

Assessment of the Impact of COVID on Water and Sanitation Utilities in Latin America and the Caribbean

Water and Sanitation Division

TECHNICAL NOTE N°
IDB-TN-2298

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**Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library**

Janson, Nils.

Assessment of the impact of COVID on water and sanitation utilities in Latin America and the Caribbean / Nils Janson, Laura Bulbena; editors, Maria Eduarda Gouvea, Keisuke Sasaki, L. Javier Garcia, Julio Cesar Aguilera.

p. cm. — (IDB Technical Note ; 2298)

Includes bibliographic references.

1. Water utilities-Latin America. 2. Water utilities-Caribbean Area. 3. Sanitation-Latin America. 4. Sanitation-Caribbean Area. 5. Coronavirus infections-Latin America. 6. Coronavirus infections-Caribbean Area. I. Bulbena, Laura. II. Berto, Maria Eduarda Gouvea, editor. III. Sasaki, Keisuke, editor. IV. García Merino, Lucio Javier, editor. V. Aguilera, Julio Cesar, editor. VI. Inter-American Development Bank. Water and Sanitation Division. VII. Title. VIII. Series.

IDB-TN-2298

Keywords: Water, sanitation, utilities, COVID-19, tariffs, finance, operations.

JEL Codes: L95,Q25

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Embajada de Suiza en Colombia
Cooperación Económica y Desarrollo (SECO)

This document has been prepared by Nils Janson and Laura Bulbena, within the framework of a consultancy financed by the Swiss Embassy in Colombia - Cooperación Económica y Desarrollo (SECO). The coordinators of the project from the Water and Sanitation Division of the Inter-American Development Bank have been Maria Eduarda Gouvea, Keisuke Sasaki, L. Javier Garcia and Julio Cesar Aguilera. The team appreciates the contributions and comments of Carmen Yee and Berenice Flores of the World Bank.



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Acronyms and Abbreviations

ANDEAN	Andean Region
ANDESCO	Asociación Nacional de Empresas de Servicios Públicos y Comunicaciones
AWWA	American Water and Wastewater Association
CAPEX	Capital Expenditures
CARIB	Caribbean Region
CENTAM	Central America
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
GWI	Global Water Intelligence
IDB	Inter-American Development Bank
IFC	International Finance Corporation
IWA	International Water Association
LAC	Latin America and the Caribbean
LCU	Local Currency Units
NWC	National Water Commission
NRW	Non-revenue Water
OECD	Organization for Economic Co-operation and Development
OPEX	Operating Expenses
OTASS	Organismo Técnico de la Administración de los Servicios de Saneamiento
PPE	Personal Protective Equipment
SOUTH	Southern Cone

1 | Introduction

K&M Advisors LLC (K&M), through contracts with the Inter-American Development Bank (IDB) and the World Bank, surveyed 21 water and sanitation utilities in Latin America and the Caribbean (LAC) to assess the impact of COVID on the utilities. These surveys were carried out to support the development of the financial models for water utilities that were directly linked to the impacts of COVID on the utilities. For example, the results of the surveys provide data for developing better assumptions related to the impact of COVID on demand, revenues, non-revenue water, operating expenses, collection rates, and capital expenditures.

This section begins with a summary of COVID's impact on LAC countries (Section 1.1). It is followed by an overview of the utilities surveyed for this assessment (Section 1.2). After this section, the report presents:

- **Assessment of the impact of COVID on finances and operations of water utilities in LAC (Section 2).** This section presents the findings of the assessment of COVID's impact on the surveyed utilities.
- **Conclusions of the impact of COVID on the surveyed utilities (Section 3).** This section presents the summary conclusions of COVID's impact on the surveyed utilities.

1.1 Summary of the impact of COVID on countries in LAC

COVID has rapidly spread across Latin America, reaching 15 million confirmed cases by the end of December 2020. Health impacts for the region have been significant. LAC reached 815 deaths per 1 million inhabitants. Across the region there are large differences in the health impacts of the pandemic. Table 1.1 shows that Argentina, Brazil, Chile, Colombia, Mexico, Panama, and Peru have more than 800 deaths per 1 million inhabitants, while Dominica, Haiti, Nicaragua, Trinidad and Tobago, and Uruguay have reported fewer than 100 deaths per 1 million inhabitants.

Table 1.1: Coronavirus Situation by Country and Region (as of December 30, 2020)

Country/Region	COVID Confirmed Cases	Deaths	Deaths per 1 million inhabitants
Argentina	1,590,513	42,868	949
Belize	10,591	236	594
Bolivia (Plurinational State of)	155,594	9,106	780
Brazil	7,504,833	191,570	901
Chile	603,986	16,488	863

Country/Region	COVID Confirmed Cases	Deaths	Deaths per 1 million inhabitants
Colombia	1,603,807	42,374	833
Costa Rica	165,762	2,144	421
Dominica	96	0	0
Dominican Republic	168,265	2,405	222
Ecuador	210,326	14,001	794
El Salvador	45,415	1,313	202
Guatemala	136,287	4,781	267
Guyana	6,298	164	209
Haiti	9,999	236	21
Honduras	120,103	3,088	312
Jamaica	12,752	298	101
Mexico	1,389,430	122,855	953
Nicaragua	4,829	165	25
Panama	233,705	3,892	902
Paraguay	105,374	2,202	309
Peru	1,008,908	37,525	1,138
Suriname	6,013	120	205
Trinidad and Tobago	7,127	125	89
Uruguay	17,306	160	46
LAC	15,008,814	495,550	815
Caribbean	361,202	5,789	130
Americas	35,072,919	848,883	880
Europe	25,628,041	563,176	760

Source: WHO. Coronavirus Dashboard. 30 December 2020

In addition to the health risks, measures taken by governments to address COVID and risk-aversion from households and firms restricted activity in the formal sector.¹

1.2 Overview of water utilities surveyed for this assessment

To identify the impacts of COVID on water utilities in LAC, K&M surveyed 21 water utilities from 10 countries in the region. Eleven of these utilities were surveyed as part of a contract with the IDB and the other 10 as part of a separate contract with the World Bank.

The utilities surveyed for the IDB contract were selected in conjunction with the IDB, with the objectives of having utilities in each of the IDB's four regions and having utilities with the capacity to provide detailed and up to date information. The utilities surveyed for the World Bank contract were selected in conjunction with the World Bank, with the objective of having utilities with different service area characteristics, different sizes, and different financial and operational performance.

¹ World Bank. 2021. Global Economic Prospects, January 2021. Washington, D.C.: World Bank.

For confidentiality purposes, proxies have been assigned for the names of the utilities, based on the region within LAC where the utilities are located. The regions and the acronyms used for each are: Andean (ANDEAN), Caribbean (CARIB), Central America (CENTAM), and Southern Cone (SOUTH).

For reference, Table 1.3 lists the 21 utilities surveyed, and the range of the number of customers each utility has. In addition, it provides key indicators for financial performance (EBITDA margin) and operating efficiency (NRW (%) and Staff/1000 connections) of these 21 utilities. This sample of utilities has a wide range of financial performance—from an EBITDA margin of 27.7 percent for ANDEAN 10 to an EBITDA margin of minus 205% for CARIB 4—and operating efficiency (from an NRW of 23 percent for CENTAM 1 to 73 percent for CARIB 2).

Table 1.2: Water Utilities Surveyed for this Analysis (2019)

Utility	Range of number of customers	EBITDA margin (%)	NRW (%)	Staff/1000 connections
ANDEAN 1	100,000 – 200,000	41.1%	31%	1.8
ANDEAN 2	100,000 – 200,000	32.1%	25%	2.7
ANDEAN 3	100,000 – 200,000	8.9%	52%	2.9
ANDEAN 4	100,000 – 200,000	-0.5%	31%	9.1
ANDEAN 5	Fewer than 100,000	NA	NA	NA
ANDEAN 6	Fewer than 100,000	NA	NA	NA
ANDEAN 7	Fewer than 100,000	31.7%	NA	NA
ANDEAN 8	Fewer than 100,000	18.5%	47%	NA
ANDEAN 9	Fewer than 100,000	NA	NA	NA
ANDEAN 10	Fewer than 100,000	47.7%	36%	NA
ANDEAN 11	100,000 – 200,000	NA	NA	NA
ANDEAN 12	Fewer than 100,000	11.5%	59%	NA
ANDEAN 13	Fewer than 500,000	45.1%	28%	NA
ANDEAN 14	100,000 – 200,000	38.1%	31%	2.22
CARIB 1	Fewer than 100,000	14.8%	62%	6.1
CARIB 2	200,001 – 500,000	-2.4%	73%	5.0
CARIB 3	100,000 – 200,000	1.3%	44%	6.5
CARIB 4	200,001 – 500,000	-204.8%	50%	12.8
CENTAM 1	Fewer than 100,000	37.5%	23%	4.8
CENTAM 2	More than 500,000	-76.2%	39%	4.5
SOUTH 1	200,001 – 500,000	28.3%	39%	NA

Source: K&M calculations based on information provided by the utilities.

NA = Not available

Notes: CARIB 3 EBITDA Margin is for 2018. The value for ANDEAN 4 includes employees who provide other services the company offers.

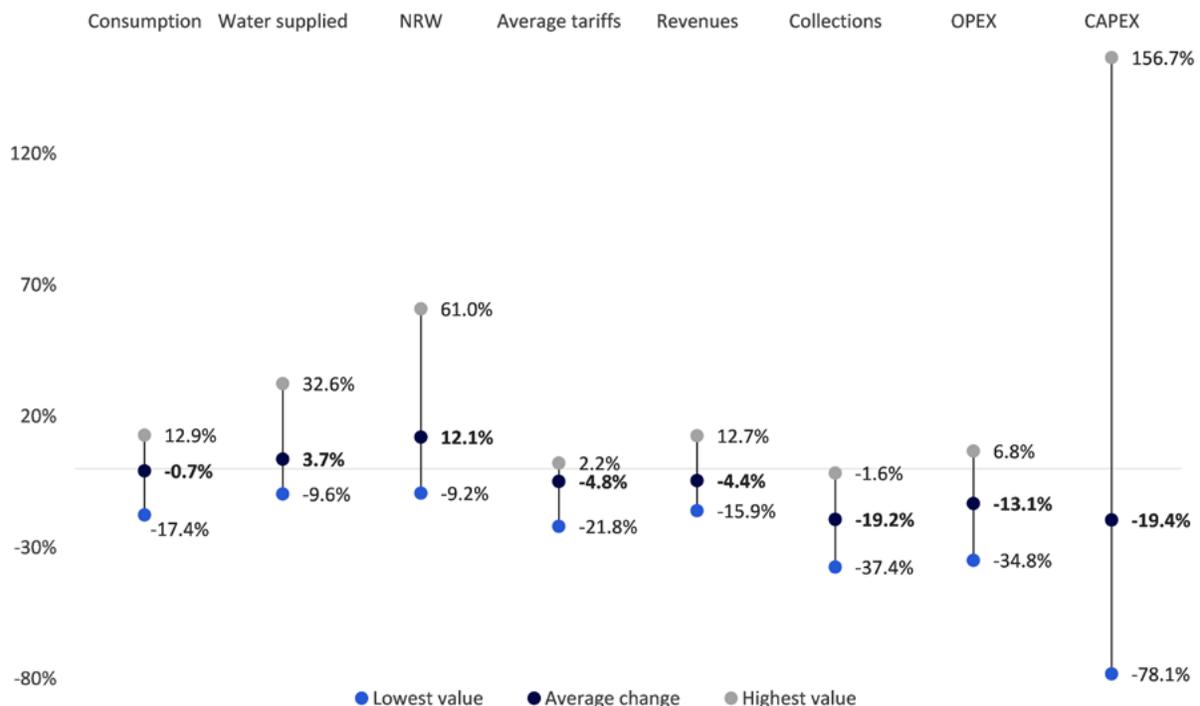
Appendix A provides a summary of the information requested and received from the utilities.

2 | Assessment of the Impacts of COVID on the Surveyed Water Utilities

COVID had a clearly discernable impact on water utilities in LAC. Total consumption (measured as water billed to residential and non-residential customers) increased slightly but with a marked increase in the share of residential consumption due to a decrease in non-residential consumption. The increase in the share of residential consumption led, on average, to a decrease in revenues and average tariffs. However, contrary to expectations, and not due to improvements in efficiency, decreases in operating expenditures (OPEX) led to increases in profitability and liquidity in five of the surveyed utilities. In addition to decreases in operating expenditures, several of the utilities reported decreases in capital expenditures (CAPEX). The reductions in OPEX and CAPEX will likely adversely impact the utilities' quality of service, access, and operating efficiency; understanding this impact is necessary for designing effective plans and instruments to strengthen water utilities in LAC.

Figure 2.1 shows the ranges of the impact of COVID on consumption, water supplied, non-revenue water (NRW), revenues, collections, operating expenses, average tariff, and capital expenditures of the surveyed utilities. On average, average tariffs, revenues, collections, OPEX, and CAPEX fell.

Figure 2.1: Consumption, Water Supplied, NRW, Revenues, Collections OPEX, Average Tariffs, and CAPEX: Pre-COVID vs COVID



Source: K&M's calculations based on information provided by the utilities.

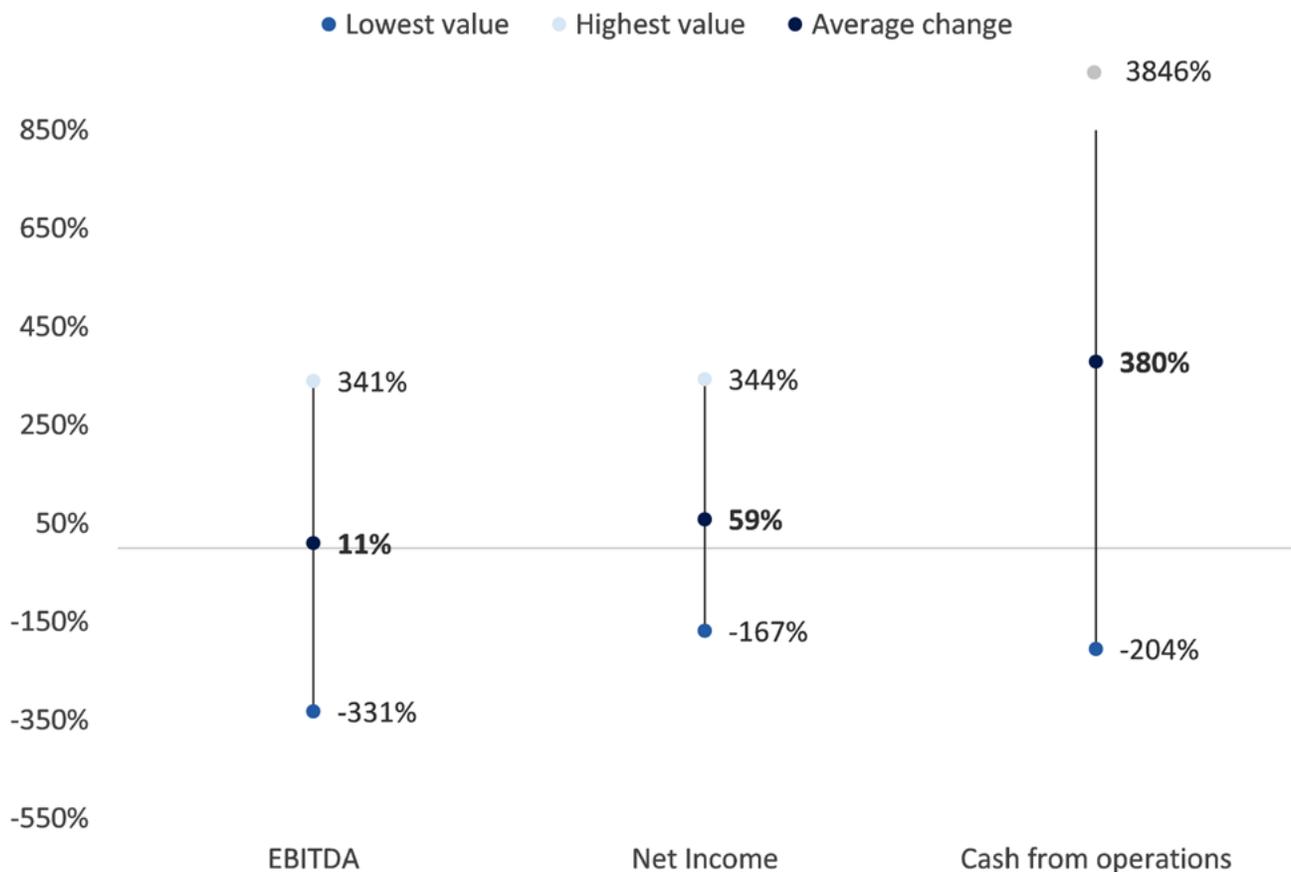
Notes: The impact of COVID is measured as the percent change between the pre-COVID and COVID periods.

Consumption is measured using billed water. For billed water, water supplied, NRW, and revenues, the pre-COVID period is the monthly average for January 2019 and March 2020. For average tariffs, the values for the pre-COVID period are for January 2020 to March 2020. The pre-COVID period for CAPEX for the utilities for which we have relevant data for is FY2019. The pre-COVID period for OPEX is for the financial year preceding COVID, and for COVID, it is the financial year completed after March 2020.

The COVID period for billed water, water supplied, NRW, revenues, OPEX, and average tariffs is for the average from April 2020 to the last month in 2020 with available data. The COVID period for CAPEX is the monthly average in FY2020.

Figure 2.2 shows the impact of COVID on profitability (as measured by EBITDA and net income) and liquidity (as measured by cash from operations). The average EBITDA, net income, and cash from operations of the surveyed utilities increased. As described further below, the unexpected increase in profitability and in cash from operations should not be considered a positive outcome. It is the result of decreases in OPEX, which when combined with decreases in CAPEX, will likely lead to deterioration of operating efficiency, quality of service, and access. Further analysis of COVID's impact on these three areas of performance of water utilities is required.

Figure 2.2: EBITDA, Net Income, and Cash from Operations: Pre-COVID vs COVID



Source: K&M's calculations based on information provided by the utilities.

Notes: COVID's impact is measured as the percent change between the COVID-1 and COVID periods. The values for the COVID-1 period are for the fiscal year before COVID started. The values for the COVID period are for the most current fiscal year after COVID began (assumed to be March 2020).

The following detailed analysis of COVID's impact on the surveyed utilities reveals:

- On average, a slight increase in consumption, while changes in volumes of water supplied and NRW were mixed (Section 2.1).
- Led by large decreases in revenues from non-residential customers, total revenues from water and wastewater charges fell for 14 of the surveyed utilities (Section 2.2).
- Average tariffs fell for all utilities, except for ANDEAN 1 and ANDEAN 12 (Section 2.3).
- Operating expenses decreased in 12 of the 21 surveyed utilities (Section 2.4).
- Decreases in operating expenses led to increased profitability for five of the surveyed utilities (Section 2.5).
- Collections from customers fell in all utilities (Section 2.6).
- Liquidity seems to have improved for most of the utilities (Section 2.7).
- Capital expenditures declined an average of about 50 percent in five of the six surveyed utilities with relevant data (Section 2.8).

2.1 On average, a slight increase in consumption, while changes in volumes of water supplied and NRW were mixed.

At the beginning of COVID, it was expected that water utilities would register large increases in residential consumption and, perhaps, an increase in non-revenue water as changes in the location of consumption affected networks. Of these two hypotheses, the one regarding the increase in residential consumption is confirmed with data from the surveyed utilities. The hypothesis regarding increases in NRW cannot be confirmed. In general, the analysis of COVID's impact on the surveyed utilities reveals that:

- On average, decreases in non-residential consumption offset increases in residential consumption and led to a marked increase in the residential share of demand (Section 2.1.1).
- Only a few utilities registered significant changes in volumes of water supplied and/or non-revenue water (Section 2.1.2).

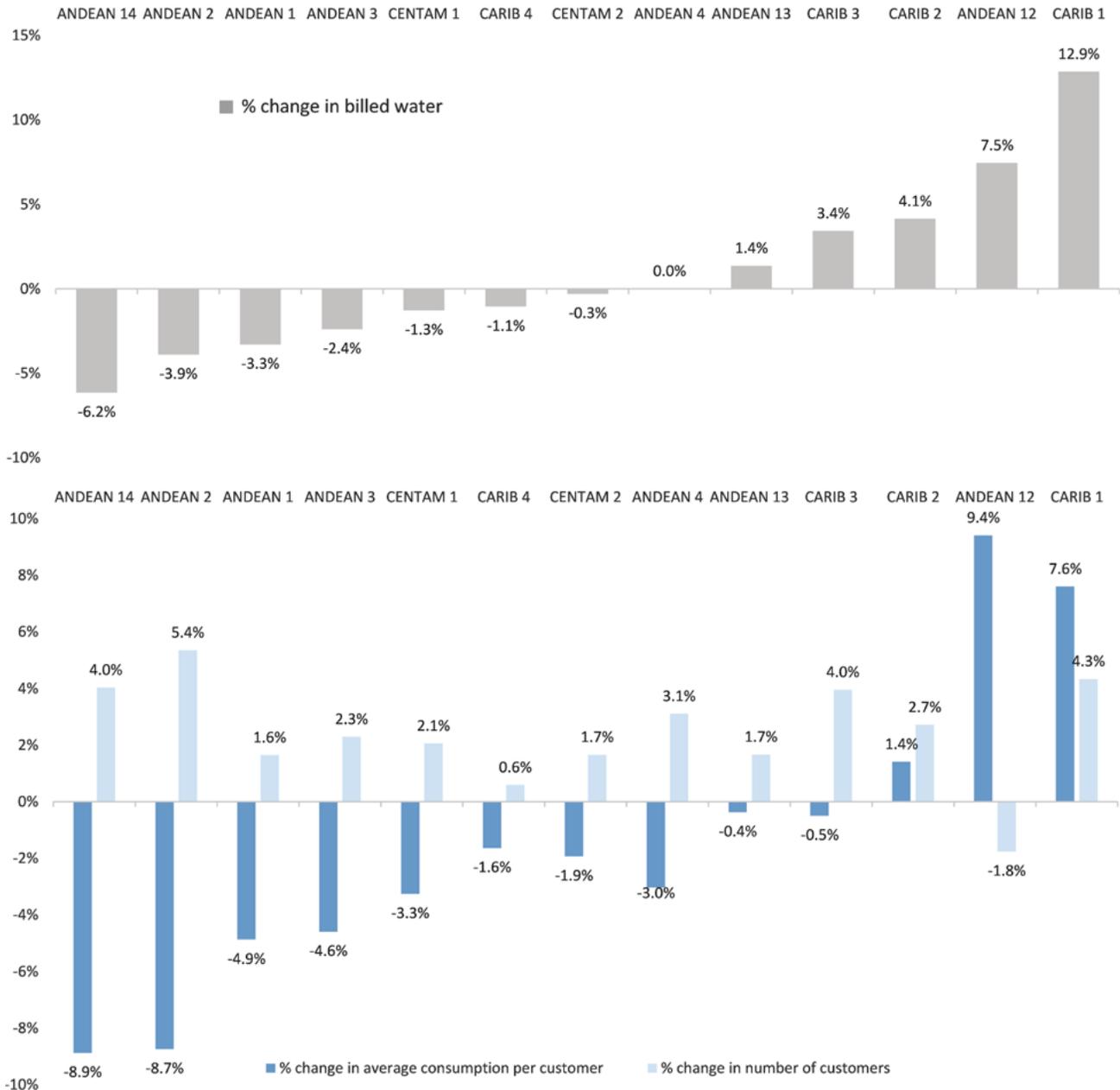
These findings are described further below.

2.1.1 On average, decreases in non-residential consumption offset increases in residential consumption and led to a marked increase in the residential share of demand.

Figure 2.3 shows the changes from the pre-COVID period to the COVID period in total consumption, and details its decomposition between changes in monthly average consumption (measured as billed water per customer) and number of customers. Changes in total consumption ranged from a

6.2 percent decrease for ANDEAN 14 to a 12.9 percent increase for CARIB 1, with most of the utilities registering a decrease in total consumption. Decreases in average consumption per customer, primarily for non-residential customers, offset increases in the number of customers. Three utilities—ANDEAN 1, CARIB 1, and CARIB 2—were the only ones with increases in consumption.

Figure 2.3: Changes in Consumption from Pre-COVID to COVID



Source: K&M’s calculations based on information provided by the utilities.

Notes: The % change for all the variables in the figure is calculated as the change between the pre-COVID period and COVID period.

The pre-COVID period for all utilities is the monthly average from January 2019 to March 2020.

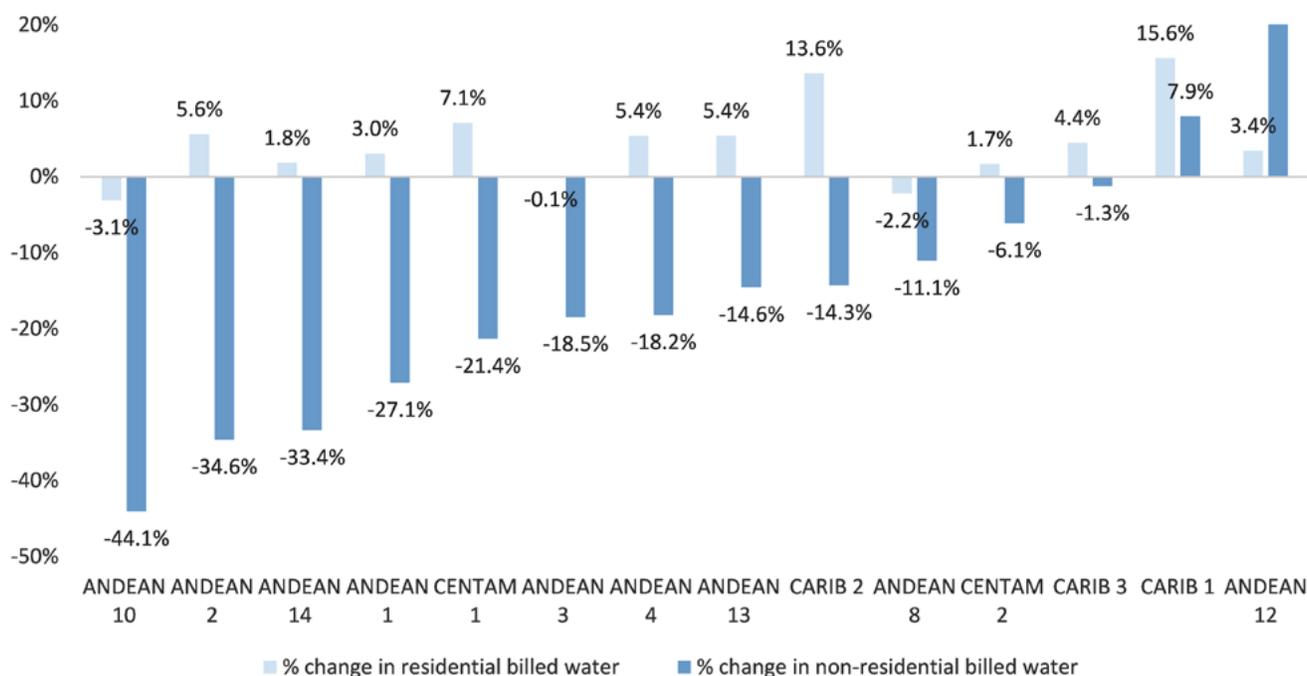
The COVID period for ANDEAN 4 is the monthly average from April 2020 to December 2020. The COVID period for ANDEAN 1, ANDEAN 14,

CENTAM 1, SOUTH 1, and CARIB 2 is the monthly average from April 2020 to October 2020. For ANDEAN 2, ANDEAN 3, CARIB 1, CARIB 3, CARIB 4, and CENTAM 2, it is the monthly average from April 2020 to September 2020. For ANDEAN 13, it is the monthly average from April 2020 to June 2020. For ANDEAN 12, it is the monthly average from April 2020 to May 2020.

For CARIB 1, only annual data for number of customers is available.

Figure 2.4 shows the changes in monthly average consumption (measured as billed water) from the pre-COVID period to the COVID period, differentiated by residential and non-residential customers. CARIB 1 and ANDEAN 12 were the only utilities in which non-residential consumption increased, while ANDEAN 3, ANDEAN 8, and ANDEAN 10 were the only utilities with a fall in residential consumption. In addition, for 11 of the utilities, the decrease in non-residential consumption was greater than the increase in residential consumption. ANDEAN 10 had the largest decrease in non-residential consumption (44.1 percent), while CARIB 1 had the largest increase in residential consumption (15.6 percent).

Figure 2.4: Percent Changes in Consumption: Residential vs Non-residential



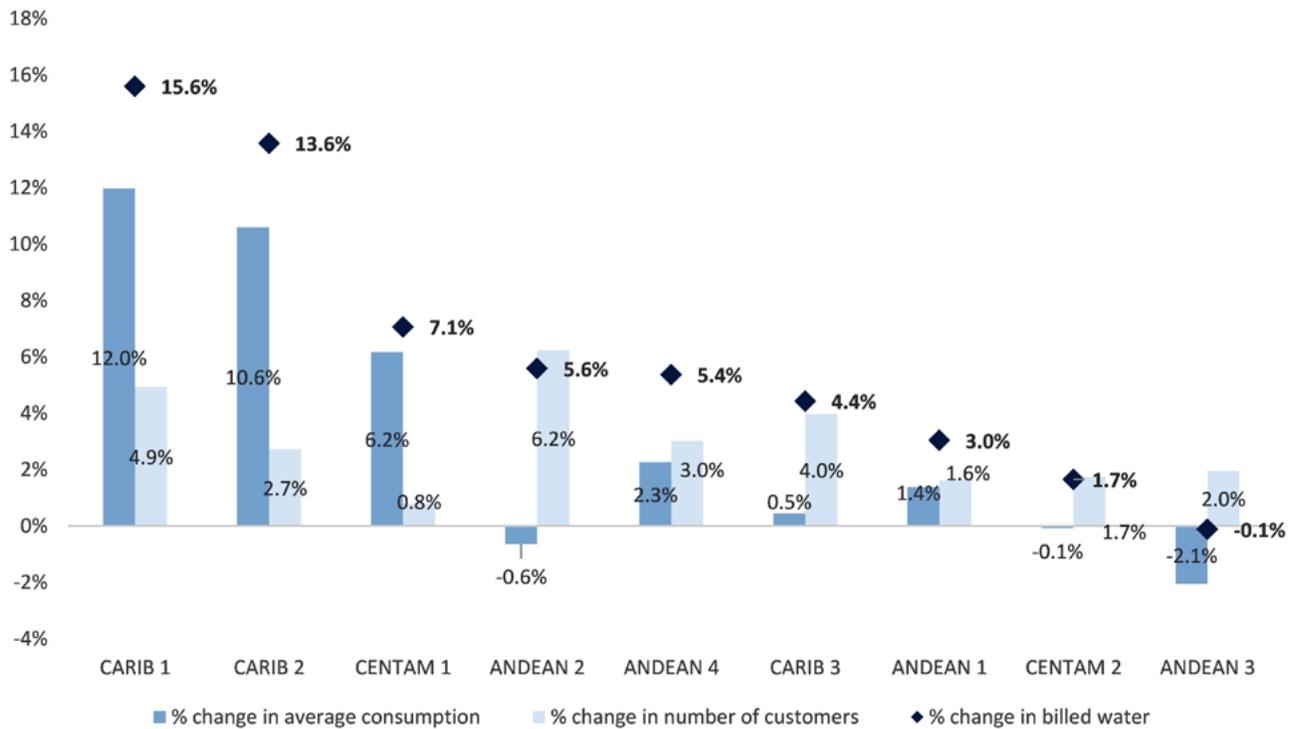
Source: K&M's calculations based on information provided by the utilities.

Notes: The % change in residential billed water and non-residential billed water is calculated as the change between the pre-COVID period and COVID period. The pre-COVID period for all utilities is the monthly average from January 2019 to March 2020.

The COVID period for ANDEAN 4 is the monthly average from April 2020 to December 2020. The COVID period for ANDEAN 1, ANDEAN 14, CENTAM 1, SOUTH 1, and CARIB 2 is the monthly average from April 2020 to October 2020. For ANDEAN 2, ANDEAN 3, CARIB 1, CARIB 3, and CENTAM 2, it is the monthly average from April 2020 to September 2020. For ANDEAN 13, it is the monthly average from April 2020 to June 2020. For ANDEAN 12, it is the monthly average from April 2020 to May 2020.

Figure 2.5 shows the changes in monthly average residential consumption (measured as billed water) from the pre-COVID period to the COVID period, disaggregated by the percent change in number of customers and average consumption. All but one of the utilities for which we have data, ANDEAN 3, registered increases in residential consumption. These increases resulted from an increase in the number of customers (for all the utilities) and/or an increase in average consumption per customer (in six of the utilities). CARIB 1 had the largest increase in residential consumption, at 15.6 percent. This increase was the result of a 12.0 percent increase in average consumption per customer and a 4.9 percent increase in the number of customers.

Figure 2.5: Disaggregation of Changes in Residential Consumption



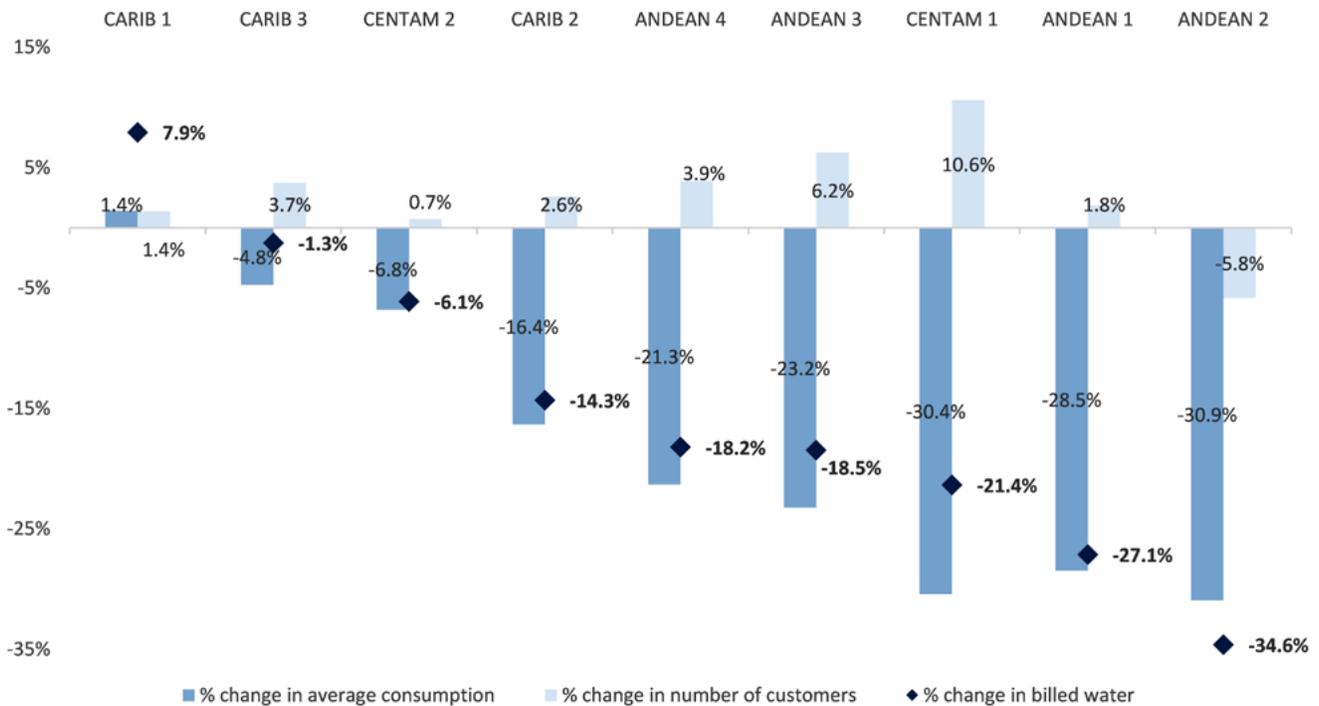
Source: K&M's calculations based on information provided by the utilities.

Notes: The % change for all the variables in the figure is calculated as the change between the pre-COVID period and COVID period. The pre-COVID period for all utilities is the monthly average from January 2019 to March 2020.

For ANDEAN 4, it is the monthly average from April 2020 to December 2020. The COVID period for ANDEAN 1, CENTAM 1, and CARIB 2 is the monthly average from April 2020 to October 2020. For ANDEAN 2, ANDEAN 3, CARIB 1, CENTAM 2 and CARIB 3, it is the monthly average from April 2020 to September 2020.

Figure 2.6 shows the changes in monthly average non-residential consumption (measured as billed water) from the pre-COVID period to the COVID period, disaggregated by the percent change in number of customers and monthly average consumption. Except for CARIB 1, all the utilities for which we have relevant data registered a decrease in non-residential consumption. These decreases resulted from falls in average consumption per non-residential customer ranging from 4.8 percent for CARIB 3 to 30.9 percent for ANDEAN 2.

Figure 2.6: Disaggregation of Changes in Non-residential Consumption



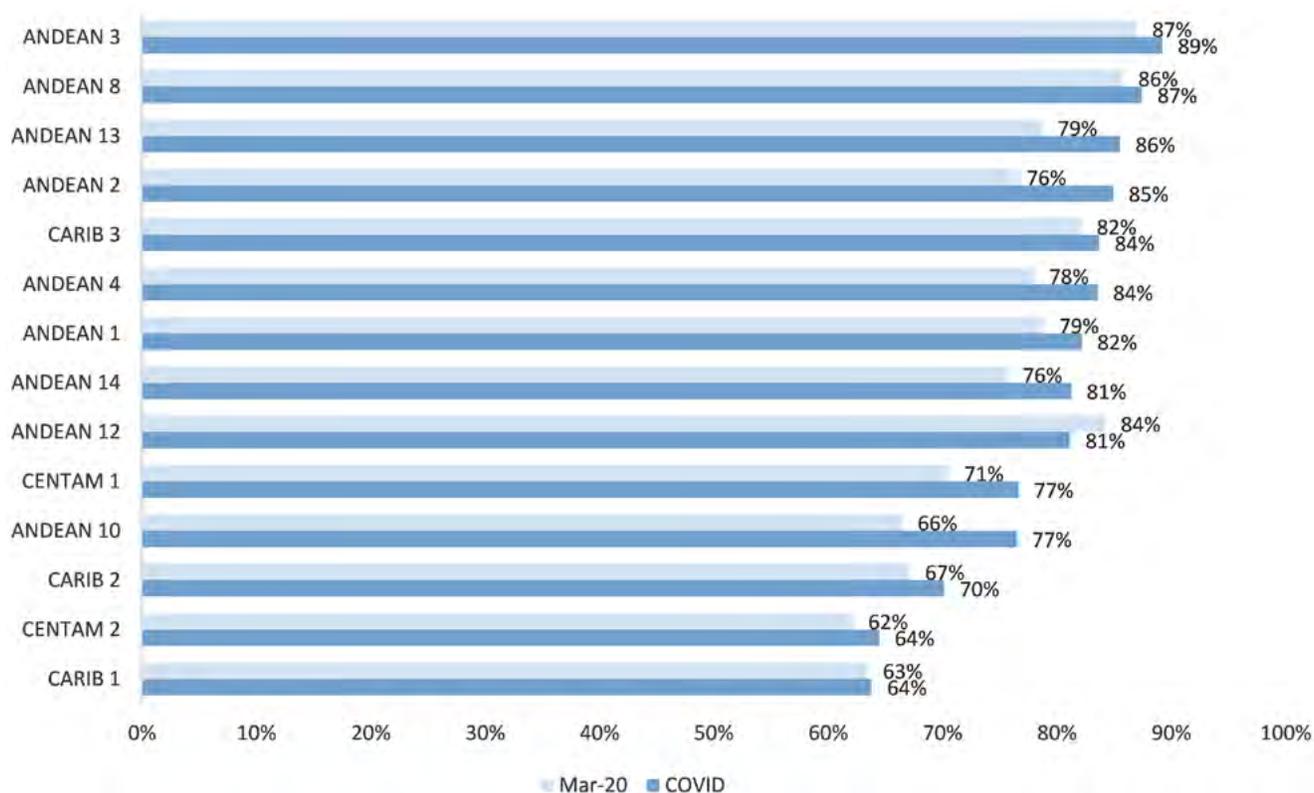
Source: K&M's calculations based on information provided by the utilities.

Notes: The percent change for all the variables in the figure is calculated as the change between the pre-COVID period and COVID period. The pre-COVID period for all utilities is the monthly average between January 2019 and March 2020.

For ANDEAN 4, it is the monthly average from April 2020 to December 2020. The COVID period for ANDEAN 1, CARIB 2, and CENTAM 1 is the monthly average from April 2020 to October 2020. For ANDEAN 2, ANDEAN 3, CARIB 1, CARIB 3, and CENTAM 2, it is the monthly average from April 2020 to September 2020.

As a result of the increases in residential consumption and decreases in non-residential consumption, the share of residential consumption rose for all but one of the utilities for which we have relevant data, as shown in Figure 2.7. The largest increases in the share of residential consumption were in ANDEAN 2 (from 76 to 85 percent), ANDEAN 10 (from 66 to 77 percent), ANDEAN 13 (from 79 to 86 percent), ANDEAN 14 (from 76 to 81 percent) and CENTAM 1 (from 71 to 77 percent). ANDEAN 12 was the only utility that had a decrease in the share of residential consumption, from 84 percent to 81 percent.

Figure 2.7: Residential Consumption as a Percent of Total: Pre-COVID vs COVID



Source: K&M's calculations based on information provided by the utilities.

Notes: The COVID values correspond to the most recent month in 2020, after March 2020. For ANDEAN 4, it is for December 2020. For ANDEAN 1, ANDEAN 10, ANDEAN 14, CARIB 2, and CENTAM 1, the value is for October 2020. For ANDEAN 2, ANDEAN 3, CARIB 1, CARIB 3, and CENTAM 2, it is for September 2020.

SOUTH 1 and CARIB 4 are not included in the graph because we do not have complete information for these utilities. For ANDEAN 13, it is for June 2020. For ANDEAN 8 and ANDEAN 12, it is for May 2020.

Nearly all the surveyed utilities have tariffs with cross subsidies from non-residential customers to residential customers. If this shift in demand persists after COVID, average tariffs and, most likely revenues also, may fall below the pre-COVID levels. For those surveyed utilities with tariffs set by regulators on what is intended to be a cost recovery basis, regulators will need to review underlying demand forecasts to ensure tariffs continue to be adequate.

2.1.2 Only a few utilities registered significant changes in volumes of water supplied and/or non-revenue water.

Table 2.1 shows the percent changes in average monthly consumption (measured as billed water), water supplied, and NRW from the pre-COVID period to the COVID period. For most of the surveyed utilities, COVID did not result in a significant change in the volumes of water supplied and NRW. The utilities with exceptions to this were ANDEAN 1, ANDEAN 3, ANDEAN 8, and ANDEAN 10. ANDEAN 1 experienced a 10.8 percent increase in NRW, despite an increase in water supplied of only 1.0 percent.

ANDEAN 3 experienced a 32.6 percent increase in water supplied and a 61 percent increase in NRW. As a result, its NRW as a percent of water supplied increased from 54.0 to 66.6 percent. ANDEAN 8 experienced a 40.8 percent increase in NRW but an increase in water supplied of only 17.4 percent. ANDEAN 10 had an increase of 24.1 percent in NRW, despite a decrease in water supplied of -2.4 percent.

Table 2.1: Changes in Consumption, Water Supply, and Volume of NRW

Utility	% change in total consumption	% change in water supplied	% change in NRW
ANDEAN 1	-3.3%	1.0%	10.8%
ANDEAN 2	-3.9%	-1.1%	-4.2%
ANDEAN 3	-2.4%	32.6%	61.0%
ANDEAN 8	-3.5%	17.4%	40.8%
ANDEAN 10	-17.4%	-2.4%	24.1%
ANDEAN 12	7.5%	3.8%	1.3%
ANDEAN 13	1.4%	0.0%	6.5%
ANDEAN 14	-6.2%	0.1%	12.2%
CENTAM 1	-1.3%	NA	NA
CENTAM 2	-0.2%	1.1%	-0.6%
CARIB 1	12.9%	NA	NA
CARIB 2	4.1%	3.2%	2.9%
CARIB 3	3.4%	-9.6%	-9.2%
CARIB 4	0.2%	0.2%	0.2%

Source: K&M's calculations based on information provided by the utilities.

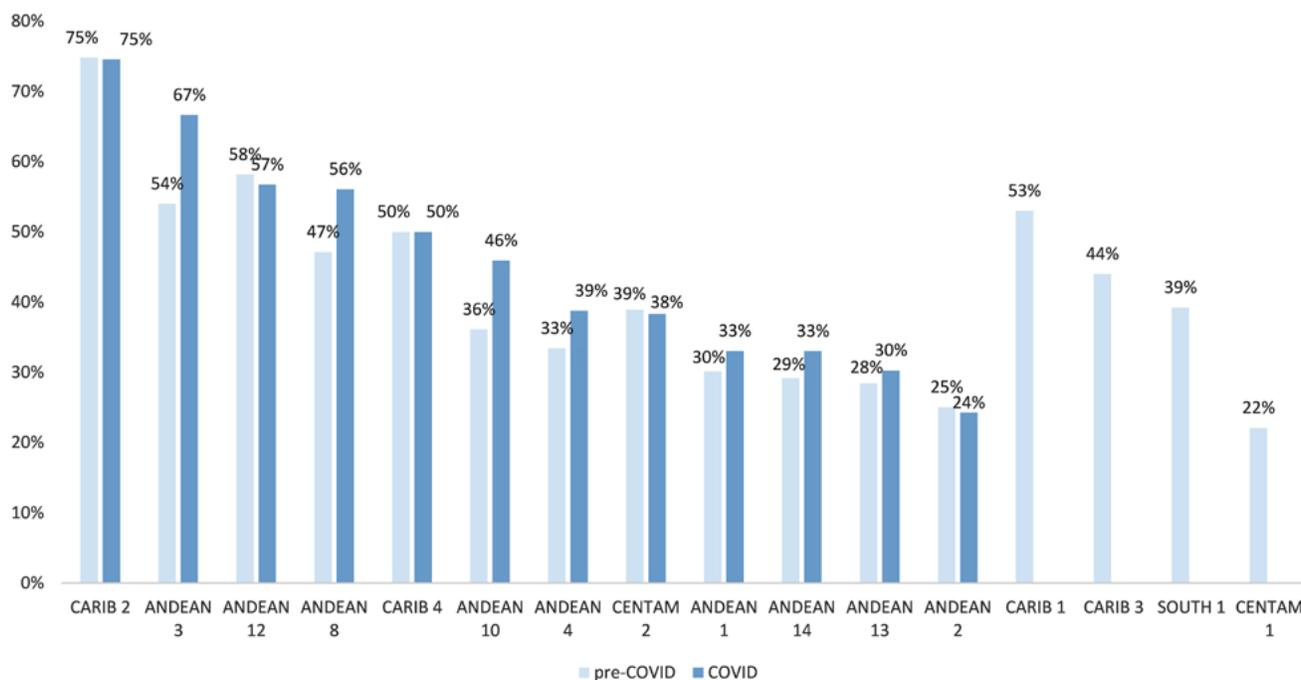
Notes: The % change in consumption (as measured by billed water), supply, and NRW are calculated as the change in monthly averages between the pre-COVID period and COVID period.

The pre-COVID periods for ANDEAN 1, ANDEAN 2, ANDEAN 3, ANDEAN 8, ANDEAN 10, ANDEAN 12, ANDEAN 13, ANDEAN 14, CARIB 1, CARIB 2, CARIB 4, CENTAM 1, and CENTAM 2 is the monthly average from January 2019 to March 2020. For CARIB 3, it is the monthly average from January 2019 to December 2019.

The COVID period for ANDEAN 1, ANDEAN 14, CENTAM 1, CARIB 2, and CARIB 4 is the monthly average from April 2020 to October 2020. For ANDEAN 2, ANDEAN 3, ANDEAN 10, and CARIB 1, it is the monthly average from April 2020 to September 2020. For CENTAM 2, it is the monthly average from April 2020 to August 2020. For ANDEAN 8, ANDEAN 12, and ANDEAN 13, it is the monthly average from April 2020 to May 2020. For CARIB 3, the COVID period is the monthly average from January 2020 to September 2020.

Figure 2.8 compares NRW as a percent of water supplied for the pre-COVID period with the COVID period. COVID did not result in a significant change in this indicator for most of the surveyed utilities. ANDEAN 3, ANDEAN 8, and ANDEAN 10 are the exceptions. The NRW of these utilities increased by 13 percent, 9 percent, and 10 percent, respectively, between the pre-COVID and COVID periods.

Figure 2.8: NRW Percent: Pre-COVID vs COVID



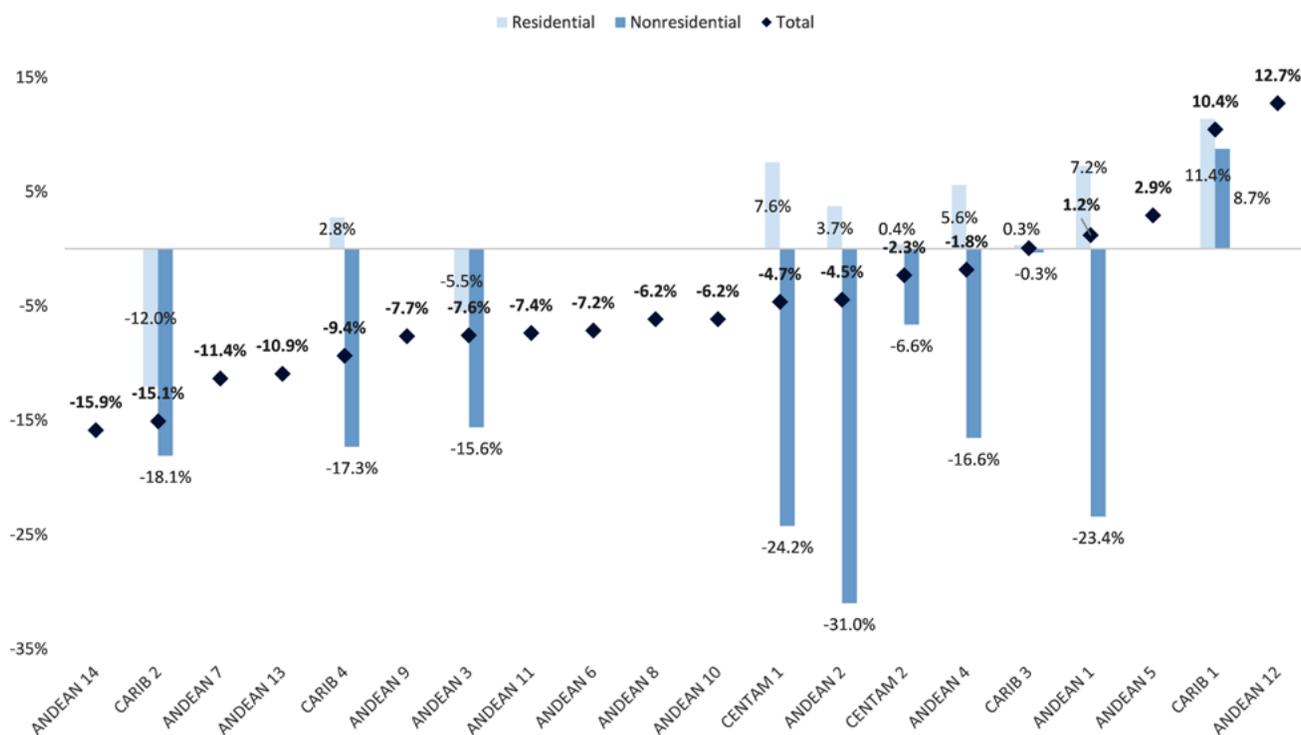
Source: K&M’s calculations based on information provided by the utilities.

Notes: The pre-COVID values are calculated as the average from January 2019 to March 2020. The COVID period values for ANDEAN 4 are calculated as the average from April 2020 to December 2020. For ANDEAN 1, ANDEAN 14, CARIB 1, CARIB 2, and CARIB 4, the values are calculated as the average from April 2020 to October 2020. For ANDEAN 2, ANDEAN 3, and ANDEAN 10, the value is calculated as the average from April to September 2020. For CENTAM 2, the value is the average from April 2020 to August 2020. For ANDEAN 8, ANDEAN 12, and ANDEAN 13, it is the average for April 2020 and May 2020.

2.2 Led by large decreases in revenues from non-residential customers, total revenues from water and wastewater charges fell for 14 of the surveyed utilities.

Figure 2.9 shows the percent changes in monthly average revenues from charges for water and wastewater from the pre-COVID period to the COVID period. These revenues fell for 14 of the utilities (ranging from 15.9 percent for ANDEAN 14, to 2.3 percent for CENTAM 2). This decrease was caused by a decline of over six percent in revenues from non-residential customers for five of the utilities. As described in Section 2.1.1, reductions in non-residential customers produced this decline in revenues. In contrast, revenues from residential customers increased for most of the utilities for which we have data. CARIB 2 and ANDEAN 3 were the only utilities with reductions in revenues from residential and non-residential customers.

Figure 2.9: Percent Changes in Revenues from Charges for Water and Wastewater



Source: K&M's calculations based on information provided by the utilities.

Notes: The percent change in residential, non-residential, and total revenues is calculated as the change in average monthly values between the pre-COVID period and COVID period.

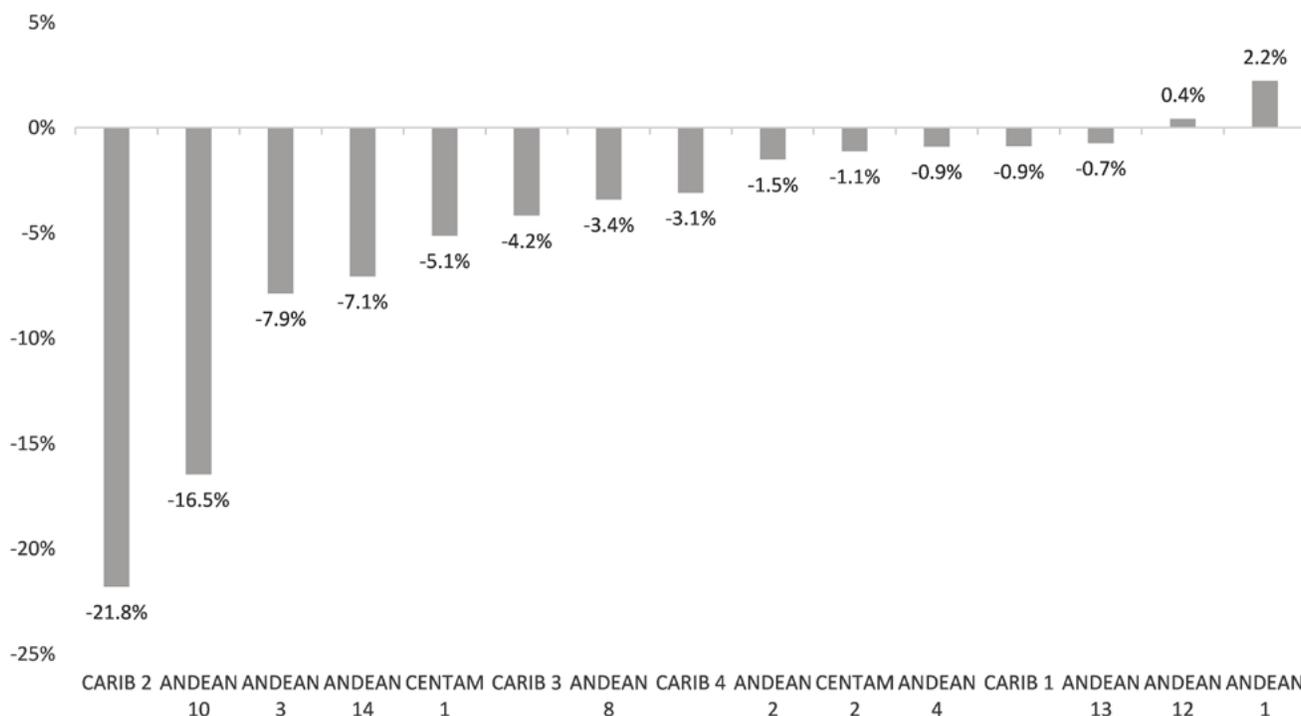
The values for the pre-COVID period for all utilities equal the monthly averages for January 2019 to March 2020.

The values for the COVID period for ANDEAN 4 are calculated as the monthly average from April 2020 to December 2020. For ANDEAN 1, ANDEAN 14, CARIB 2, and CARIB 3, the values are calculated as the monthly averages for April 2020 to October 2020. For ANDEAN 2, ANDEAN 3, CARIB 1, CARIB 4, CENTAM 1, and CENTAM 2, the values are calculated as the monthly averages from April 2020 to September 2020. For ANDEAN 8, ANDEAN 9, ANDEAN 10, ANDEAN 11, ANDEAN 12, and ANDEAN 13, the values are calculated as the monthly averages from April 2020 to August 2020.

2.3 Average tariffs fell for all utilities, except for ANDEAN 1 and ANDEAN 12.

Figure 2.10 shows that average tariffs, measured as revenues from water charges divided by billed water, fell for 12 of the 14 utilities for which we have data. CARIB 2 and ANDEAN 10 registered the largest declines in average tariffs. The decrease in the share of non-residential consumption likely accounts for this fall in average tariffs. ANDEAN 1 and ANDEAN 12 were the only utilities in which average tariffs increased.

Figure 2.10: Percent Change in Average Tariff



Source: K&M’s calculations based on information provided by the utilities.

Notes: The percent change in the average tariff is calculated as the change between the pre-COVID period and COVID period.

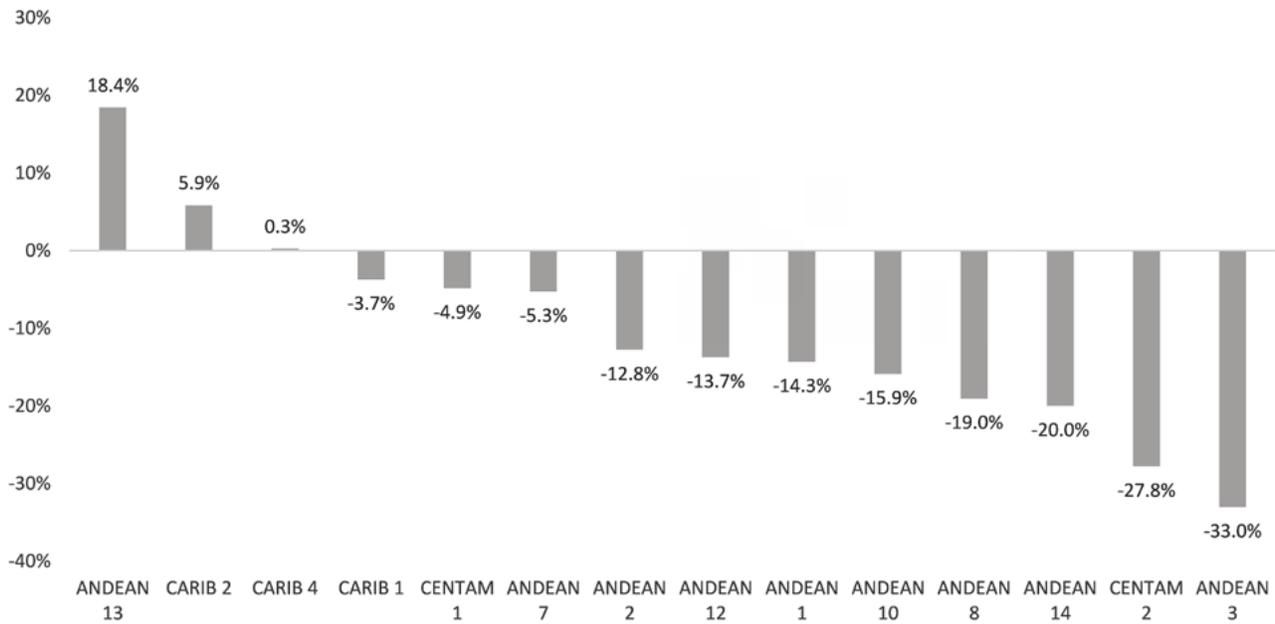
The pre-COVID period value for all utilities equals the monthly average for January 2020 to March 2020.

The COVID period value for ANDEAN 4 is calculated as the monthly average for April 2020 to December 2020. For ANDEAN 1, ANDEAN 10, ANDEAN 14, CARIB 2, and CENTAM 1, the value is calculated as the monthly average for April 2020 to October 2020. For ANDEAN 2, ANDEAN 3, CARIB 1, CARIB 3, CARIB 4, and CENTAM 2, the value is calculated as the monthly average from April 2020 to September 2020. For ANDEAN 13, the value is calculated as the monthly average from April 2020 to June 2020. For ANDEAN 8 and ANDEAN 12, the value is calculated as the monthly average from April 2020 to May 2020.

2.4 Operating expenses decreased in 12 of the 21 surveyed utilities.

Figure 2.11 shows the changes in operating expenses (OPEX) from the pre-COVID period to the COVID period. Twelve of the utilities reported a decrease in OPEX. The decrease ranged from 18.4 percent for ANDEAN 13, to 33.0 percent for ANDEAN 3. These decreases in OPEX may be due to several reasons, including the utilities having less cash available because of decreases in collections and logistical difficulties in carrying out activities related to operations and maintenance during lockdowns. Therefore, utilities may have reduced OPEX on items that were not perceived to be priorities (for example, repairs and maintenance). If this is the case—to be confirmed with a more detailed review of the OPEX items that decreased—then the utilities’ operating efficiency and service quality can be expected to deteriorate, especially when combined with the reduction in capital expenditures described in Section 2.8.

Figure 2.11: Changes in OPEX: Pre-COVID vs COVID



Source: K&M's calculations based on information provided by the utilities.

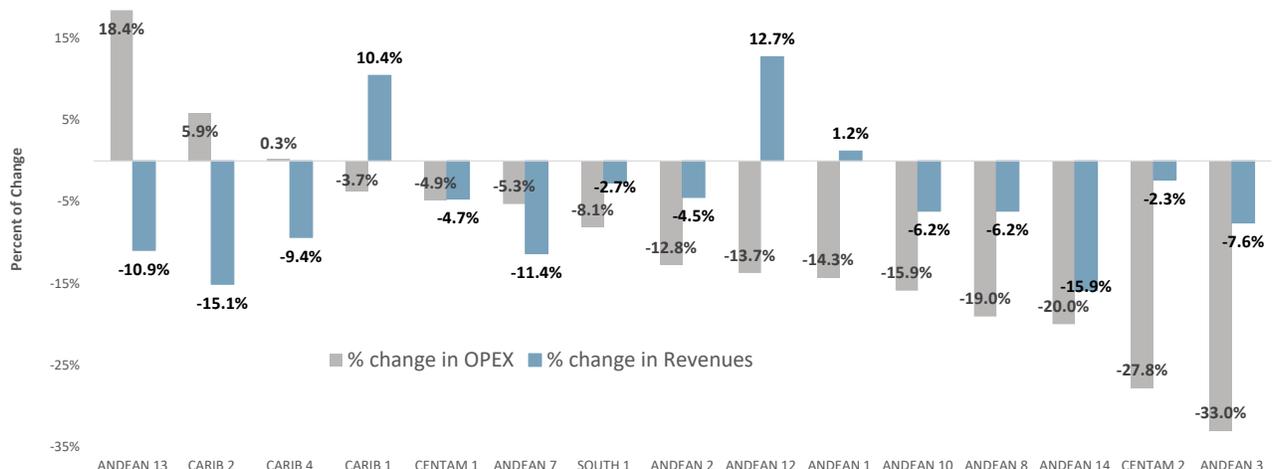
Notes: The percent change is calculated as the change between the pre-COVID period and COVID period.

The values for the pre-COVID period for ANDEAN 1, ANDEAN 2, ANDEAN 3, ANDEAN 7, ANDEAN 8, ANDEAN 10, ANDEAN 12, ANDEAN 13, ANDEAN 14, CENTAM 2, and SOUTH 1 are from January 2019 to December 2019. For CARIB 2 and CENTAM 1, the values are the monthly average for April 2019 to March 2020. The value for CARIB 1 is from July 2018 to June 2019. The value for CARIB 4 is from October 2018 to September 2019.

The value for the COVID period for ANDEAN 1 and ANDEAN 14 is from January 2020 to October 2020. The values for the COVID period for ANDEAN 2, ANDEAN 3, and SOUTH 1 are from January 2020 to September 2020. The value for ANDEAN 13 and CENTAM 2 is for January 2020 to June 2020. For ANDEAN 7, ANDEAN 8, ANDEAN 10, and ANDEAN 12, the value is for January 2020 to May 2020. For CENTAM 1, the values are for April 2020 to September 2020. For CARIB 2, the values are for April 2019 to October 2020. The value for CARIB 1 is from July 2019 to June 2020. The value for CARIB 4 is from October 2019 to September 2020.

Figure 2.12 shows the changes in revenues and OPEX from the pre-COVID to the COVID period.

Figure 2.12: Changes in Revenues and OPEX: Pre-COVID vs COVID



Source: K&M's calculations based on information provided by the utilities.

Notes: The percent change is calculated as the change between the pre-COVID period and COVID period. The values and sources for revenues are the same as in Figure 2.9. The values and sources for OPEX are the same as in Figure 2.11

Table 2.2 quantifies the change from pre-COVID to COVID, in percent and on an absolute basis in local currency units (LCU), in key OPEX items for five of the surveyed utilities.² For the three utilities for which 'repairs and maintenance' could easily be identified, this item decreased significantly on a percent and monetary basis. For example, ANDEAN 1 reported a decrease of 39 percent in this item. In addition, three of the utilities reported decreases in staff costs, and expenditures on water purchases and chemicals fell for the three utilities for which data was available.

Table 2.2: Analysis of OPEX: Pre-COVID vs COVID

		pre - COVID Jan 19 - Dec 19	COVID Jan 20 - Sep 20	Apr 19 - Mar 20	Apr 20 - Sep 20	Jan 19 - Dec 19	Jan 20 - Jun 20	Apr 19 - Mar 20	Apr 20 - Oct 20	Oct 18 - Sep 19	Oct 19 - Sep 20
		ANDEAN 1	CENTAM 1	CENTAM 2	CARIB 2	CARIB 4					
Percent change pre-COVID to COVID											
Staff costs	%	-2.4%	-7.8%	-7.2%	17.7%	0.6%					
Electricity costs	%	27.3%	2.0%	-22.8%	9.1%	-21.9%					
Repair and maintenance	%	-39.4%	-21.3%	NA	-55.9%	NA					
Chemicals	%	-26.4%	NA	-55.4%	NA	-7.3%					
Water purchases	%	NA	NA	-15.8%	-9.1%	-1.1					
Connection costs	%	-68.2%	NA	NA	NA	NA					
Bad debt	%	212.7%	NA	13.4%	14.3%	NA					
Other OPEX	%	-11.7%	2.4%	-45.5%	85.6%	6.8%					
Total OPEX	%	-11.9%	-4.9%	-27.8%	5.9%	0.3%					
Increase/(decrease) pre-COVID to COVID											
Staff costs	LCU millions	(623)	(1.06)	(3.36)	1,555	7.42					
Electricity costs	LCU millions	141	0.06	(12.51)	688	(24.06)					
Repair and maintenance	LCU millions	(2,724)	(0.82)	NA	(3,379)	NA					
Chemicals	LCU millions	(336)	NA	(4.59)	NA	(2.76)					
Water purchases	LCU millions	NA	NA	(7.42)	(45)	(5.81)					
Connection costs	LCU millions	(1,656)	NA	NA	NA	NA					
Bad debt	LCU millions	713	NA	0.16	699	NA					
Other OPEX	LCU millions	(3,169)	0.27	(41.66)	2,265	31.35					
Total OPEX	LCU millions	(7,655)	(1.55)	(69.37)	1,783	6.14					

Source: K&M's calculations based on information provided by the utilities.

NA indicates information was not available for the calculation.

Notes: The percent change and increase/(decrease) in LCU millions pre-COVID to COVID are calculated as the change between the COVID-1 period and COVID period.

The same level of detail was not available for each of the surveyed utilities.

2.5 Decreases in operating expenses led to increased profitability for five of the surveyed utilities.

Table 2.3 shows the change from pre-COVID to COVID, in percent and on an absolute basis in local currency units (LCU), in the key items on the income statement. Contrary to expectations, profitability, as measured by EBITDA and Net Income, increased for five of the utilities.³ For some utilities, the decrease in OPEX on a LCU basis determined the overall change on the income statement. For example, for ANDEAN 3, OPEX fell by LCU25.4 billion and revenues increased by LCU197 million, leading to an increase in EBITDA of LCU25.6 billion and an increase in net income of LCU17.7 billion. The ANDEAN 2 result is similar to that of ANDEAN³. In contrast, CENTAM 1 is the utility with a decrease in net income that was primarily determined by a decrease in revenues.

Table 2.3: Impact on Income statement: Pre-COVID vs COVID

		pre - COVID Jan 19 - Dec 19	Jan 18 - Jun 19	Jan 19 - Dec 19	Apr 19 - Mar 20	Apr 19 - Mar 20	Oct 18 - Sep 19				
		COVID Jan 20 - Sep 20	Jul 19 - Jun 20	Jan 20 - Jun 20	Jan 20 - Sep 20	Apr 20 - Sep 20	Apr 20 - Oct 20	Oct 19 - Sep 20			
		ANDEAN 3	CARIB 1	CENTAM 2	ANDEAN 1	ANDEAN 2	SOUTH 1	CENTAM 1	CARIB 2	CARIB 4	
Percent change pre-COVID to COVID											
Revenues	%	0%	10%	-1%	1%	-2%	-7%	-9%	-2%	-9%	
OPEX	%	-33%	-4%	-28%	-14%	-13%	-8%	-5%	6%	0%	
EBITDA	%	341%	89%	63%	22%	21%	-4%	-15%	-331%	-5%	
Depreciation	%	-73%	6%	11%	3%	-2%	NA	8%	-5%	21%	
Other revenues	%	-12%	-89%	-62%	-46%	-12%	NA	0%	47%	-20%	
Other expenses	%	120%	0%	-72%	-77%	-52%	NA	0%	-49%	0%	
Net interest income/(expenses)	%	141%	4%	-96%	-308%	-5%	NA	-18%	-2%	1%	
Taxes	%	411%	0%	0%	46%	29%	NA	17%	-69%	0%	
Net income/(loss)	%	330%	47%	51%	88%	75%	NA	-42%	19%	-167%	
Increase/(decrease) pre-COVID to COVID											
Revenues	LCU millions	197	1.92	(1.4)	573	(1,735)	(35,566)	(4.50)	(615)	(72.21)	
OPEX	LCU millions	(25,414)	(0.60)	(69.4)	(9,179)	(7,659)	(29,251)	(1.55)	1,783	6.14	
EBITDA	LCU millions	25,611	2.52	68.0	9,752	5,924	(6,315)	(2.95)	(2,398)	(78.36)	
Depreciation	LCU millions	(2,321)	(0.31)	2.8	547	(22)	NA	0.67	(289)	57.48	
Other revenues	LCU millions	(411)	(0.07)	(1.3)	(3,360)	(286)	NA	-	1,671	(352.81)	
Other expenses	LCU millions	661	-	(2.9)	(9,166)	(3,760)	NA	-	(3,027)	-	
Net interest income/(expenses)	LCU millions	712	(0.10)	(5.0)	(6,568)	231	NA	(0.18)	43	1.79	
Taxes	LCU millions	9,888	-	-	(615)	2,173	NA	(0.15)	(714)	-	
Net income/(loss)	LCU millions	17,684	1.28	71.7	9,058	7,478	NA	(3.37)	1,918	(490.44)	

Source: K&M's calculations based on information provided by the utilities.

NA indicates information was not available for the calculation.

Notes: The percent change and increase/(decrease) in LCU millions pre-COVID to COVID are calculated as the change between the COVID-1 period and COVID period.

The shaded values indicate the item on the income statement for each utility that was most determinant in the results for the COVID period.

³ These results are based on financial statements that are not for a full financial year. It is possible that the financial statements for the full financial years may have slightly different results. It is recommended that the results of this analysis be confirmed when the financial statements for the full financial years are available.

Table 2.4 shows the EBITDA margin for the surveyed utilities for each of the two years prior to COVID (COVID-2 and COVID-1) and during COVID. The value for COVID is for the most recent period in 2020 with financial statements (assuming that it includes months after March 2020). For example, since the financial year for ANDEAN 1 is from January to December, COVID-2 for ANDEAN 1 is from January 2018 to December 2018, COVID-1 is from January 2019 to December 2019, and COVID is from January 2020 to September 2020. Seven of the utilities had the highest EBITDA margin of the three periods during the COVID period. ANDEAN 10, ANDEAN 13, ANDEAN 14, CARIB 2, CARIB 3, and CENTAM 1 had the lowest EBITDA margin during the COVID period.

Table 2.4: EBITDA Margin in COVID-2, COVID-1, and COVID

Utility	COVID-2	COVID-1	COVID
ANDEAN 1	35.7%	41.1%	49.8%
ANDEAN 2	31.3%	32.1%	39.6%
ANDEAN 3	7.9%	8.9%	39.1%
ANDEAN 4	1.5%	-0.5%	4.0%
ANDEAN 7	15.9%	31.7%	26.9%
ANDEAN 8	-11.2%	18.5%	25.6%
ANDEAN 10	89.7%	47.7%	43.6%
ANDEAN 12	12.9%	11.5%	NA
ANDEAN 13	42.1%	45.1%	30.4%
ANDEAN 14	39.3%	38.1%	31.8%
SOUTH 1	18.1%	28.3%	29.1%
CARIB 1	-8.8%	14.8%	25.4%
CARIB 2	2.8%	-2.4%	-10.7%
CARIB 3	1.3%	NA	NA
CARIB 4	-175.9%	-204.8%	-236.7%
CENTAM 1	38.0%	37.5%	34.8%
CENTAM 2	-42.6%	-76.2%	-28.5%

Source: K&M calculations based on information provided by the utilities.

Notes: The COVID EBITDA margin is for the most recent period in 2020 with financial statements. For ANDEAN 1 and ANDEAN 14, it is for January 2020 to October 2020. For ANDEAN 2, ANDEAN 3, and SOUTH 1, it is for January 2020 to September 2020. For ANDEAN 13 and CENTAM 2, it is for January 2020 to June 2020. For ANDEAN 4, ANDEAN 7, ANDEAN 8, ANDEAN 10, and ANDEAN 12, it is for January 2020 to May 2020; for CENTAM 1, for April 2020 to September 2020; for CARIB 1, for July 2019 to June 2020; for CARIB 2, for April 2020 to October 2020, and for CARIB 4, for October 2019 to September 2020.

The COVID-1 EBITDA margin is for the fiscal year that preceded the COVID period. The COVID-2 EBITDA margin is for the fiscal year two years before the COVID period.

Table 2.5 shows the annualized net income in LCU millions for each of the surveyed utilities in the financial year before COVID and the financial year that included COVID. It also shows the percent change from one period to the next. Annualized net income increased for nine of the utilities during COVID. For three of the surveyed utilities—ANDEAN 3, CENTAM 2, and ANDEAN 2—a decrease in OPEX led to the increase in net income.

Table 2.5: Changes in Annualized Net Income

Utility	Annualized Net Income (COVID-1 in LCU million)	Annualized Net Income (COVID in LCU million)	% change from COVID-1 to COVID
ANDEAN 8	0.1	0.9	657%
ANDEAN 3	5,351	23,035	341%
ANDEAN 12	(5.3)	5.2	198%
ANDEAN 1	10,324	22,224	115%
ANDEAN 2	9,937	17,415	75%
CENTAM 2	(140)	(68)	51%
CARIB 1	(4.3)	(2.3)	47%
ANDEAN 4	2.5	4.7	85.2%
CARIB 2	(10,149)	(8,231)	19%
SOUTH 1	72,957	NA	NA
CENTAM 1	8.0	4.7	-42%
ANDEAN 13	392.8	286.9	-27%
ANDEAN 10	16.8	10.8	-36%
ANDEAN 14	38.0	(0.2)	-100%
CARIB 4	(293)	(784)	-167%

Source: K&M calculations based on information provided by the utilities.

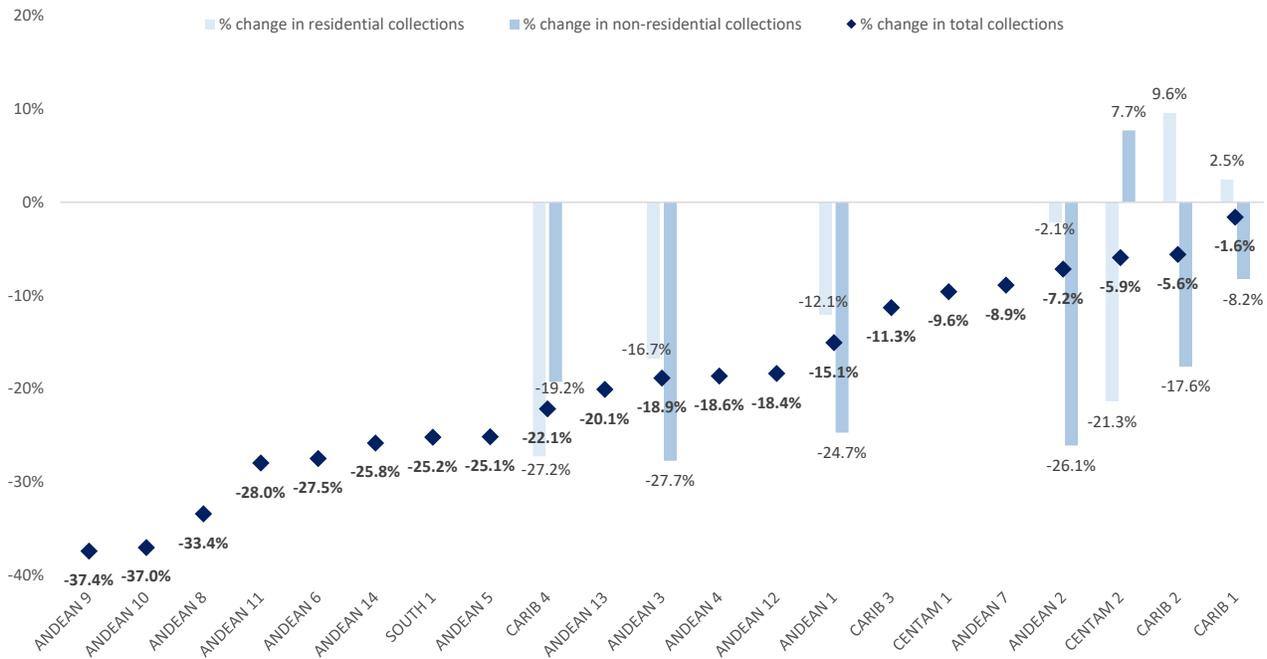
Notes: The annualized net income for the COVID-1 period for ANDEAN 1, ANDEAN 2, ANDEAN 3, ANDEAN 4, ANDEAN 8, ANDEAN 10, ANDEAN 12, ANDEAN 13, ANDEAN 14, CARIB 1, CARIB 4, CENTAM 1, CENTAM 2, and SOUTH 1 is for FY2019.

The annualized net income for the COVID period for ANDEAN 14 is for the period from January 2020 to December 2020. For ANDEAN 1, it is for the period from January 2020 to October 2020; for ANDEAN 2, ANDEAN 3, CENTAM 1, and SOUTH 1, it is for the period from January 2020 to September 2020. For ANDEAN 13, CENTAM 2, and CARIB 1, the value is for the period from January 2020 to June 2020; for ANDEAN 8, ANDEAN 10, and ANDEAN 12, the value is for the period from January 2020 to May 2020; for CARIB 2, the value is for the period from April 2020 to October 2020, and for CARIB 4, it is for the period from October 2019 to September 2020.

2.6 Collections from customers fell in all utilities.

Figure 2.13 shows the percent change in monthly average collections from the pre-COVID period to the COVID period. This change is shown for all customers and is then differentiated by residential and non-residential customers, for the utilities for which we have the relevant data. Collections fell for all utilities during COVID, ranging from a decrease of 1.6 percent for CARIB 1 to 37.4 percent for ANDEAN 9. Six of the utilities had decreases in collections from non-residential customers. CARIB 1 and CARIB 2 were the only utilities with increases in collections from residential customers.

Figure 2.13: Changes in Collections from Customers: Pre-COVID vs COVID



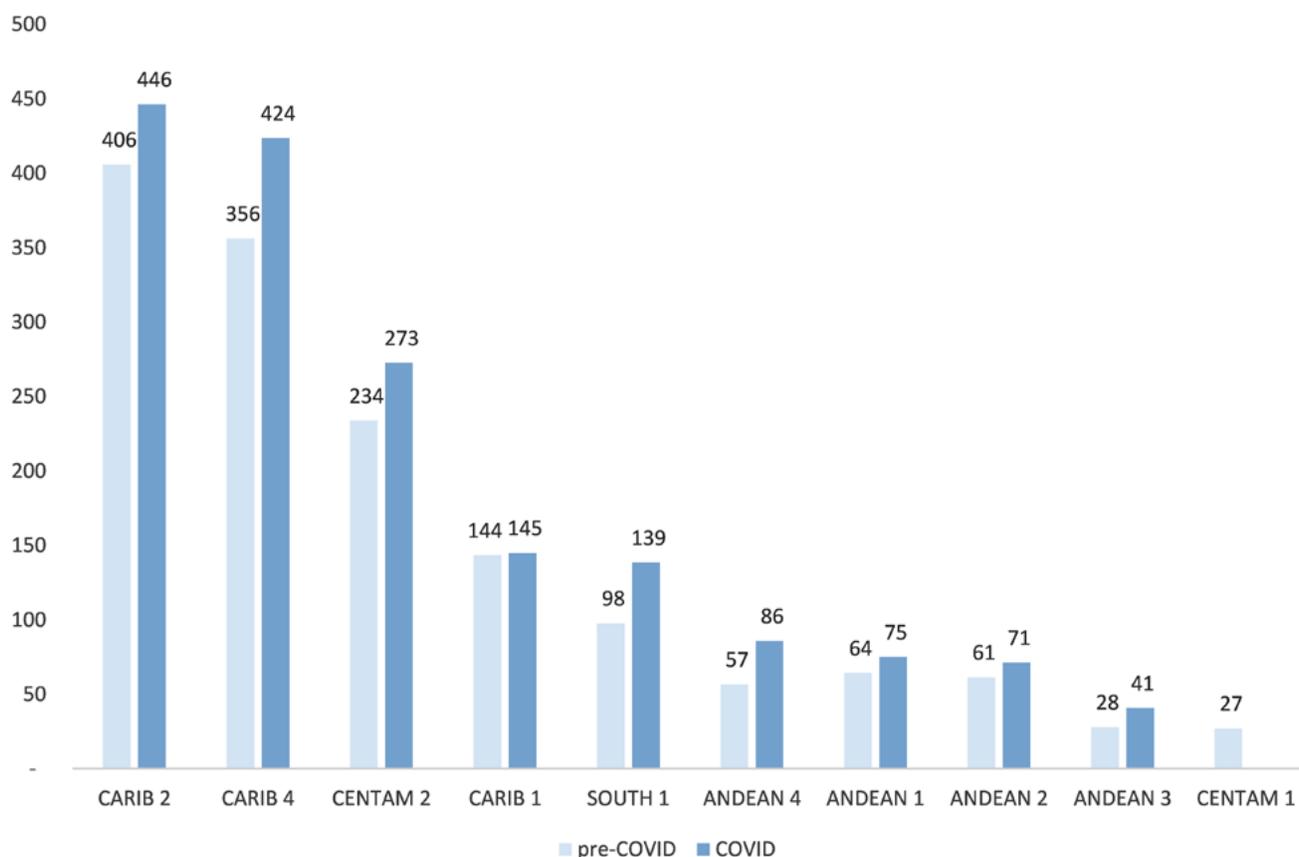
Source: K&M's calculations based on information provided by the utilities.

Notes: The % change is calculated as the change in the monthly average between the pre-COVID period and COVID period. The pre-COVID period for all utilities is the monthly average for January 2019 to March 2020.

The COVID period for ANDEAN 4 is the monthly average for the period from April 2020 to December 2020. For ANDEAN 1, ANDEAN 10, ANDEAN 14, and CARIB 2, it is the monthly average for the period from April 2020 to October 2020. For ANDEAN 2, ANDEAN 3, CARIB 1, CARIB 3, CARIB 4, CENTAM 1, CENTAM 2, and SOUTH 1, the value is the monthly average from April 2020 to September 2020. For ANDEAN 5, ANDEAN 6, ANDEAN 7, ANDEAN 8, ANDEAN 9, ANDEAN 11, ANDEAN 12, and ANDEAN 13, the value is the monthly average from April 2020 to August 2020.

Figure 2.14 compares the value for accounts receivable (AR) days (calculated as gross accounts receivable divided by revenues, times 365) in the pre-COVID period with the value in the COVID period. This is an indicator of the amount due by customers to the utilities, with a value around 60 being considered good. The figure shows that AR days increased from the pre-COVID period to the COVID period for all utilities for which we have relevant data.

Figure 2.14: Accounts Receivable Days: Pre-COVID vs COVID



Source: K&M’s calculations based on information provided by the utilities.

Notes: The values for the COVID period are calculated as follow: Gross Accounts Receivable at the end of the period for which we have information, divided by the annualized revenues for the period for which we have information.

The pre-COVID period for ANDEAN 1, ANDEAN 2, ANDEAN 3, ANDEAN 4, CARIB 1, CARIB 4, CENTAM 2, and SOUTH 1 is for FY2019. For CENTAM 1 and CARIB 2, the pre-COVID period corresponds to FY2020.

The value for the COVID period for ANDEAN 4 equals the accumulated values from January 2020 to December 2020. For ANDEAN 1, it equals the accumulated value from January 2020 to October 2020; for ANDEAN 2, ANDEAN 3, and SOUTH 1 it equals the accumulated values from January 2020 to September 2020. For CARIB 1, it equals the accumulated values from July 2020 to September 2020. For CENTAM 2, it equals the accumulated values from January 2020 to June 2020. For CARIB 4, the COVID values are for October 2019 to September 2020.

2.7 For most of the utilities, liquidity seems to have improved.

Two indicators – the current ratio and net cash flows from operations – were used to measure COVID’s impact on the utilities’ financial liquidity. Based on data from the surveyed utilities, ten utilities show an increase in their current ratio, while only three show an increase in net cash from operations from the COVID-1 period to the COVID period. Table 2.6 shows the current ratio (calculated as current assets divided by current liabilities) and the adjusted current ratio (calculated as current assets minus accounts receivable, divided by current liabilities) for each utility in the pre-COVID period and the COVID period.⁴ Both ratios will increase when the utility’s liquidity increases. In addition, a value below 1.0 for the current ratio indicates that the utility may have difficulty covering its current liabilities (obligations due within the next 12 months) with its current assets. During COVID, the current ratio and adjusted current ratio both rose for six of the utilities (indicating an increase in liquidity) and fell for two of the utilities (indicating a decrease in liquidity). Also, eight of the utilities had a current ratio above 1.0 during COVID, indicating they have sufficient current assets to meet their obligations during the next 12 months.

Table 2.6: Current Ratio and Adjusted Current Ratio: Pre-COVID vs COVID

Utility	Current Ratio (pre-COVID)	Current Ratio (COVID)	Current Ratio (% change)	Adjusted Current Ratio (pre-COVID)	Adjusted Current Ratio (COVID)	Adjusted Current Ratio (% change)
ANDEAN 4	2.99	3.36	12%	2.52	2.60	3%
ANDEAN 13	2.16	2.74	27%	1.69	1.87	10%
ANDEAN 3	1.22	1.87	53%	0.91	1.14	25%
CENTAM 1	1.50	1.83	22%	1.26	1.04	-17%
SOUTH 1	1.19	1.68	41%	0.58	0.92	58%
ANDEAN 2	1.30	1.42	10%	0.74	1.01	37%
ANDEAN 1	1.00	1.38	38%	0.40	0.52	31%
CENTAM 2	1.09	1.11	2%	0.72	0.66	-8%
CARIB 1	1.12	0.88	-21%	0.78	0.60	-23%
CARIB 2	0.64	0.63	-8%	0.46	0.41	-10%
ANDEAN 12	0.50	0.53	5%	0.41	0.35	-16%
CARIB 4	0.15	0.16	1%	0.14	0.14	-1%

Source: K&M calculations based on information provided by the utilities.

Notes: The values for the COVID-1 period for ANDEAN 1, ANDEAN 2, ANDEAN 3, ANDEAN 4, ANDEAN 12, ANDEAN 13, CARIB 1, CARIB 4, CENTAM 2, and SOUTH 1 are for FY 2019. For CENTAM 1 and CARIB 2, the values are for FY 2020.

The values for the COVID period for ANDEAN 4 are for the period ending in December 2020. For ANDEAN 1, the value is for the period ending October 2020. For ANDEAN 2, ANDEAN 3, CENTAM 1, CARIB 4, and SOUTH 1, the value is for the period ending September 2020. For ANDEAN 13, CARIB 1, and CENTAM 2, it is for the period ending June 2020. For ANDEAN 12, it is for the period ending May 2020. For CARIB 2, it is for the period ending October 2020.

⁴ The current ratio measures a utility’s capacity to pay its current liabilities with its current assets. The standard calculation of the current ratio is current assets divided by current liabilities. This standard calculation includes accounts receivable as part of the current assets. However, with the increase in accounts receivable during COVID described in Section 3.6, the standard calculation of the current ratio does not reflect the full effect of COVID. For this reason, we calculated an adjusted current ratio that does not include accounts receivables as part of the current assets.

Table 2.7 shows the annualized cash from operations in local currency for each of the utilities in the financial year before COVID and the financial year that included COVID. It also shows the percent change from one period to the next. An increase in net cash from operations indicates an improvement in liquidity. Of the utilities for which we have relevant data, this indicator increased for three utilities and decreased for five of them.

Table 2.7: Changes in Net Cash from Operations

Utility	Units	Annualized cash from operations (COVID-1)	Annualized cash from operations (COVID)	% change from COVID-1 to COVID
CARIB 1	LCU millions	(0.3)	10.0	3846%
CENTAM 2	LCU millions	(458.5)	(142.8)	69%
ANDEAN 1	LCU millions	32,421.4	39,374.1	21%
ANDEAN 12	LCU millions	(5.5)	(7.4)	-35%
CARIB 2	LCU millions	3,574.8	2,327.0	-35%
ANDEAN 13	LCU millions	553.7	20.1	-96%
CENTAM 1	LCU millions	16.9	-2.8	-116%
CARIB 4	LCU millions	506.6	(528.4)	-204%
SOUTH 1	LCU millions	123,951.7	NA	NA
ANDEAN 2	LCU millions	11,824.8	NA	NA
ANDEAN 3	LCU millions	11,129.7	NA	NA

Source: K&M calculations based on information provided by the utilities.

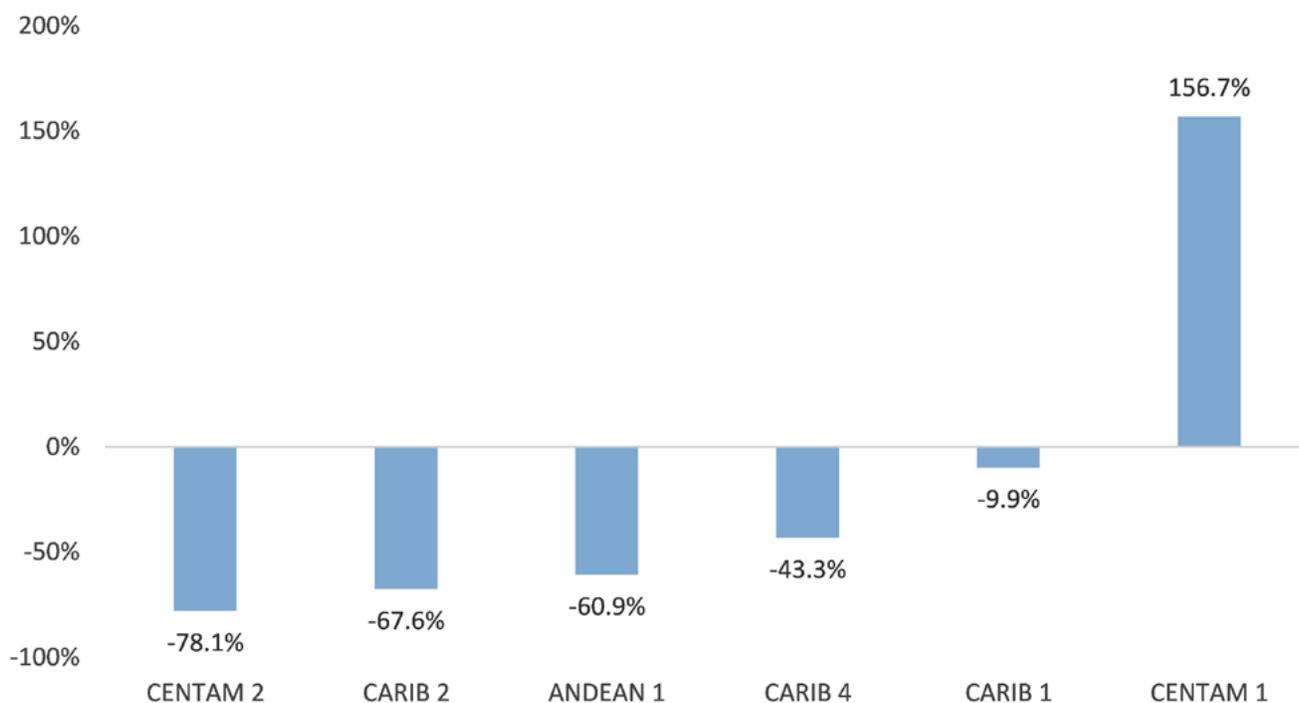
Notes: The annualized cash from operations for the COVID-1 period for ANDEAN 1, ANDEAN 2, ANDEAN 3, ANDEAN 12, ANDEAN 13, CARIB 1, CARIB 4, CENTAM 1, CENTAM 2, and SOUTH 1 is for the value for FY2019.

The annualized cash from operations for the COVID period for ANDEAN 1, CARIB 1, CARIB 4, and CENTAM 2 is for the ending month for the most recent financial statements in 2020. For ANDEAN 1, it is for January 2020 to October 2020; for ANDEAN 12 and CARIB 1, it is for July 2019 to June 2020; for ANDEAN 13 and CENTAM 2, it is for January 2020 to June 2020; for CARIB 2, it is for April 2020 to October 2020; and for CARIB 4, it is for October 2019 to September 2020.

2.8 Capital expenditures declined an average of about 50 percent in five of the six surveyed utilities with relevant data.

Figure 2.15 shows the percent change between CAPEX in the financial year before COVID and the annualized CAPEX in the financial year that included COVID. Five of the six utilities for which we have data reported a decrease of at least nine percent during the COVID period. CENTAM 1 was an outlier as its annualized CAPEX increased by 156.7 percent.

Figure 2.15: CAPEX: Pre-COVID vs COVID



Source: K&M calculations based on information provided by the utilities.

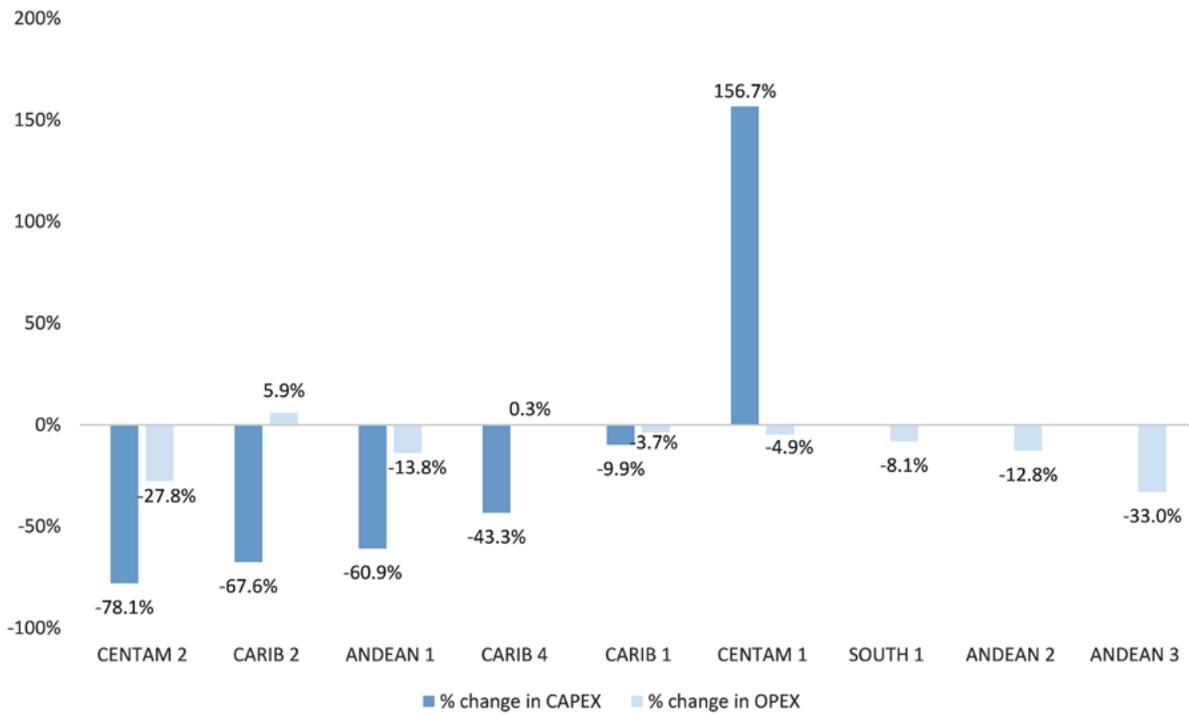
Notes: The % change in CAPEX for all the variables in the figure is calculated as the change between the pre-COVID period and COVID period.

The value for the pre-COVID period is for CAPEX in FY2019.

The value for the COVID period for ANDEAN 1 is for January 2020 to October 2020. For CARIB 1, it is for July 2019 to June 2020. For CENTAM 2, it is for January 2020 to June 2020. For CARIB 2, it is for April 2020 to October 2020. For CARIB 4, it is for October 2019 to September 2020. For CENTAM 1, it is for April 2020 to September 2020.

Figure 2.16 shows the percent changes in OPEX and CAPEX between the pre-COVID and COVID period. The changes in OPEX and CAPEX are calculated by comparing the values in the financial year before COVID with the annualized OPEX and CAPEX in the financial year that included COVID. We received the relevant data on OPEX and CAPEX for six of the utilities. Of these six, three utilities reported decreases in CAPEX and OPEX. These decreases may well lead to deterioration in the condition of the fixed assets and/or a reduction in their expected expansion. This will result in lower levels of operating efficiency, quality of service, and/or access to water and sanitation. Therefore, to identify urgent actions and investments the utilities must carry out for achieving any targets that may have been set or agreed upon, it will be important to assess the condition of the utilities' fixed assets and analyze indicators of operating efficiency, quality of service, and access to water and sanitation.

Figure 2.16: Changes in CAPEX and OPEX: Pre-COVID vs COVID



Source: K&M calculations based on information provided by the utilities.

Notes: The % change in CAPEX and OPEX is calculated as the change between the pre-COVID period and COVID period.

The CAPEX value for the pre-COVID period is for FY2019. The value for the COVID period for ANDEAN 1 is for January 2020 to October 2020. For CARIB 1, it is for July 2019 to June 2020. For CENTAM 2, it is for January 2020 to June 2020. For CARIB 2, it is for April 2020 to October 2020. For CARIB 4, it is for October 2019 to September 2020. For CENTAM 1, it is for April 2020 to September 2020. We do not have CAPEX data available for the COVID period for ANDEAN 2, ANDEAN 3, ANDEAN 4, CARIB 3, or SOUTH 1. We also do not have information from the pre-COVID period for ANDEAN 4.

The OPEX values are calculated in the same way as was explained in Figure 2.11.

CARIB 3 is not included in the figure because we do not have the utility's financial statements for any period after December 2018.

3

Conclusions of the Impact of COVID on the Surveyed Utilities

Among the most important impacts of COVID on the surveyed utilities were a shift toward a larger share of residential consumption due to a decrease in non-residential consumption (and the related decrease in average tariffs), a decrease in revenues and collections, reductions in capital expenditures, and increases in profitability. Despite the increase in the profitability of some of the surveyed utilities, four utilities reported negative net income in the financial period that included the period after March 2020.⁵

Increases in profitability resulted from decreases in operating expenses, which, when combined with reductions in capital expenditures, may deteriorate operating efficiency, quality of service, and access. In other words, reductions in operating expenses did not result from increases in efficiency, but, rather, appear to be the result of the utilities foregoing certain essential activities and their associated costs. In contrast, well-performing utilities will generate profitability while carrying out adequate levels of operating expenses and making capital investments required to achieve targets related to access, quality of service, and operating efficiency.

Further research is needed to identify COVID's full impacts on operating efficiency, quality of service, and access on utilities in LAC. The results of such research are important for:

- **Managers of the water utilities** to assess the impact of decreases in OPEX and CAPEX on quality of service, operating efficiency, and condition of their fixed assets. This assessment can contribute to developing prioritized plans for immediate actions and investments, along with their associated financing plans, to achieve targets that may need to be adjusted in response to the impact of COVID.
- **Governments** to understand the magnitude and type of support the water utilities require to achieve essential targets in the sector while maintaining an adequate level of financial capacity. In addition, governments will have to consider potential reductions in economic growth due to reductions in capital expenditures by water utilities.
- **Regulatory authorities** that must consider tariff applications from the water utilities in the face of uncertainty regarding future demand, the time required to return to previous collection rates, and changes in the magnitude and priorities of operating expenses and capital expenditures. In general, regulatory authorities should consider adjustments to tariff formulas or regulatory frameworks that will enable water utilities to return to the economic equilibrium they would have had in a situation without COVID.

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The four utilities with negative net income are CARIB 1, CENTAM 2, CARIB 2, and CARIB 4.

- **Development partners** as they assess the best ways to support water utilities, governments, and regulatory authorities in the recovery and improvement of the water and sanitation sector.

More precise, comprehensive, and up-to-date information of the water utilities in LAC regarding, among others, the financials, customer base, water balance, condition of assets, coverage, and quality of service provided will be essential to achieve targets in the water and sanitation sector. In addition, as of the date of this report, COVID continues to have an adverse effect on the people, economies, and utilities of LAC. It will be important to assess the impact of COVID on utilities in LAC in 2021 to better understand how to mitigate these adverse effects.

Summary of Information Received from the Utilities

Table A.1 shows the information requested from the surveyed utilities. Most of the utilities provided the information up to September or October 2020, which allows for assessing the impact of COVID on the utilities for at least six months (April 2020 to September 2020).

Table A.1: Information Received from the Utilities

Utility	Financial Information	Period of Financial Information	Commercial Information	Period of Commercial Information	Technical Information	Period of Technical Information
ANDEAN 1	Complete	2018, 2019, and 2020 (until Oct. 2020)	Complete	Jan. 2018 to Oct. 2020	Complete	Jan. 2018 to Oct. 2020
ANDEAN 2	Partial	2018, 2019, and 2020 (until Sept. 2020)	Complete	Jan. 2018 to Sept. 2020	Complete	Jan. 2018 to Sept. 2020
ANDEAN 3	Partial	2018, 2019, and 2020 (until Sept. 2020)	Complete	Jan. 2018 to Sept. 2020	Partial	Jan. 2018 to Sept. 2020
ANDEAN 4	Partial	2018, 2019, and 2020	Complete	Jan. 2018 to Dec. 2020	Partial	Jan. 2018 to Dec. 2020
ANDEAN 5	Did not send information	NA	Partial	Jan. 2019 to Aug. 2020	Did not send information	NA
ANDEAN 6	Did not send information	NA	Partial	Jan. 2019 to Aug. 2020	Did not send information	NA
ANDEAN 7	Partial	2018 and 2020 (until May 2020)	Partial	Jan. 2019 to Sep. 2020	Did not send information	NA
ANDEAN 8	Partial	2018, 2019 and 2020 (until May 2020)	Complete	Jan. 2018 to May 2020	Partial	Jan. 2018 to May 2020

Utility	Financial Information	Period of Financial Information	Commercial Information	Period of Commercial Information	Technical Information	Period of Technical Information
ANDEAN 9	Did not send information	NA	Partial	Jan. 2019 to Aug. 2020	Partial	Jan. 2019 to Aug. 2020
ANDEAN 10	Partial	2018, 2019, and 2020 (until May 2020)	Partial	Jan. 2018 to Oct. 2020	Partial	Jan. 2018 to Oct. 2020
ANDEAN 11	Did not send information	NA	Partial	Jan. 2019 to Aug. 2020	Did not send information	NA
ANDEAN 12	Partial	2018, 2019, and 2020 (until May 2020)	Partial	Jan. 2018 to May 2020	Complete	Jan. 2018 to May 2020
ANDEAN 13	Complete	2018, 2019, and 2020 (until June 2020)	Complete	Jan 2018 to June 2020	Partial	Jan. 2018 to June 2020
ANDEAN 14	Complete	2018, 2019 and Jan. 2020 to Oct. 2020	Complete	Jan. 2018 to Oct. 2020	Complete	Jan. 2018 to Oct. 2020
CENTAM 1	Complete	2018, 2019, 2020 (until Sept. 2020)	Partial	Jan. 2018 to Oct. 2020	Partial	Jan. 2018 to Mar. 2020
CENTAM 2	Partial	2018, 2019, and 2020 (until June 2020)	Partial	Jan. 2018 to Sept. 2020	Partial	Jan. 2018 to Aug. 2020
SOUTH 1	Partial	2018, 2019, and 2020 (until Sept. 2020)	Partial	Jan. 2018 to May 2020	Partial	Jan. 2018 to Sept. 2020
CARIB 1	Complete	2018, 2019 and 2020 (until June 2020)	Partial	Jan. 2018 to Sept. 2020	Partial	Jan. 2018 to Sept. 2020
CARIB 2	Partial	2018, 2019, and 2020 (until Oct. 2020)	Complete	Jan. 2018 to Oct. 2020	Partial	Jan. 2018 to Oct. 2020
CARIB 3	Partial	2018	Partial	Jan. 2018 to Sept. 2020	Partial	Annual data for 2018, 2019, and 2020 (until Sept.)
CARIB 4	Complete	2018, 2019, and 2020 (until Sept. 2020)	Partial	Jan. 2018 to Sept. 2020	Complete	Jan. 2018 to Sept. 2020

