



# GHANA WATER COMPANY LIMITED



## PROPOSAL FOR 2022 MAJOR TARIFF REVIEW

**MAY 2022**

# **OUTLINE**

**CURRENT SITUATION**

**RATIONALE FOR ADJUSTMENT OF TARIFF**

**INITIATIVES UNDERTAKEN SINCE TARIFF  
APPROVAL IN 2019**

**OTHER INITIATIVES**

**PLANNED INITIATIVES**

**REVENUE REQUIREMENT**



# GWCL Now...

**Vision:** To be a world class utility company

**Mission :** Committed to meeting the increasing demand of our customers for better service delivery through efficient management of our core business of potable water supply

• 90 Systems



• ~322Mm<sup>3</sup> of water produced annually

• >12,900 km of Network

• 819,627 Connections

• 76% Access

• 17.5M est. population served

• 15 Operational Regions +3 Specialised Units

• 5,143 Staff

## Water Demand /Supply

Indicator	2019	2020	2021	2022	2023	2024	2025	2026	2027
Demand Forecast (Mm <sup>3</sup> )	533.5	555.3	574.8	595.7	618.2	643.1	666.8	672.1	677
Supply Plan (Mm <sup>3</sup> )	300.5	317.1	321.8	325.5	332.2	338.9	438.7	673.3	673.3

# **RATIONALE FOR ADJUSTMENT OF TARIFF**

**CURRENCY DEPRECIATION AND INFLATION**

**INADEQUACY OF TARIFF**

**REVALUATION OF GWCL'S ASSETS AND CORRESPONDING DEPRECIATION**

**DEBT OVERHANG**

**PAYMENT FOR LAND AND CROP COMPENSATION**

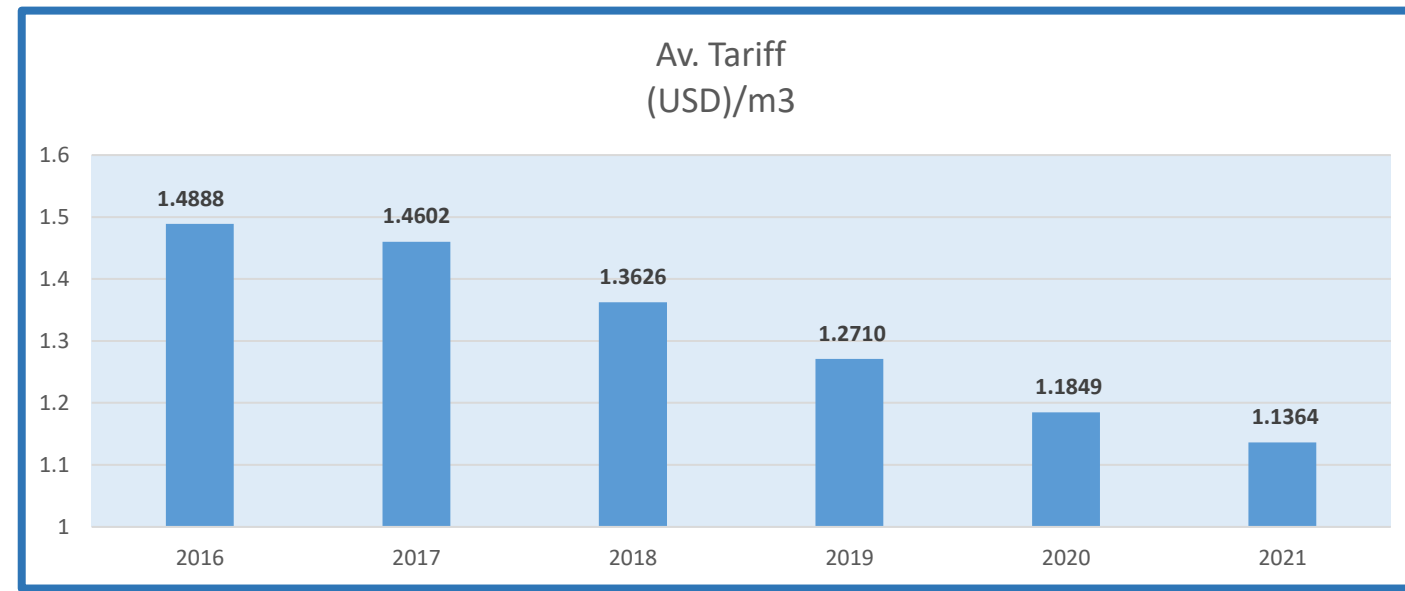
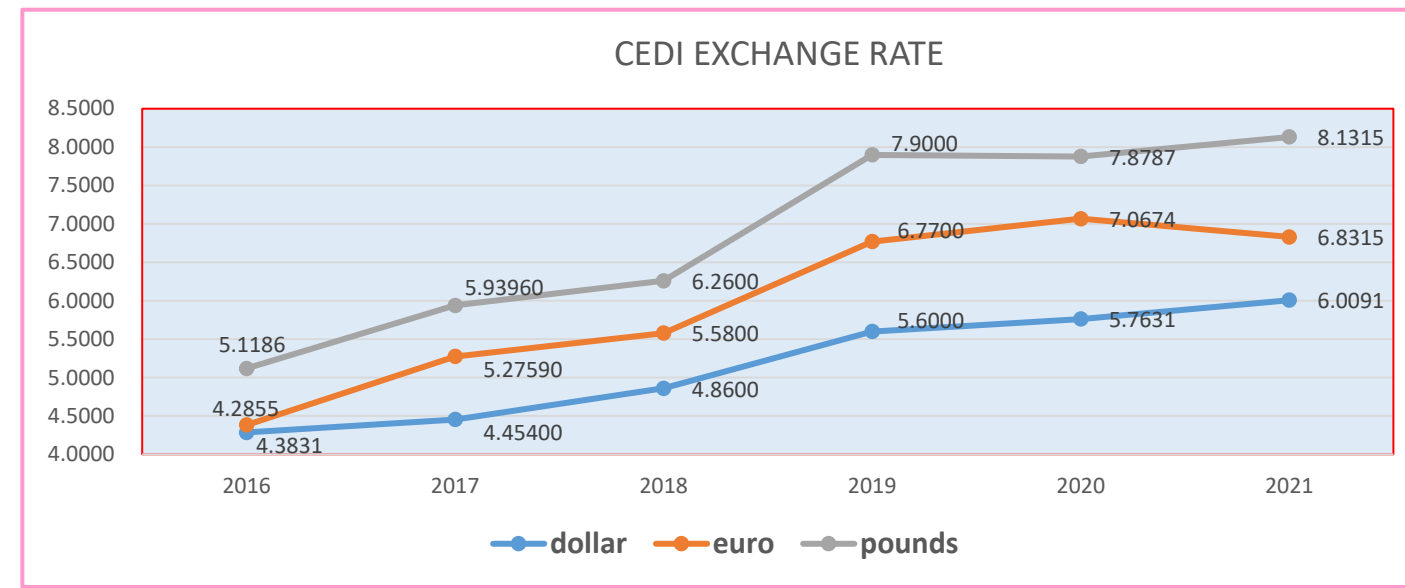
**ABSORPTION OF COST OF METERS FOR NEW SERVICE CONNECTIONS**

**RE-CLASSIFICATION OF BANDS FOR TARIFF**

**POLLUTION OF WATER BODIES**



# Currency Depreciation



# INADEQUACY OF TARIFF

<b>Indicator</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
GWCL Revenue	934,027,490	925,816,620	1,353,429,556	1,210,881,010
PURC Expected Revenue	1,082,337,014	1,029,215,514	1,222,043,434	1,208,685,423
Expenditure	1,601,959,228	3,546,164,658	2,285,398,639	2,651,127,797
GWCL's Profit/Loss	(667,931,738)	(2,620,348,038)	(931,969,083)	(1,440,246,787)
PURC's Profit/Loss	(519,622,214)	(2,516,949,144)	(1,063,355,205)	(1,442,446,374)

## **REVALUATION OF GWCL'S ASSETS AND CORRESPONDING DEPRECIATION**

- Inadequate depreciation granted if asset value of GHS 2.2 billion is compared to re-valued assets of GHS 17.2 billion.



## **DEBT OVERHANG**

- On-lent Loans increased to GHS 6.222 Billion as at December 2021.

## **PAYMENT FOR LAND AND CROP COMPENSATION**

- Land and Crop compensation payment to be included as a cost component of tariff.
- GHS 2.7M per annum

## **ABSORPTION OF COST OF METERS FOR NEW SERVICE CONNECTIONS**

- Cost of meters for New Service Connection be incorporated into Operational cost.

## **DESALINATION PLANT**

- Take or pay contractual arrangement
- Exchange losses
- Inadequate water supply
- Dissatisfied customers



**RE-CLASSIFICATION  
OF BANDS FOR  
TARIFF**

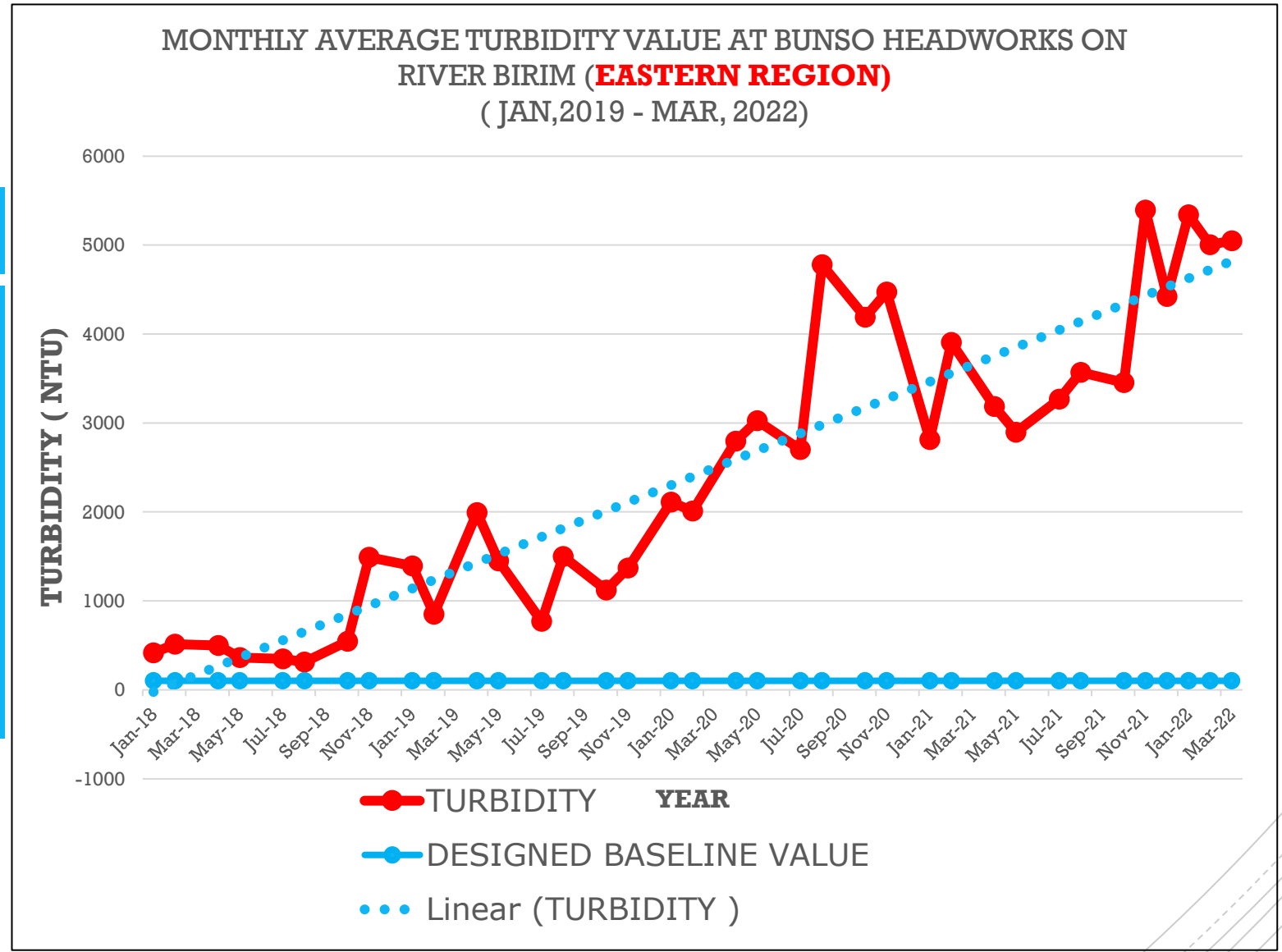
<b>Existing Structure</b>	
<b>Categories</b>	<b>Existing Tariff (GHp)</b>
Metered Domestic	
0- 5	<b>329.2121</b>
above 5	<b>560.2083</b>
Commercial	<b>923.039</b>
Industrial	<b>1,111.8338</b>
Public Distribution/Gov't Depts.	<b>718.6628</b>
Public Standpipe	<b>369.4489</b>
Special Commercial (bottled water producers)	<b>5,607.5588</b>
Sachet water producers	<b>1,237.7011</b>
Ocean Going Vessels	<b>12,586.8266</b>

<b>Proposed Structure</b>	
<b>Categories</b>	
Residential	
0- 5	
above 5	
Bulk Supply (Production, Transmission, Distribution)	
Non Residential	
Commercial	
Industrial	
Public Distribution/Gov't Depts.	
Public Standpipe	
Ports & Harbour	

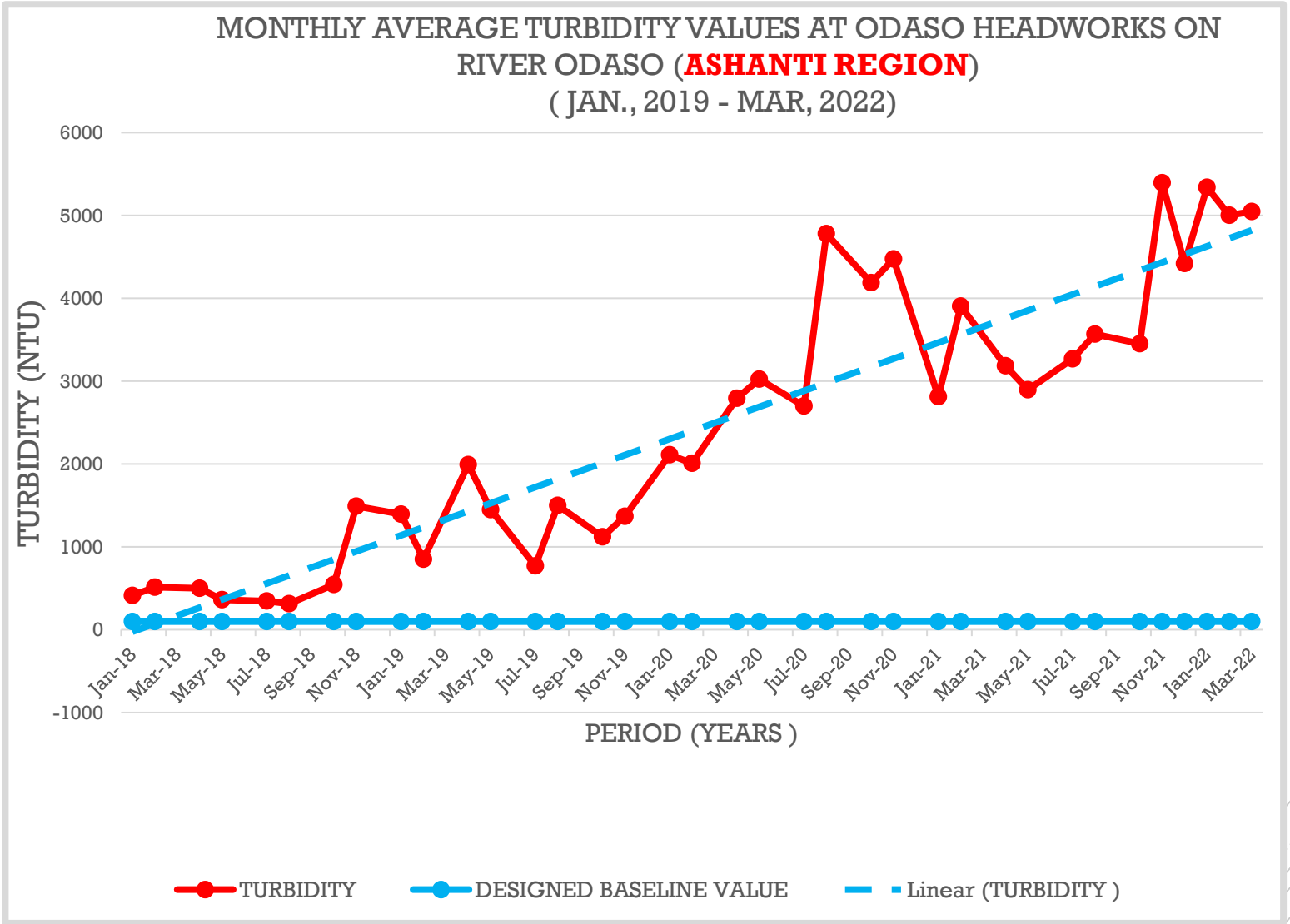
## POLLUTION OF WATER BODIES

- High Consumption of Water Treatment Chemicals ( Alum and Lime) because turbidity levels are high
- High frequency in Water Quality Monitoring and management
- High siltation of Intake sumps
- Frequent wearing and replacement of electromechanical equipment (i.e. pumps)
- High volumes of sludge generation and downtimes
- High process loss due to frequent dislodging and backwashing ( high water used in treatment)
  - ✓ About 40 – 50% process losses in systems affected by Galamsey activities
- Other pollution activities
  - Chemical effluent from industries
  - Sand winning e.g Dalun/Nawuni
  - Domestic waste discharge e.g at Weija causing increases in alum usage from 200 bags a day to 300 bags

# IMPACT OF GALAMSEY



# IMPACT OF GALAMSEY (CONT'D)

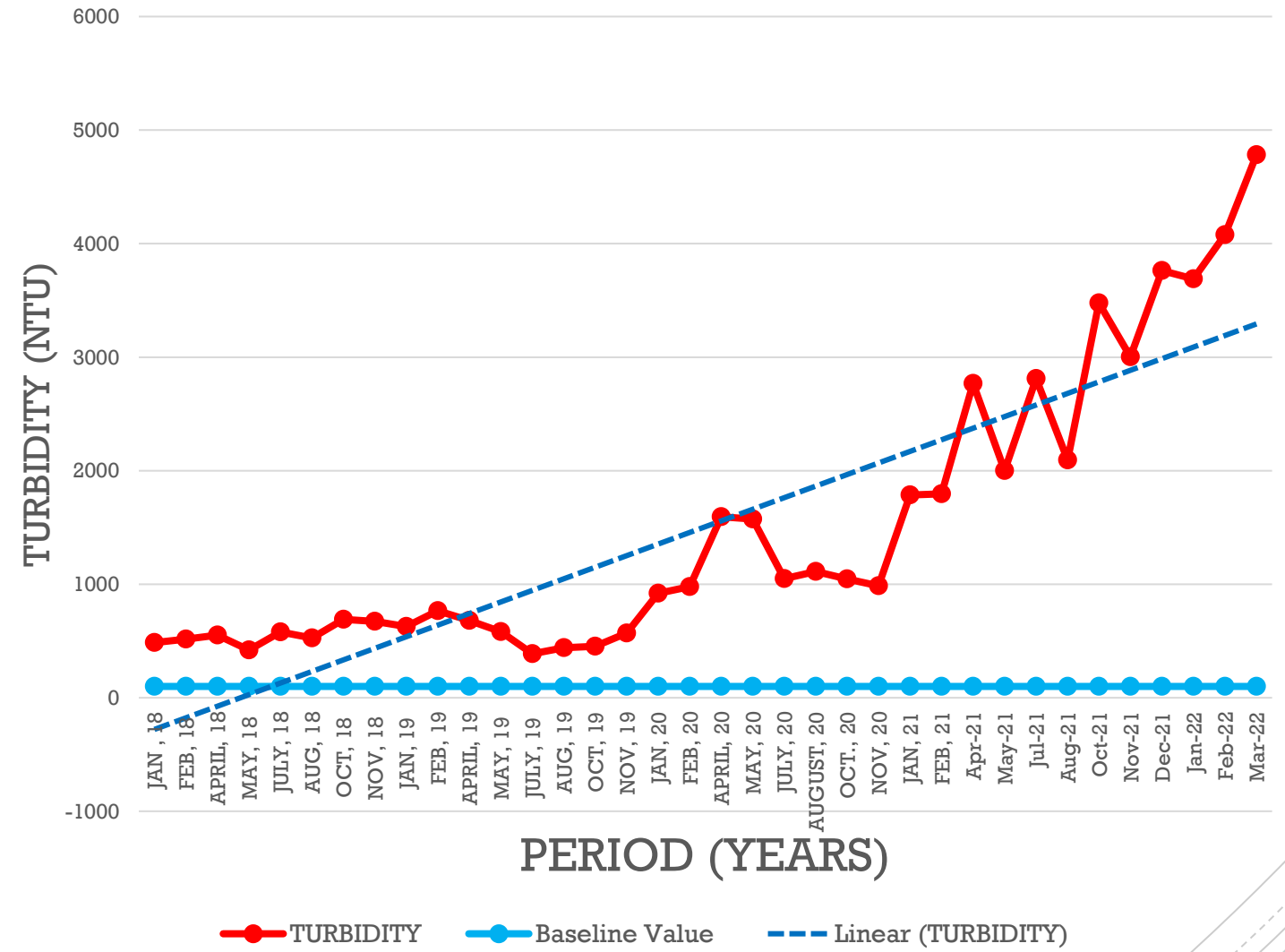






MONTHLY AVERAGE TURBIDITY VALUES AT DABOASE HEAD 17  
WORKS ON RIVER PRA (**CENTRAL REGION**)  
(JAN., 2019 - MAR, 2022)

**IMPACT OF GALAMSEY (CONT'D)**



# SEKYERE HEMANG HEADWORKS ON RIVER PRA



# INITIATIVES SINCE 2019

**Capacity Expansion Projects**

**Service Delivery Improvement Activities**

**System Loss Reduction Programs**

**E-project**

## Capacity Expansion Projects from 2015

Project Status	No.	m3/day	Total Amount GHS (million)	Total Amount USD (million)	Total Amount Euro (million)
Completed	13	574,300	97.46	880.06	150.16
Ongoing	12	809,717	16.21	446.84	343.21
<b>Total</b>	<b>25</b>	<b>1,384,017</b>	<b>113.67</b>	<b>1,326.90</b>	<b>493.37</b>

The latest completed projects include:

- Kpong Water Supply Expansion Project-2015
- Cape Coast Water Supply Project-2016
- Wa Water Supply Project -2017
- Akim Oda, Akwatia and Winneba Water Supply Project - 2018



# **Service Delivery Improvement Activities**

**Production**

**Transmission**

**Distribution pipeline extensions and replacement works**

# Production

**GWCL invested GHS74.7M in the following:**

- ❖ **Pumps replacement**
- ❖ **Installation of submersible pumps**
- ❖ **Actuator valves replacement at Barekese (recovery of 1MGD into system)**
- ❖ **Dredging of intakes**
  - **Sekyere Hemang,**
  - **Winneba**
  - **Nsawam**
  - **Daboase**
  - **Baifikrom**



# Production (Cont'd)

## Installation of AVRs

At Aframso installation of AVR resulted in

- an average monthly increase in production from 24,735m<sup>3</sup> in 2019 to 36,700m<sup>3</sup> in 2021.
- Improvement of power factor from 0.75 to 0.83

## Completed

- 1No. AVR at Achiase in Ashanti
- 1No. AVR Sowutuom Booster in ATMA
- 1No. AVR at Juansa Booster in Ashanti
- 1No. AVR at Keseve Headworks in ATMA

## Ongoing

- 2No. AVRs at Barkese lowlift and highlift in Ashanti
- 1No. AVR at Kpeve lowlift in Volta
- 2No. AVRs at Dalun/Nawuni in Northern
- 1No. AVR at Konongo in Ashanti



# Transmission



Transmission Pipeline	Length (m)	Diameter (mm)	Pipe Material	Cost (GH¢)
Bonsa-Tarkwa (Lot 1)	5,850	355	HDPE	4,564,129
Bonsa-Tarkwa (Lot 2)	5,850	355	HDPE	4,500,676
Bonsa-Tarkwa (Lot 3)	4,000	315	HDPE	3,209,305
Inchaban-Kojokrom-Sekondi	10,000	315	HDPE	8,754,800
Inchaban-Essipong-Sekondi	11,000	400	HDPE	14,738,579
Kpong-Tema	120	1050	HDPE	1,200,000
<b>Total</b>	<b>36,820</b>			<b>36,967,489</b>

## **Distribution pipeline Extensions and Replacement Works**

- 661.4km extended at a cost of GHS 59.5M
- 12.6km replaced at a cost of GHS 4.2M

These include: Doku, Maye Hot, East Legon, Nyanyanor, Ashaiman, Tema Community 9 and Free Zones Areas

# Bulk Metering Program

**Water Loss Reduction Interventions (Installation of Production meters)**

REGION	PLANNED	ACTUAL	% INSTALLED	COMPLETION
ATMA	52	33	46.2	AUGUST 2022
Ashanti	50	46	66.0	
Western	26	0	-	
Central	56	62	80.4	
Eastern	137	0	-	
Volta	45	0	-	
Bono	26	0	-	
Northern	11	0	-	
Upper East	21	0	-	
Upper West	2	0	-	
<b>Total</b>	<b>426</b>	<b>141</b>	<b>23.9</b>	



## Water Loss Reduction Interventions

- 20 number bulk zonal electromagnetic meters and sensors installed to measure flow to and from the three ATMA regions
- 60,000 Ultra sonic smart meters installed in ATMA region
- 83,000 mechanical meters (domestic) installed to replace faulty ones as at December 2021
- 2,700 smart meters (domestic) out of 20,000 have been installed in North-East District of Accra East Region as at December 2021 base on Fixed network technology.
- Leakage Detection activities (active leakage search in 6 DMAs) at the Kaneshie District resulted in cost saving under the Nationwide Network Management Project

Reduced time between customer meter reading and customer billing

Reduced 'arm-chair' meter reading

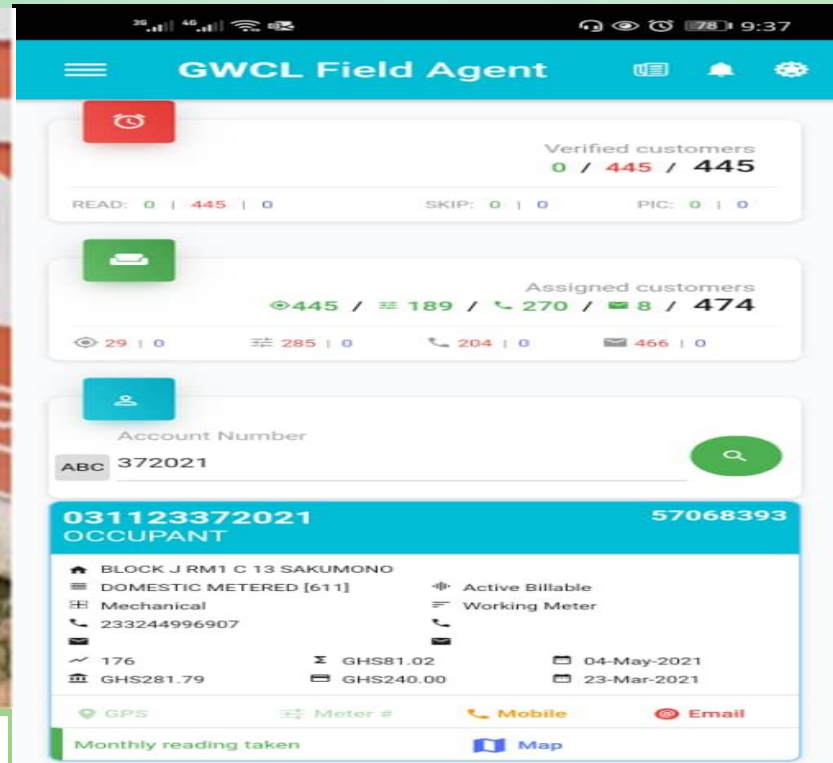
Linked customer billing to customer location

## Electronic Billing

The digitization of the business process in the commercial department comprises of the generation and transmission of digital bills (SMS, e-mails), and keeping of historical records of customer transactions and user activities online through the use of a web portal and mobile applications



Customer Care Assistant reading a meter with a smart android mobile phone



# Electronic Payment

**GHANA WATER COMPANY LIMITED**  
GWCL ... At Your Service

**You Can Now Pay Your Water Bills Via**

- MTN Mobile Money \*170#
- MTN Mobile Money \*171#
- tigo cash \*501#
- vodafone cash \*110#

**Payment can also be done through the following Banks:**

Ecobank, umb, CalBank, NATIONAL INVESTMENT BANK, GCB, FIDELITY BANK, SOCIETE GENERALE GHANA, hfcbank, access, GT Bank, PRUDENTIAL BANK LTD.

**Slydepay**, **expressPay**

You can also download GWCL customer app from [GET IT ON Google play](#) and [Download on the App Store](#)

**Mobile Money**

**Mobile Banking applications**

**Online payments (Visa, MasterCard)**

**Other electronic platforms (ExpressPay; SlydePay)**

- Electronic payment continuous to ensure:**
- **Instant reconciliation for all payments made, and same updated in the customer database**
  - **Customers across the world are able to pay their bills**



# Mobile App

- e-Reader (Meter Reading mobile application)
- e-Manager (Management Dashboard)
- e-Cashier (Point of Sale application)
- Customer Mobile application

**Meter Reading - Review - #4259540**  
View review activity

Processed At: Tue May 11, 2021 06:25

Activity Type: Meter Reading - Review

Customer Care Assistant: 18550 - Edmund Akwa

Customer: 10205000026 - J.K. MOMOTSE

District: KPRINELL VOLTA REGION

Service Category: DOMESTIC METERS (A1)

Reading: 2182

Review Reason: Reading out of range

REVIEW PROCESS DETAILS

Accept Or Modify

Rejection Reason

Previous: 2185 | Current: 2182 | Consumed: 3A

Month	Start Date	End Date	Reading	Consumed	Read Type	Status
Wed Nov 18, 2020	November 2020	2020	27	86.0	RT	RT
Fri Dec 18, 2020	December 2020	2020	14	86.0	RT	RT
Tue Jan 12, 2021	January 2021	2021	14	86.0	RT	RT
Wed Feb 10, 2021	February 2021	2188	18	86.0	RT	RT
Wed Mar 25, 2021	March 2021	2178	18	86.0	RT	RT
Wed Apr 07, 2021	April 2021	2148	31	86.0	RT	RT

Reading Activity Flagged for Review

Platform Monitor

Platform Monitors - View, process or reverse platform activities

REALTIME TRANSACTIONS | FIELD ACTIVITIES | READING REVIEW | SYSTEM ESTIMATES | **USER AUDIT TRAIL**

Report Type: Group By Date | Start DateTime: 01/05/2021 12:00 AM | End DateTime: 12/05/2021 12:00 AM | Account Number: | GENERATE TABLE | GENERATE REPORT

Region: TEMA | District: SELECT DISTRICT FILTER | User Group: SELECT USER GROUP FILTER | Platform User: SELECT PLATFORM USER FILTER

Entity Type: CUSTOMER | Field Name: SELECT FIELD NAME FILTER | Page Name: SELECT PAGE NAME FILTER

Processed At	User	User Group	Structure	Entity Type	Field Name	Page Name	Old Value	New Value	Actions
04-May-2021 09:27:01	Adam Larbi	District Manager	BATSONA DISTRICT	Customer	Connection Date	030970660561/GYAPONG JOHN K	Feb 1 2006 12:00AM	Jan 31 2006 12:00AM	
04-May-2021 09:27:01	Adam Larbi	District Manager	BATSONA DISTRICT	Customer	Last Reading	030970660561/GYAPONG JOHN K	1446	0	
04-May-2021 09:27:40	Alberta Vanderpuye	Regional MIS	TEMA REGION	Customer	Name	030871437419/NARTEY PAUL		030871437419/NARTEY PAUL	
04-May-2021 09:31:20	Alberta Vanderpuye	Regional MIS	TEMA REGION	Customer	Name	030871602800/AMDAKO KWAME		030871602800/AMDAKO KWAME	
04-May-2021 09:32:17	Happy Elizabeth Egeh	District Commercial Officer	ASHAMAN EAST DISTRICT	Customer	View Customer	030473100370/TAYLOR KWABENA EMM J	030473100370	030473100370	
04-May-2021 09:33:54	Alberta Vanderpuye	Regional MIS	TEMA REGION	Customer	Name	030871600500/FIACHE FOFIE KWAKU FRANK JUNIOR		030871600500/FIACHE FOFIE KWAKU FRANK JUNIOR	
04-May-2021 09:36:00	Alberta Vanderpuye	Regional MIS	TEMA REGION	Customer	Name	030871608964/ANSAH ANDREW		030871608964/ANSAH ANDREW	
04-May-2021 09:38:11	Alberta Vanderpuye	Regional MIS	TEMA REGION	Customer	Name	030871402980/OKANTEY LAUD		030871402980/OKANTEY LAUD	
04-May-2021 09:40:17	Happy Elizabeth Egeh	District Commercial Officer	ASHAMAN EAST DISTRICT	Customer	View Customer	030472180206/ATUBA PEACE IDAN	030472180206	030472180206	

User Audit Trail

# OTHER INITIATIVES

**Efficiency Improvement Initiatives**

**Ongoing Projects/Programs**

**Reduction in NRW**

# Efficiency Improvement Initiatives

- Quality Water Management System (ISO 90001:2015)
- Performance Improvement Programme
- Upgrading of Call Centre
- Customer Satisfaction Surveys
  - Over 70% satisfied with product and services
- Improved Network Management (SCADA, Telemetry, Smart Metering, Zonal Metering and District metered Areas)
- Intensify Water Safety Plans implementation



**SCADA Control Room at Mile 4, Accra East**



# On-going Projects

Projects	Capacity /Description	Contract Sum	Capacity		Status 2021	Completion
			m3/day	Km		
<b>Sogakope-Lome WSP</b>	Feasibility Studies	2.2 M Euros	411,873		90%	Dec-25
<b>GAMA Sanitation WP</b>	Low income communities in GAMA	48.5 M USD		290 (Distribution network)	DLP	Dec-24
<b>Upper East Region WSP</b>	WTP- 7.4 MGD	37.7 M Euros	25,000 (5,000 rehab. at Ve; 20,000 New at Bolgatanga & envn)	63 (Transmission & Distribution network)	DLP	Jan-22
<b>Wenchi</b>	WTP-2.4 MGD	32.7 M Euros	10,700		10%	Dec-25
<b>Sekondi-Takoradi</b>	WTP- 22.2 MGD	71 M Euros	100,000	0.6Km (Transmission network) 25Km (Distribution network)	5%	Dec-25
<b>Keta WSP</b>	WTP 7.0 MGD	93 M USD	42,244 (7,200 Rehab.; 35,044 New)		15%	Dec-23
<b>Water Network Management</b>	GIS equipment/offices in all regions	8.0 M Euros			90%	Mar-22

Other ongoing projects include:

- Tamale, Damango, Essiama, Assin Fosu and Sunyani
- Yendi and Techiman

## Linking of 3 WTPs (Siemens Plant , Kpong New Works to China Ghezouba)

### On-going Projects (Cont'd)

- Re-engineering of the Kpong WTP to recover additional capacity of 36,000m<sup>3</sup>/day (7.9 MGD)
- Estimated at GHS 17.0 M.
- Water recovered pumped through the Dodowa corridor to the Eastern part of Accra.
- Project expected to be completed by the end of the second quarter of 2022
- Improve water supply to Accra East and allow more water to be supplied to Tema and its environs

# Improved Customer Service



**Call Centre at Mile 4, Accra East**



**Meter Laboratory at Mile 4, Accra East**



# Timely Repairs- Improved Reliability



# Non Revenue Water Reduction

- District Metered Areas (DMAs) created:
  - ❖ Santeo (Tema)- 72% in August 2020, 19% December 2021
  - ❖ Amasaman (Accra West): 56% in August, 23% in December 2021
- Creation of NRW Unit in regions and districts
- Tema: 91No. unreported leakages have been resolved in April 2022
- Prompt repair of reported bursts and leakages

# PLANNED INITIATIVES

**Projects**

**Production Improvement Works**

**Energy Efficiency Improvement Program**

**Distribution Improvement Works**



## Projects

\*1.26 billion USD and

\*113 million Euros

is the estimated cost of projects.

- Development of new WSS: Kpong, Atebubu-Amantin , Tarkwa, Berekum, Fanteakwa-Begoro, Ho, Hohoe,
- Rehabilitation of Walls of the Weija Dam and Filters
- Dredging of Weija dam

## Production Improvement Works

- GHS 333.58M required to improve upon
- \*various production systems,
- \*service delivery
- \*efficiency.

- Replacement of motors at Kpong New, Dodi, Biaso, Jambusi and Kpeve Headworks
- Dredging of Dalun intake and Owabi/Barekese dam
- Replacement of 3No. transformers at Daboase Headworks

## **Energy Efficiency Improvement Program**

- Installation of AVR's
  - ❖ Salaga, Bagabaga, Yendi and Kpeve
- Replacement of pumping equipment nation-wide
- Incorporation of Variable Frequency Drives in our operations

## **Distribution Improvement Works**

- GHS 700.7M for 2,089km of mains extensions nationwide
- GHS 300M is required to replace 14.9km of aged pipelines in Accra West.
- Over 800km of AC pipelines of various sizes planned for replacement in GAMA

# REVENUE REQUIREMENTS

Parameters	2022	2023	2024	2025	2026	2027
<b>Cost (GHS)</b>						
<b>OPEX Desal and OPEX GWCL</b>	3,278,375,570	3,868,753,224	4,262,400,255	4,888,121,477	5,463,715,306	5,886,990,070
<b>OPEX Desal, OPEX GWCL &amp; CRC</b>	4,220,826,025	4,800,865,188	5,184,173,728	5,799,556,459	6,364,811,797	6,777,748,070
<b>GWCL &amp; DESAL GRAND TOTAL</b>	4,710,482,322	5,280,182,925	5,653,152,906	6,258,197,077	6,813,113,856	7,224,705,223
<b>Cost/m<sup>3</sup> (GHS/m<sup>3</sup>)</b>						
<b>OPEX Desal and OPEX GWCL</b>	19.62	22.21	23.55	20.49	14.66	15.51
<b>OPEX Desal, OPEX GWCL &amp; CRC</b>	25.27	27.57	28.64	24.31	17.07	17.86
<b>GWCL &amp; DESAL GRAND TOTAL</b>	28.20	30.32	31.23	26.23	18.28	19.04



# Performance Outcome (2021-2027)

Indicators	Unit	2021	2022	2023	2024	2025	2026	2027
Capacity Utilization	%	85	85	86	86	86	86	86
Daily Production	m3	881,711	891,801	910,230	928,604	1,201,945	1,844,715	1,844,715
Access	%	76	77	78	79	90	100	100
Daily Sales	m3	479,163	498,024	521,969	546,434	725,310	1,140,859	1,168,529
NRW	%	45	44	43	42	40	38	37
Metering Ratio (Customer Metering)	%	80	85	90	95	100	100	100
Water Quality Compliance	%	≥95	≥95	≥95	≥95	≥95	≥95	≥95
Tariff	GHS/m3	24.46	28.20	30.32	31.23	26.23	18.28	19.04



# Conclusion

<b>Tariff request for 2022 (GHs/m<sup>3</sup>)</b>	
<b>Tariff with Opex only (OCR).....</b>	<b>19.62</b>
<b>Tariff with Capital Cost Recovery (CCR).....</b>	<b>25.27</b>
<b>Tariff with Full Cost Recovery (FCR).....</b>	<b>28.20</b>

Tariffs granted over the years have been useful and contributed to the reformation and improvement of our systems and the company at large. However inadequate to cater for total expenditures.

For GWCL to bridge the supply-demand gap, there is the need for a realistic tariff that can improve upon financial sustainability.

GWCL is geared to meet performance targets



**THANK  
YOU**