water supply system.



Organisation & Management



- ▶ GWl has teamed up village Councils at Matthew's Ridge, Region 1 and Paramakatoi, Region 8 to improve the water supply system in these communities.
- ▶ The Information and Communication Technology Department has redesigned the company's website to include: a customer portal, live chat, submission of meter reading, fault reporting, identifying payment locations, viewing of supply sources and historical billing information
- ▶ A customer app was designed to allow for the viewing of balances, reporting of leaks and meter reading.
- ▶ A contractors' app was developed to transmit work orders for leak repairs, service connections, disconnections and metering in real time
- ▶ Rehabilitation of West Watooka Office
- ▶ Completion of our 5 year strategic plan
- ▶ Mini Labs were constructed in different parts of the country to ensure regular water quality testing regionally





Water Production & Quality

- ▶ **180,800** customers
- ▶ Served by **137** well stations
- ▶ **24** Water treatment Plants + **3** new plants to be constructed under the IDB/EU Program
- ▶ **917** staff
- ▶ **60+** Contractors
- ▶ **220,000+** Km of transmission and distribution mains
- ▶ **New water wells** at Diamond, East Bank of Demerara; Sparendam, East Coast of Demerara; Sophia, Georgetown





Water Production & Quality



- ▶ **Schedule of testing:** Samples are submitted daily to the laboratory from various production sites (treatment plants and Pump Stations) based on a sampling program schedule.
- ▶ Samples are submitted from each stage of treatment which is analysed for the system's operational efficiency and the final water along with customer samples are analysed and compared to **WHO guidelines** for compliance).
- ▶ Treatment plants: samples are monitored on a **fortnightly basis**.
- ▶ Pump Stations: samples are monitored at least **once per quarter**.



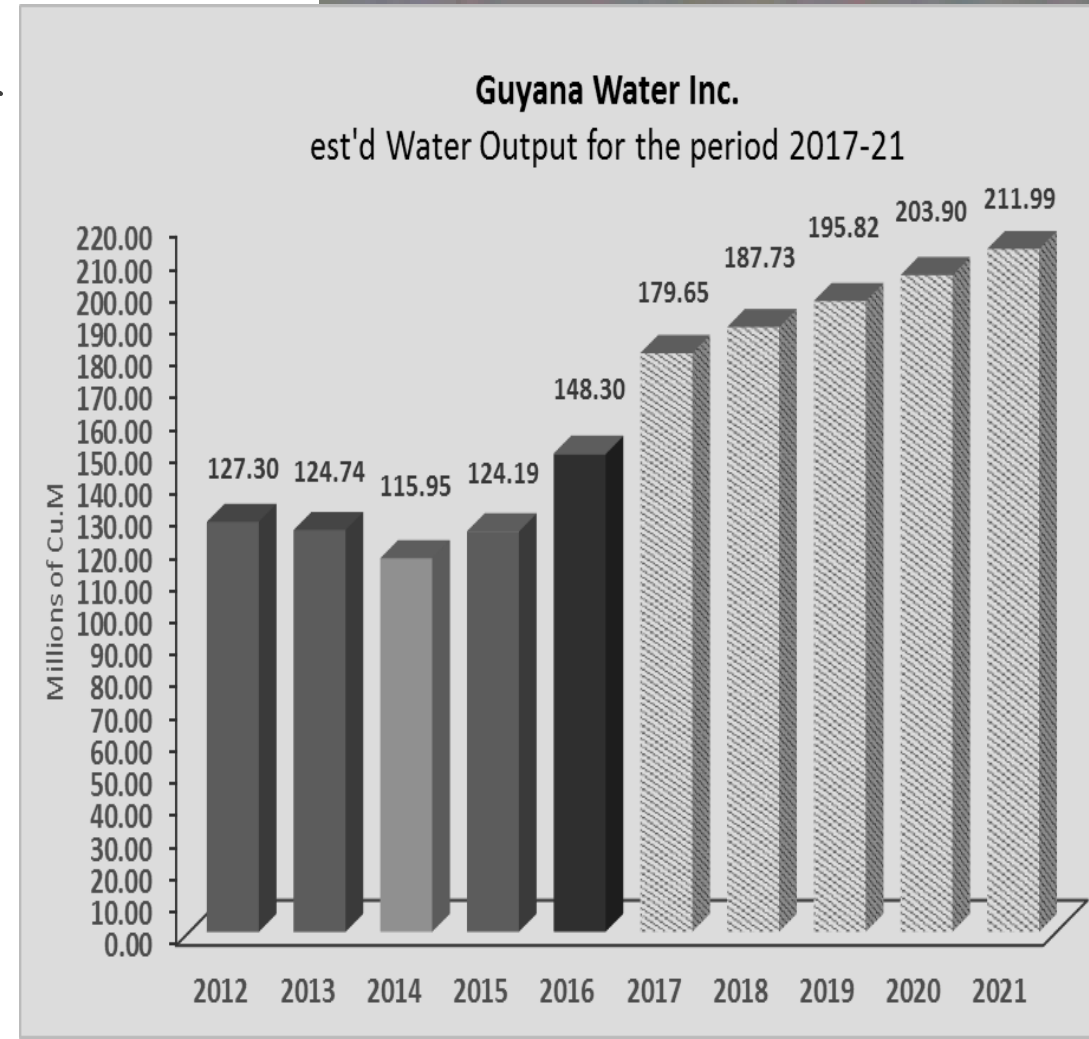


Water Production & Quality



► **Mini labs** were set up at different treatment plants throughout the country with the principle objective of increasing the frequency of testing which helps to maintain consistent water quality and to detect any deviations so as to make timely interventions to prevent deterioration of the water quality.

1. Shelter Belt
2. Berbice (at Port Mourant)
3. Cotton Tree
4. Pouderoyen
5. Lima
6. West Watooka
7. McKenzie





Water Production & Quality



General constraints in the maintenance and energy departments

- ▶ Despite investing and implementing an energy efficiency SBP between 2013-2016 our energy index is still high (**reduced from 0.4 to 0.28 KWHr/m³**) and cost to reduce it further will need **significant investment**.
- ▶ Implementation of **VFD's** will require significant investment (approximately **\$3,500,000** is needed for one). It is recommended that all facility operating 24 hours needs VFD because of time of day use of water.
- ▶ With 24 hours operation there is greater wear and tear on our equipment and infrastructure and although greater customer satisfaction was realized this does not guarantee greater revenue intake.
- ▶ Our aged and ageing wells now require more frequent maintenance and in some cases new one are required since the old cannot meet the demand of the growing housing demand.
- ▶ Maintenance personnel amount was significantly increased to deal with the new challenges and specialized training has to be sought to deal with these.



Water Production & Quality



Constrains/challenges from Electricity supplier

- ▶ Power supply disruption from GPL has resulted in us investing in 38 generators and automatic change over switch for continuity of supply. The average cost of one of these is **\$7,000,000**
- ▶ Unbalanced voltages supplied by GPL has resulted in us installing current balancers at may facilities to regularize the voltage to maintain operation. The average cost of these is **\$4,000,000**
- ▶ Damaged motors resulting from poor power supply in 2017 was valued in excess of **\$28,000,000** and motors with 8 years of operating life usually expires within 3 years. Note: Not all facilities have current balancers.
- ▶ There is an increase in fuel usage and security cost whenever mobile generators are employed at a facilities.





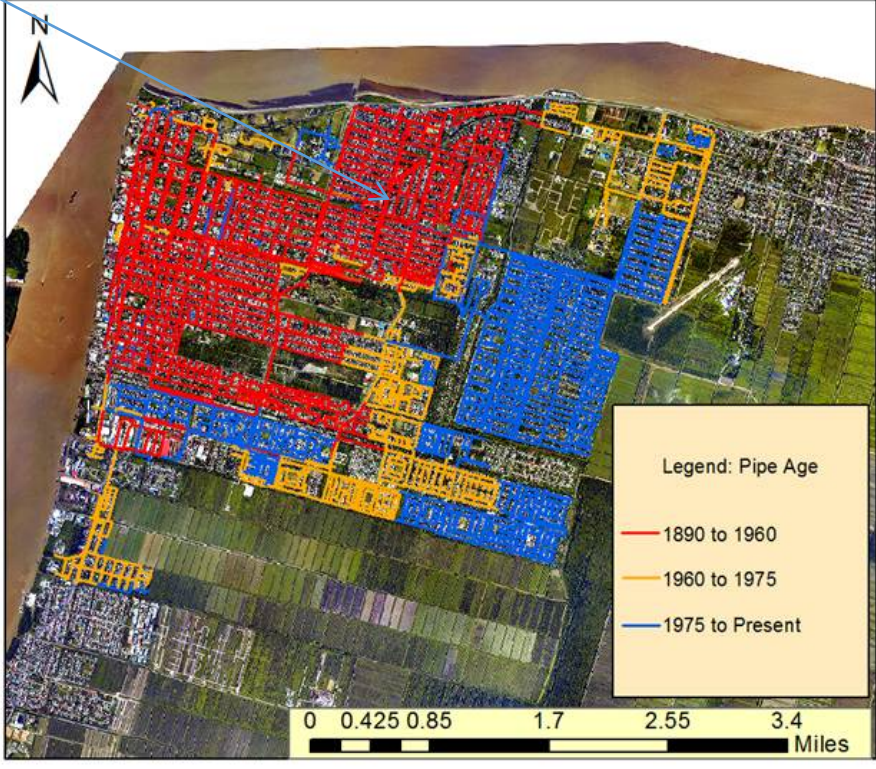
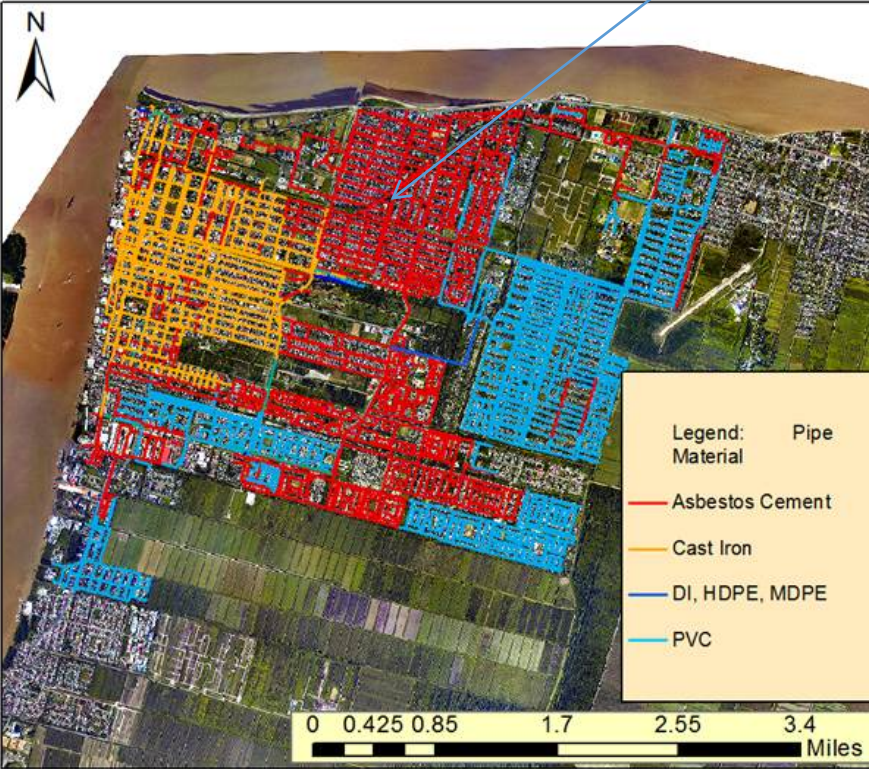
Water Distribution & Supply



Aged Infrastructure

▶ Charlestown

● Kitty



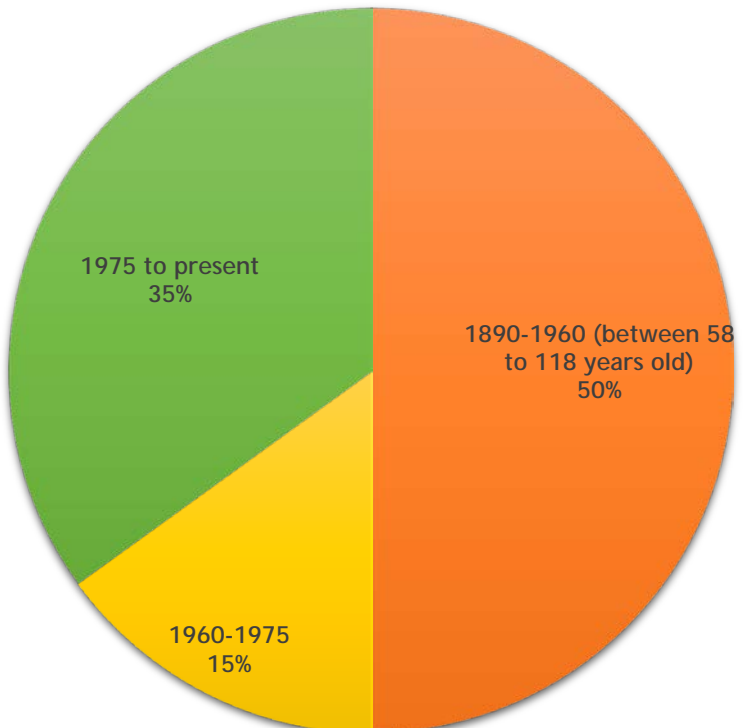


Water Distribution & Supply



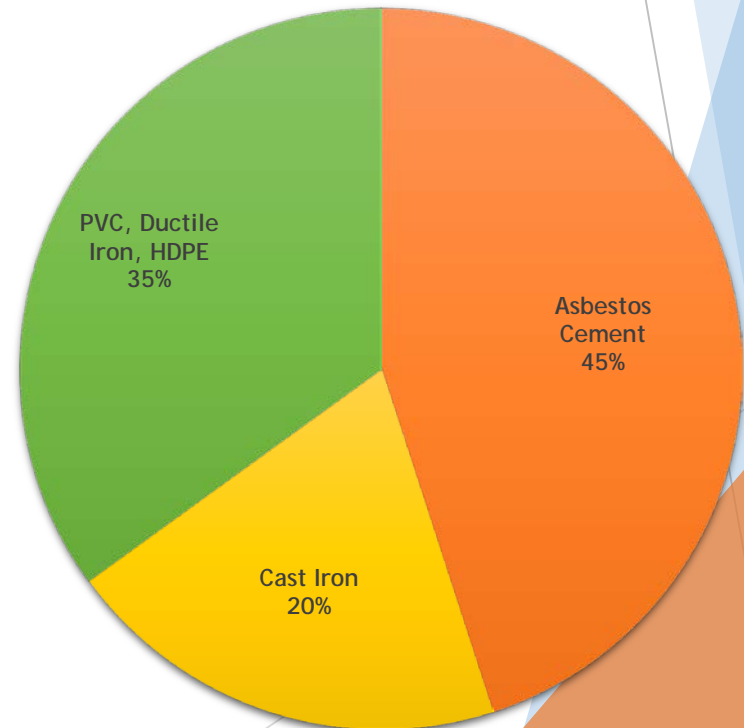
Aged Infrastructure

Age of pipe network in Georgetown - 65% more than 40 years old



■ 1890-1960 (between 58 to 118 years old)
 ■ 1960-1975
 ■ 1975 to present

Types of pipes- 65% are asbestos cement and cast iron



■ Asbestos Cement
 ■ Cast Iron
 ■ PVC, Ductile Iron, HDPE



Sanitation

- ▶ Replacement of 100 manhole covers and 100 sewage chamber covers
- ▶ The management of the Georgetown Sewerage System continued to be a major focus for GWl in 2017 as the company strives to ensure that the system is safe for improved public health and sustainable economic development.
- ▶ In Albouystown, for instance, residents and business owners saw tremendous improvements due to the upgrading and replacement of several manhole covers in the area.





Sanitation



- ▶ Rehabilitation works were done to the manholes at: La Penitence and James Street, Victoria and James Street, Albouystown and Sussex Street, Hill and Sussex Street, Hill Street and Punt Trench, Hogg Street and Punt Trench, Hunter and Sussex Street.
- ▶ Chambers were unearthed from residents' yards by GWl, following concerns of overflowing. Members of the community have been urged to desist from throwing newspaper and other refuse aside from toilet tissue into their toilet, since this causes blockage in the sewer lines.
- ▶ Residents in whose yards chambers are buried were also urged to remove garbage that may be in the manholes so as to give GWl staff easy access to carry out works to the chambers. Failing to comply, a fine will be instituted.





Hinterland Development



- There are over 200 Hinterland communities in Guyana.
- GWI's Hinterland Team manages the water systems in Region 1, 7, 8 & 9.



Region	No. of communities	Population	No. of Schools	No. of Health Facilities
1	60	31,306	77	25
7	17	20,280	25	27
8	25	10,190	12	23
9	64	23,196	35	56
Total	166	84,972	149	131



Hinterland Development



Major Hinterland Communities include:

- ▶ Mabaruma, Region No. 1 (**newly declared Town**)
- ▶ Matthew's Ridge, Region No. 1
- ▶ Port Kaituma, Region No. 1
- ▶ Mahdia, Region No. 8
- ▶ Lethem, Region No. 9 (**newly declared Town**)

At these locations, residents will have access to **individual service connections**, instead of standpipes.





Hinterland Development



Threats within the Hinterland Communities:

- ▶ **Vandalism**: In areas such as Mahdia region 8 miners continue to damage GW I mains which affects the supply of water to the residents.
- ▶ **Mining Contamination**: In area such as Kamarang region 7, mining continue to pose a treat on the supply of potable water.
- ▶ **El Nino Conditions**: Due to adverse weather conditions areas such as Lethem region 9 are significantly affected since most of the water source (wells) are dried up. This weather condition affects the entire region.
- ▶ **Limited Water Sources**: There are streams and creeks throughout Guyana, however the water that is available for human consumption is very low in most parts of the Hinterland.





Hinterland Development

- ▶ G\$200 million was spent in 2017 on Water Supply Improvement Projects.
- ▶ G\$150 million is allocated under the 2018 Hinterland programme.
- ▶ Treatment of water in Lethem, region 9.
- ▶ Installation of C2 lifesaver tanks at Baracara, Kako, Kamarang and Mabaruma Hospital.
- ▶ Distribution of Jerry cans in region 1,7, 8 & 9.





Hinterland Development

- ▶ Improvement works ongoing at Mabaruma, Region 1.
- ▶ Installation of C2 lifesaver tank at Mabaruma Hospital, Region 1- completed.
- ▶ A new storage and catchment was constructed at Hosororo falls.
- ▶ Rehabilitation of the Matthew's Ridge, Region 1.
- ▶ Water Supply improvement at Yarakita, Region 1.
- ▶ Water Supply Improvement project at Koberimo, Region 1.
- ▶ **New Well constructed at Karrau, Region 7.** (residents are accessing potable water for the first time).
- ▶ Construction of metal trestle at Aranaputa and Rupertee, Region 9.
- ▶ Drilled 7 wells at Shulinab, Marcanata, Wowetta, Rupertee, Aranaputa, Kumu, Kwaimatta, Region 9.





Hinterland Development



- ▶ New Drilled Well at Oronoque, region 1.
- ▶ Installation of transmission mains at Port Kaituma, Region 1.
- ▶ New Drilled Wells and Distribution system at Koko, Kamwatta and Koberimo, Region 1.
- ▶ New Well at Tassarene, Region 7.
- ▶ Water Supply Improvement at Wayleng, Region 7.
- ▶ Water Supply Improvement at Chenapau Region 8.
- ▶ New drilled well at Campbelltown, Region 8.
- ▶ Water Supply Improvement at Paramaktoi, Region 8.





Hinterland Development



Water Supply and Water quality

- ▶ Installation of treatment system at Mabaruma, Reg 1.
- ▶ Distribution of Lifesaver Jerry cans to the following communities Smith Creek, Powaikuru, Black Water, Hobodia, Hotoquai, St. Dominics, Barima Komabo, Anuka Mouth, Imbetero, Red Hill, Three Brothers Lower Kaituma, Santa Creek, Fathers Beach, Unity Square, Jawalla, Kamarang, Kako, Quebanang, Warawatta, Chenapou, Chuing Mouth, Itabac, Kaibarapai, Kanapang, Waipa, Sand Hills, Baracara, River View and Karrau.
- ▶ Distribution of Microbiological testing equipment to Hospitals which includes Mabaruma, Lethem and Mahdia and train Villagers. so that the water quality can be consistently tested and monitored- 1 equipment was delivered to the Mabaruma Hospital.





Hinterland Development



Organization and Management

- ▶ Training of the management and maintenance of photovoltaic systems. 69 persons from communities in Reg 9 were trained to date. Ongoing programme.
- ▶ 15 staff were employed in Reg 1 to assist with manage the water system (Mabaruma, Port Kaituma and Matthew's Ridge).
- ▶ A radio set was procured so that communication can be made to those communities that do not have phone signal.





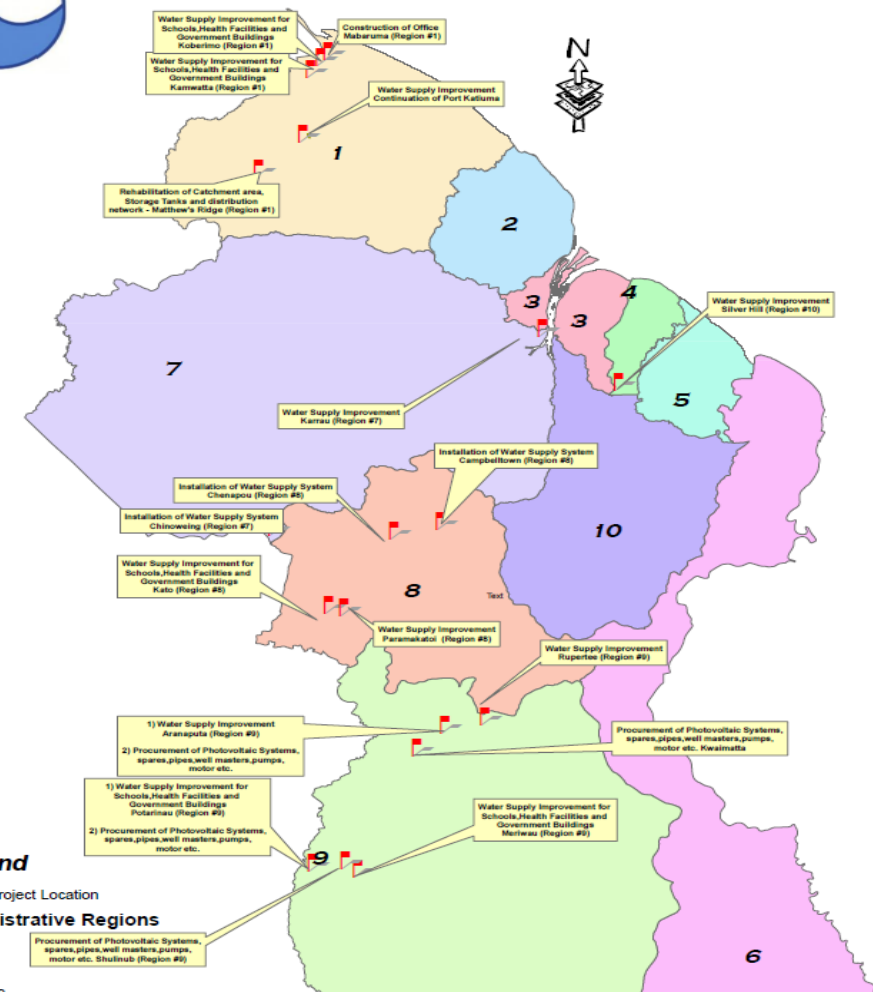
Hinterland Development

Long Term Solution

- ▶ Equitable access of potable water to all communities.
- ▶ Sustainable water sources which includes an analysis of climate change and its impact on these potable water sources (Wells, Springs, Rivers etc).
- ▶ Improve watershed management (Educate persons of method to dispose garbage, disposal of wastewater, use of pesticide, etc.)
- ▶ Drilling of new Wells.
- ▶ Ensure that communities have access to safe water.
- ▶ Improve community participation and involvement in the maintenance of water infrastructure (eg. PV training, establishment of water committees, etc.)
- ▶ Partnering with Village Councils, Regional Administrations.



HINTERLAND WATER SUPPLY-2017

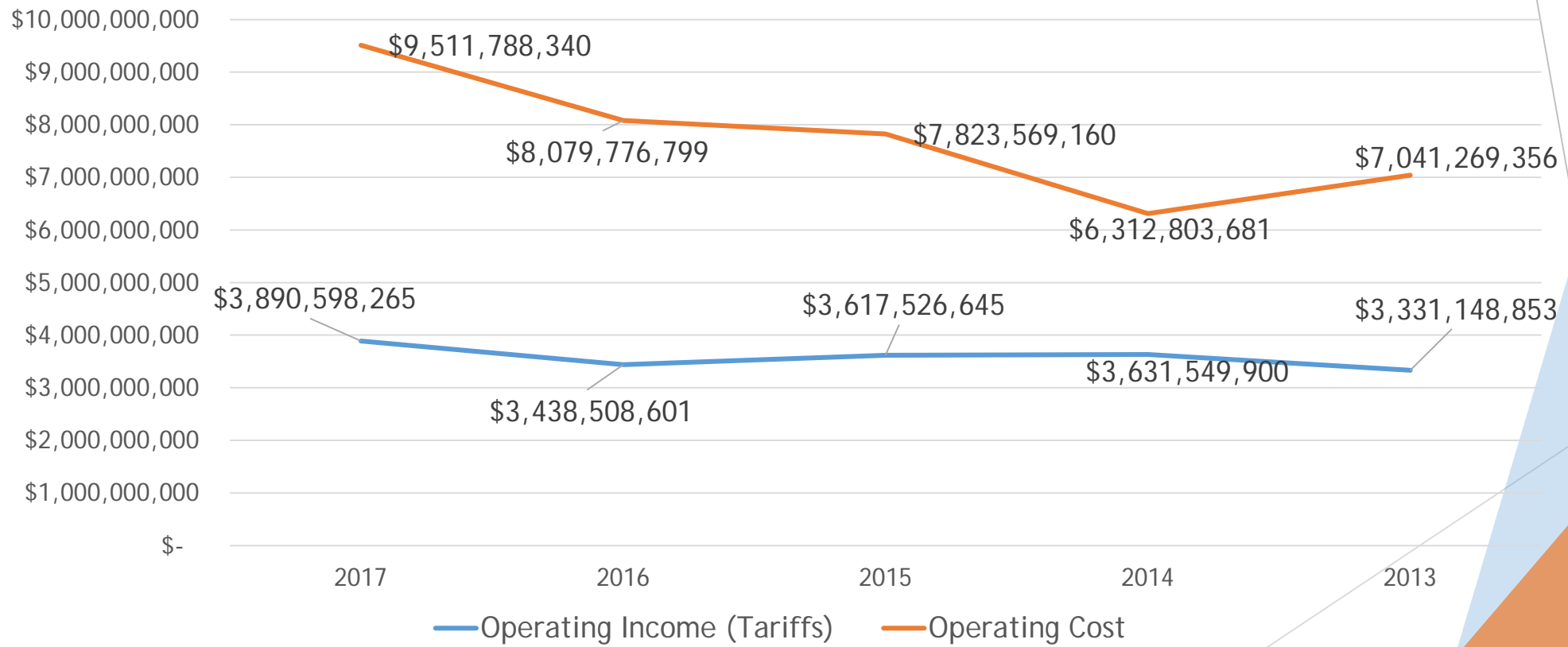




Finance, Revenue Collection & Customer Service



Operating Income versus Operating Cost

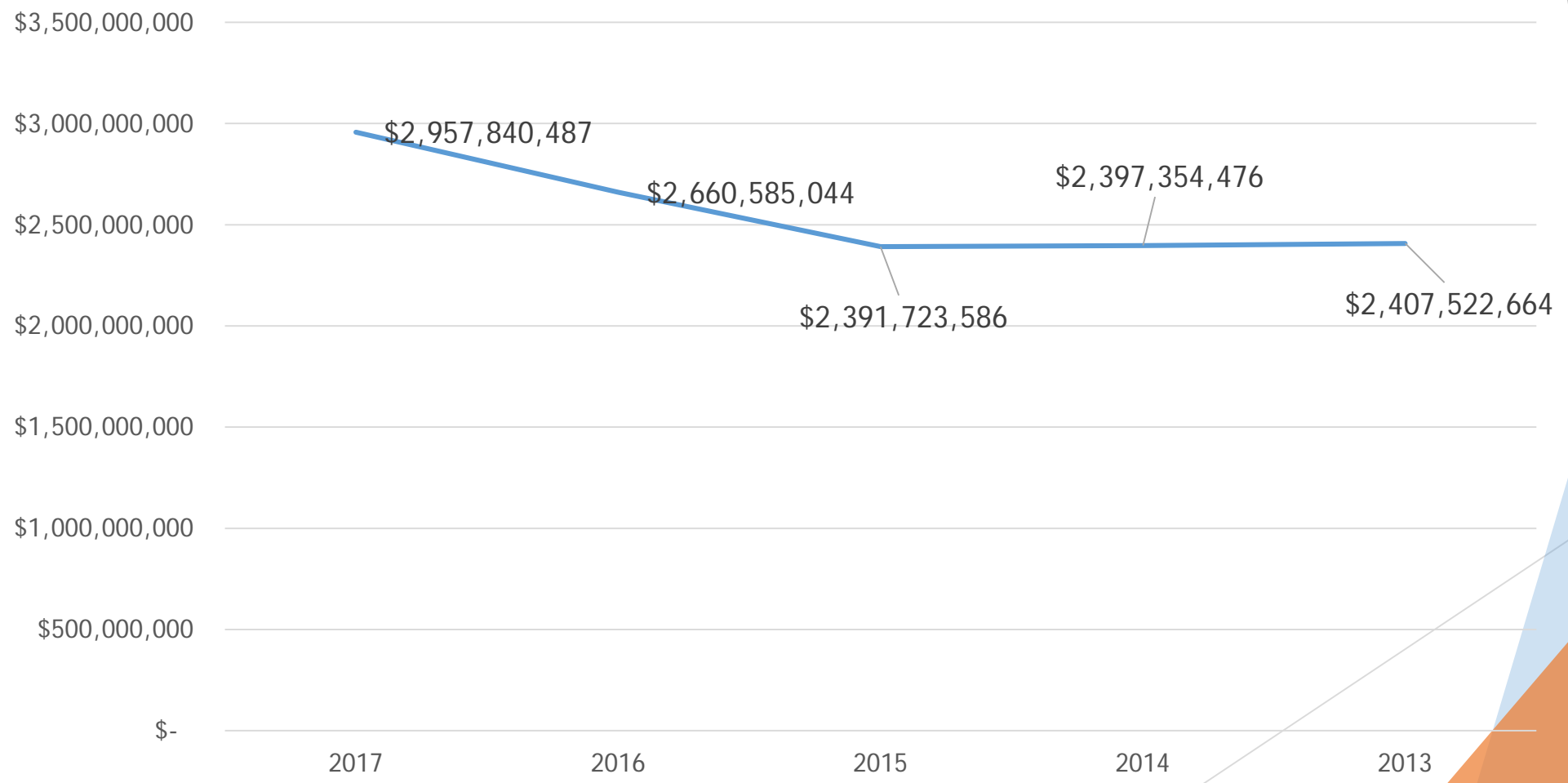




Finance, Revenue Collection & Customer Service



Electricity Costs

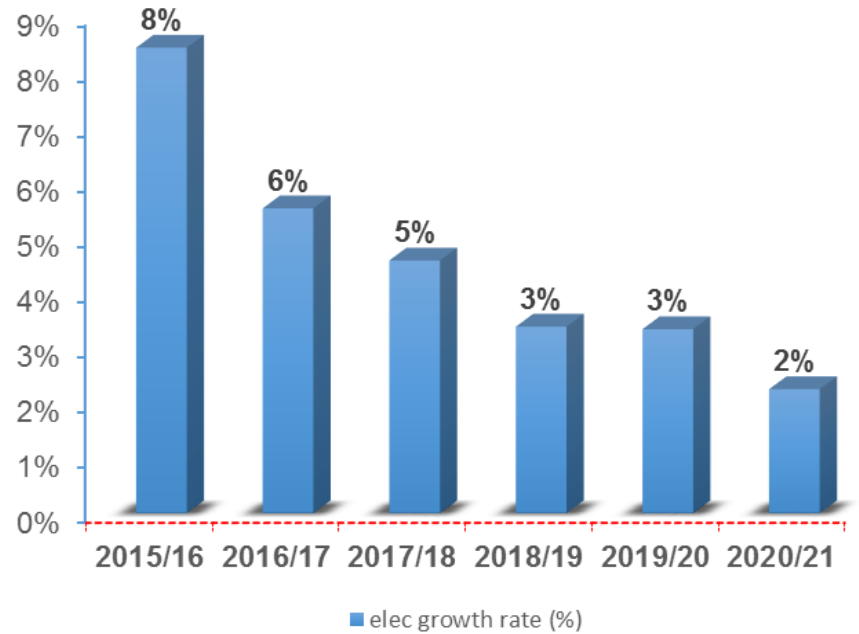




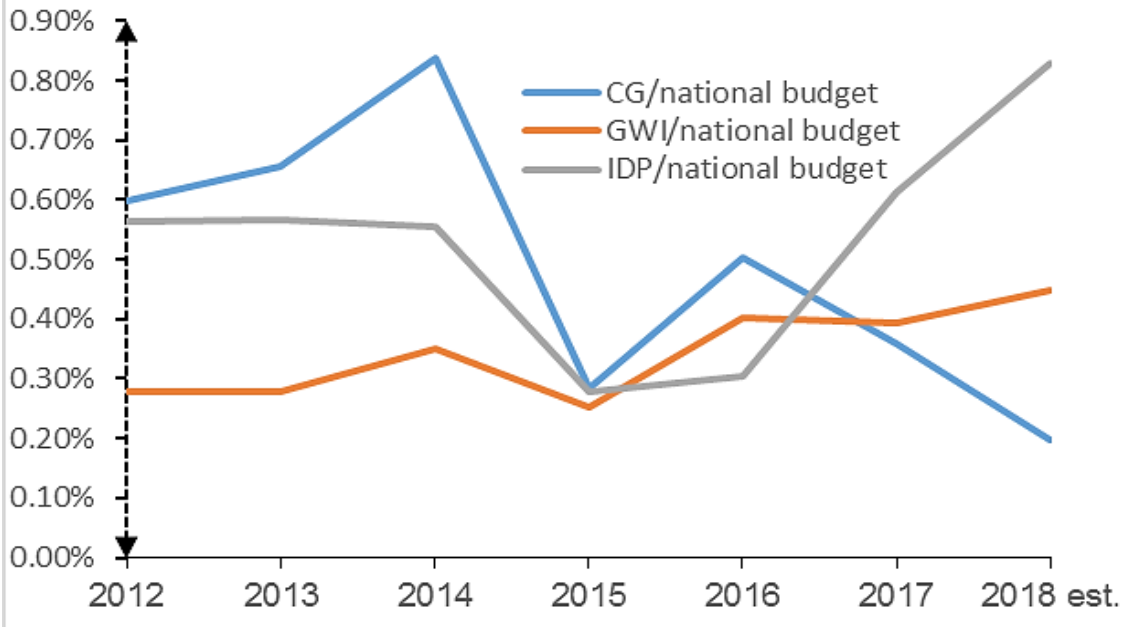
Finance, Revenue Collection & Customer Service



GWl's est. electricity consumption rate (%)



GWl's Major Capital Inv. Sources

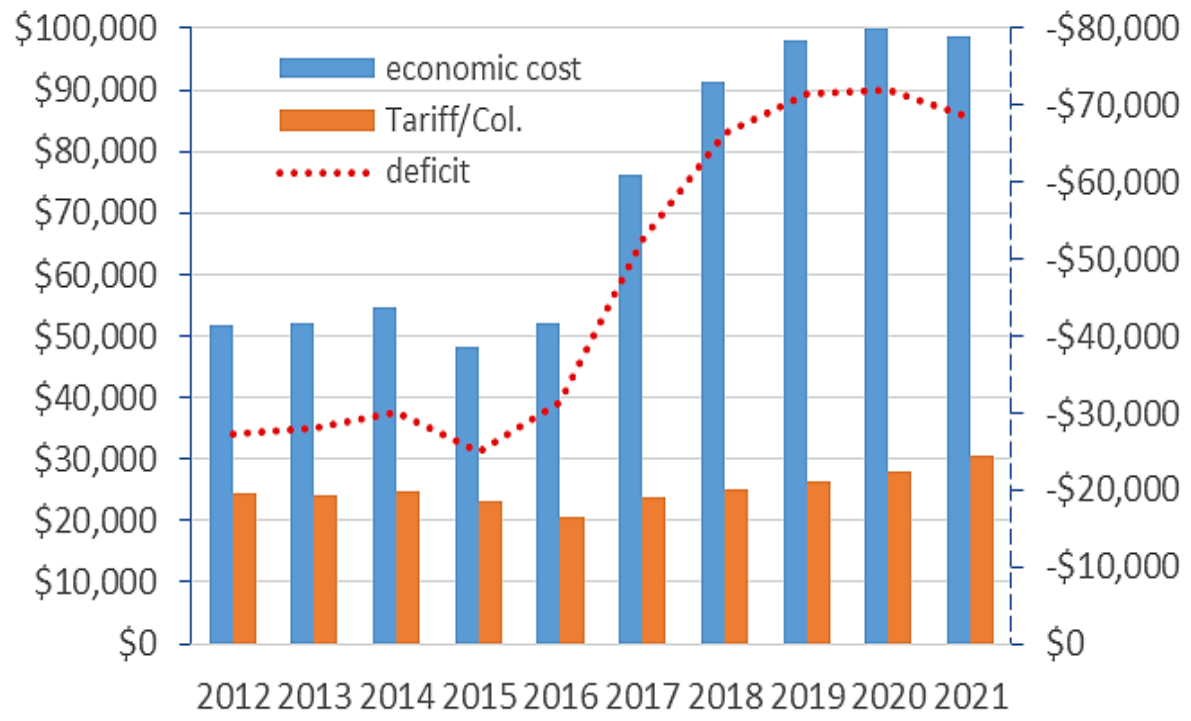




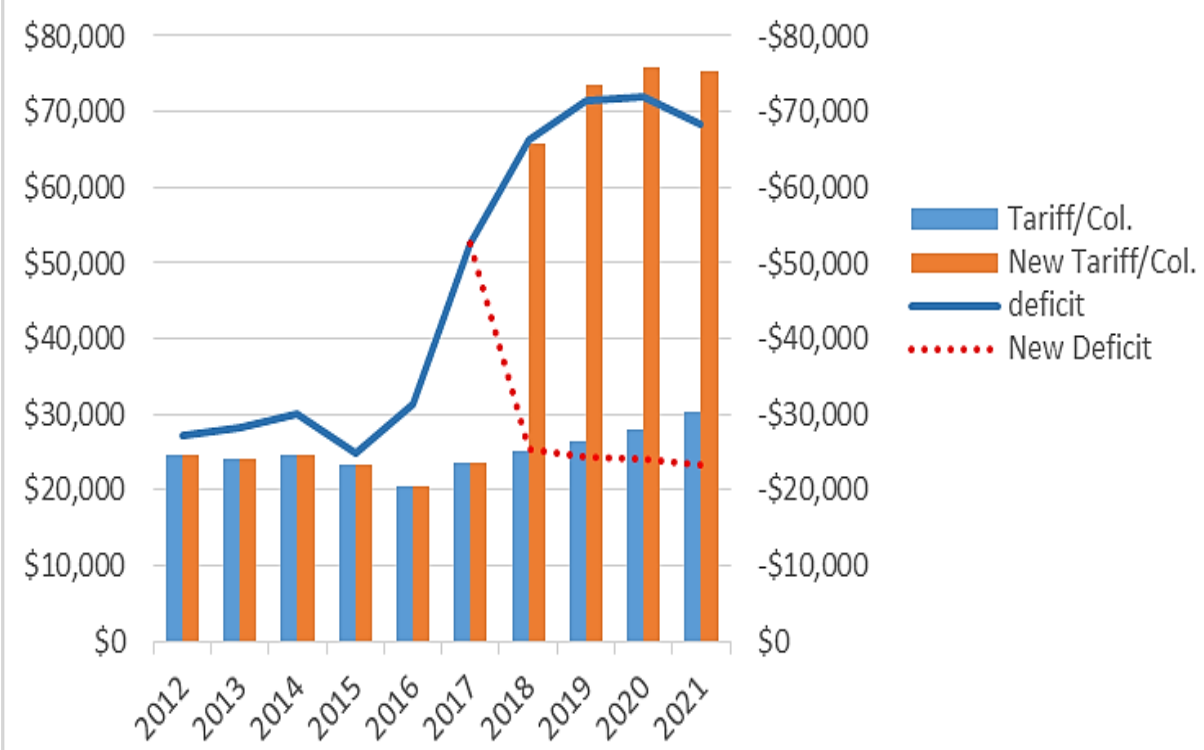
Finance, Revenue Collection & Customer Service



GWU's Real Cost of Service Delivery/per cus.

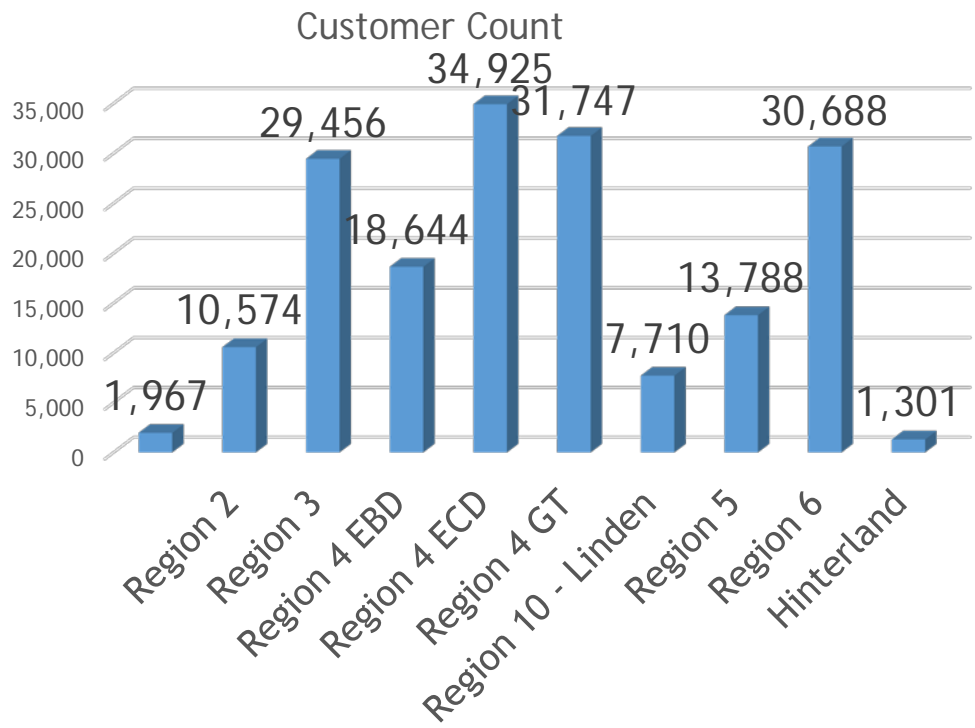


GWU's New Deficit with Tariff Change

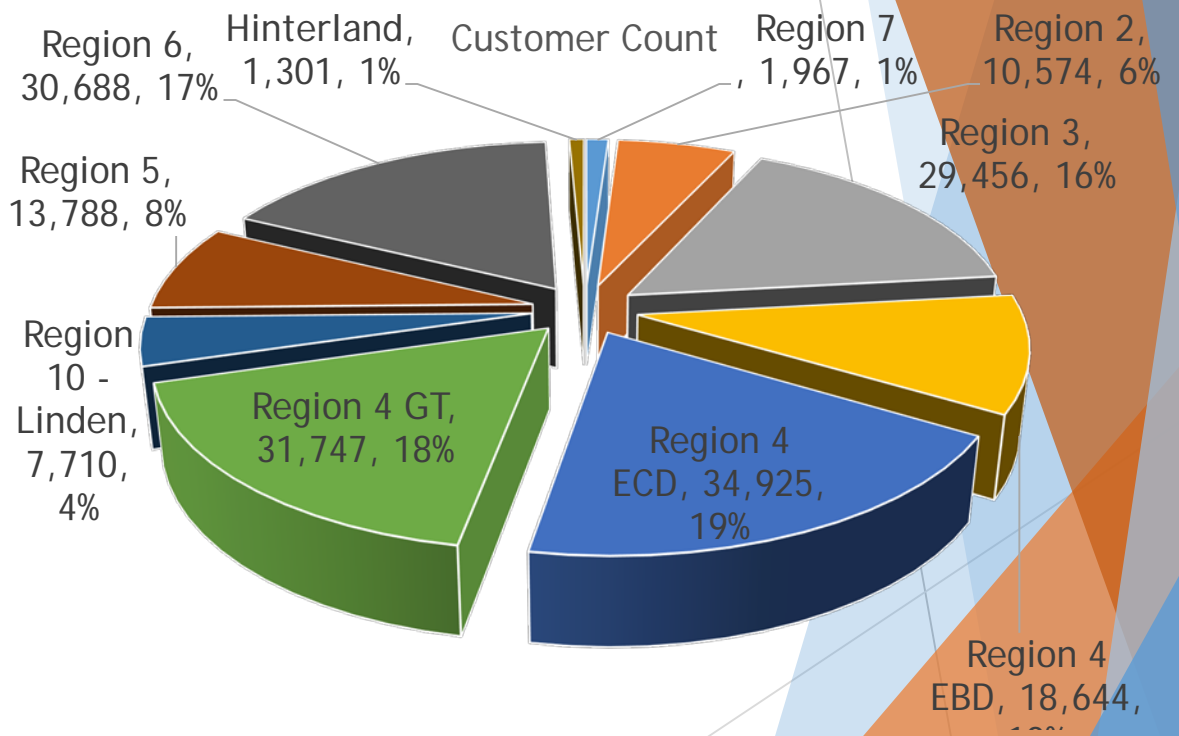




Finance, Revenue Collection & Customer Service



■ No of Customers



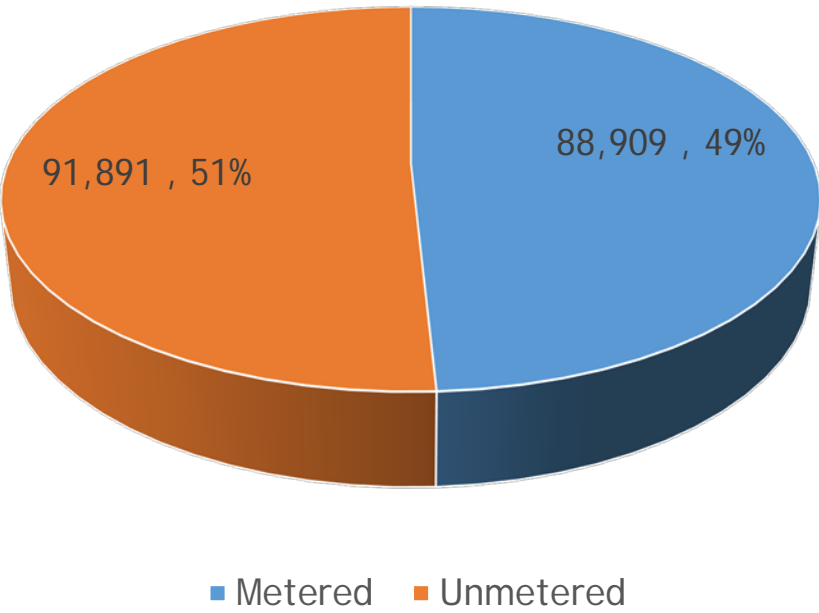
Region 7



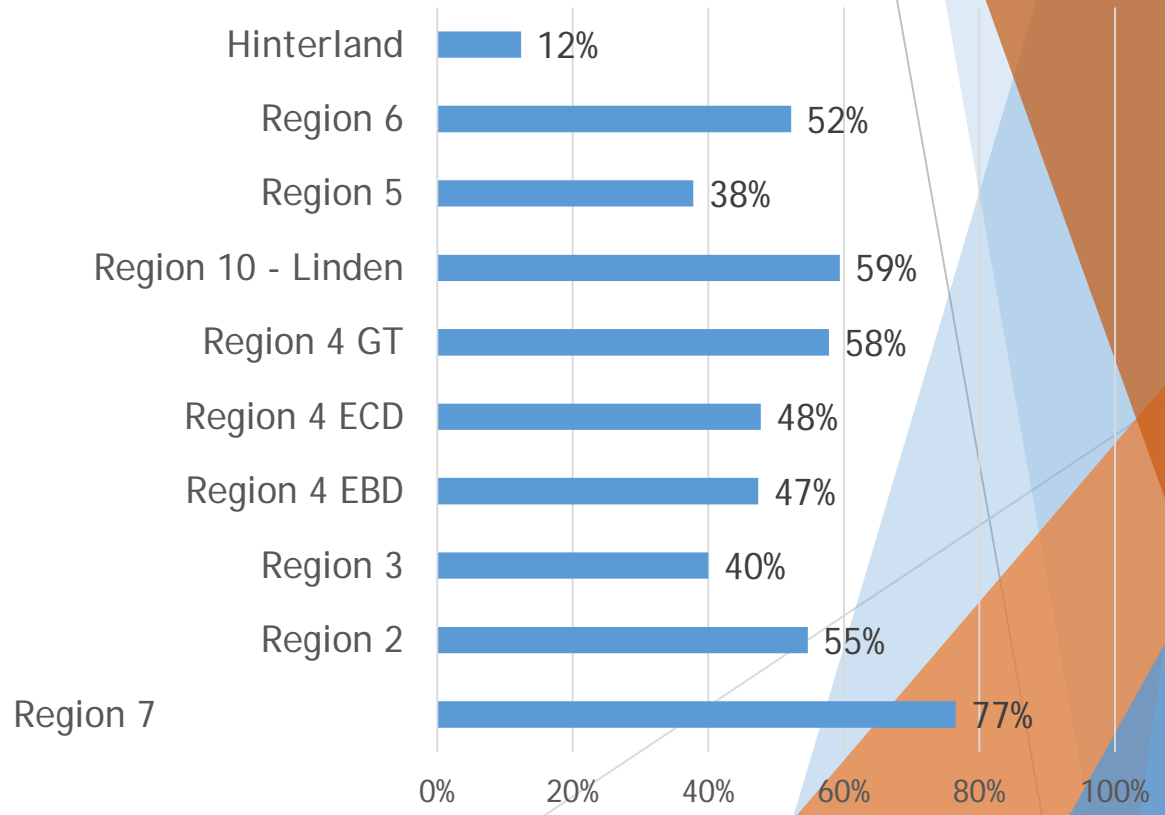
Finance, Revenue Collection & Customer Service



Metered vs Unmetered Accounts



Metered Coverage across all Regions

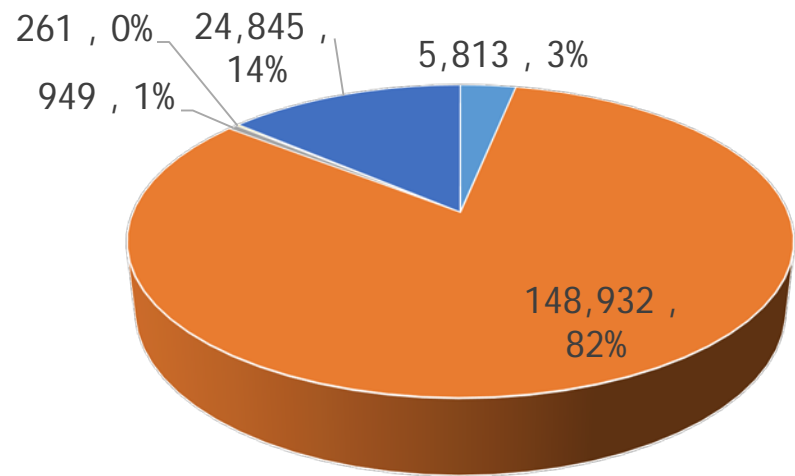




Finance, Revenue Collection & Customer Service

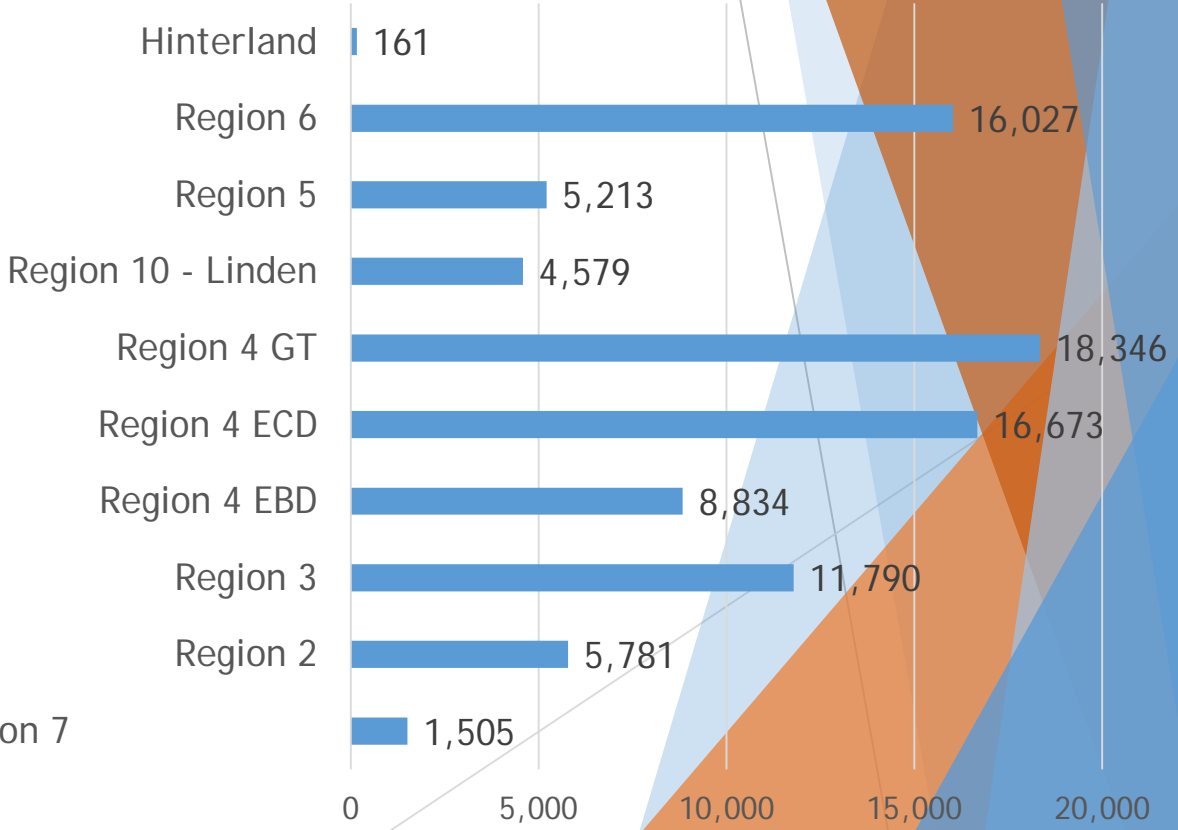


Account Categorisation



- Commercial
- Domestic
- Industrial
- Institutional
- No Charge

Metered Count across all Regions





Application for Change of Rates

Residential and Pensioner



Residential Metered

Monthly Fixed Charge	Monthly Consumption Charge
\$500	\$112 /m ³

Pensioner Metered

Monthly Fixed Charge	Monthly Consumption Charge
\$0	\$74 /m³

Residential Unmetered

Monthly Fixed Charge	Monthly Consumption Charge
\$500	\$1,500/mth

Pensioner Unmetered

Monthly Fixed Charge	Monthly Consumption Charge
\$0	\$740/mth

Sewerage Tariff (Residential and Pensioner)

Category	Monthly Charge
Residential and Pensioner	\$417/mth



Application for Change of Rates

Non-Residential



Water

Non-Residential Metered

Monthly Fixed Charge	Monthly Consumption Charge
\$500	\$150/m ³

Non-Residential Unmetered

Category	Monthly Fixed Charge	Monthly Charge
Small	\$500	\$3,750
Medium	\$500	\$12,000
Large	\$500	\$24,000

Sewerage

Non-Residential Metered

Category	Monthly Charge
Non-Residential	\$2,860

Non-Residential Unmetered

Category	Monthly Charge
Small	\$2,860
Medium	\$4,350
Large	\$6,375



Application for Change of Rates

Ancillary Charges



	DESCRIPTION	RATE
1	Non-Residential Connection Fee 3/4" or less	\$ 16,000
2	Residential Connection Fee 3/4" or less	\$ 10,000
3	Connection Fee for service connection > 3/4"	Material and Labour Cost Only based on Engineer's Estimate
4	Connection Fee for service connection in areas where GWI does not existing pipelines.	Material and Labour Cost Only based on Engineer's Estimate
5	Residential Reconnection Non-Voluntary	\$ 7,500
6	Non-Residential Reconnection Non-Voluntary	\$ 16,000
7	Residential Disconnection Voluntary	\$ 4,000
8	Non-Residential Disconnection Voluntary	\$ 9,000
9	Residential Reconnection Voluntary	\$ 2,000
10	Non-Residential Reconnection Voluntary	\$ 4,000
11	Requested Stay of Disconnection	\$ 1,000
12	Residential Line Transfer Fee (3/4" or less)	\$ 10,000
13	Non-Residential Line Transfer Fee (3/4" or less)	\$ 16,000
14	Line Transfer Fee for service connection (> 3/4")	Material and Labour Cost Only based on Engineer's Estimate



Application for Change of Rates

Ancillary Charges



	DESCRIPTION	RATE
15	Residential/Non-Residential Replacement (Reinstallation) Service Connection Fee (3/4" or less)	\$ 20,000
16	Residential/Non-Residential Replacement Service Connection Fee (> 3/4")	Material and Labour Cost Only based on Engineer's Estimate
17	Residential Tamper Fee	\$ 50,000
18	Non-Residential Tamper Fee	\$ 100,000
19	Damaged Meter Charge	Material and Labour Cost Only based on Engineer's Estimate
20	Unaccounted for Water	Company's Estimate
21	Damage to Infrastructure	Company's Actual cost for replacement
22	Compliance Charge	\$ 5,000
23	Request for an Audit	\$ 2,500
24	Returned Cheque	Subject to Bank Charges
25	Administrative Fee (Name Change, Statement of Account and other Administrative Activities)	\$ 2,500



Application for Change of Rates

Ancillary Charges



	DESCRIPTION	RATE
26	Residential Inspection and Processing fee - where a request for no objection for Residential Building Plan for which no modification to an existing sewer chamber is required	\$ 10,000
27	Residential Inspection and Processing fee - where a request for no objection for Residential Building Plan for which modification to an existing sewer chamber is required	\$ 25,000
28	Non-Residential Inspection and Processing fee - where a request for no objection for Non-Residential Building Plan for which no modification to an existing sewer chamber is required	\$ 20,000
29	Non-Residential Inspection and Processing fee - where a request for no objection for Non-Residential Building Plan for which modification to an existing sewer chamber is required	\$ 35,000



Implementation Timetable



- ▶ Maximum 3 months needed from time of approval. Main challenges are listed below:
 - Automatic billing of VAT (**subject to timetable of software provider**)
 - Upgrade of Billing System (**subject to timetable of software provider**)
 - Limited Data Cleansing
 - Creation of New Tariffs in Billing System
 - Public Education/Sensitisation