# CamEd Business School

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## Attribution


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# CFA Institute Research Challenge

## Hosted by

## Cambodia Community of Investment Professionals

## TEAM A (CAMED TEAM A)

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**Phnom Penh Water Supply Authority**
Cambodian Securities Exchange (PWSA)

**Ticker: PWSA**
**Utilities Sector: Water Supply**
**Current Price: KHR 5,940 as of 22/11/19**

**Report Date 22/11/19**
**Recommendation: BUY (19.4% upside)**
**Target Price: KHR 7,094**

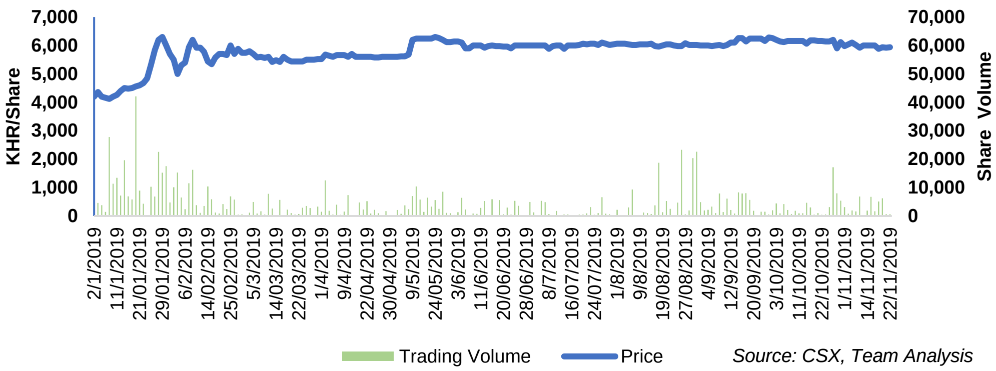
# PHNOM PENH WATER SUPPLY AUTHORITY

**FIGURE 1: MARKET SNAPSHOT**

| MARKET SNAPSHOT | |
|---|---|
| Ticker | PWSA |
| **Shares Outstanding** | 86,973,162 |
| **Market Cap (KHR'm)** | 516,621 |
| **Market Cap (USD'm)** | 134.81 |
| **Adj. 52 Week Low (KHR/shr)** | 5,880 |
| **Adj. 52 Week High (KHR/shr)** | 6,300 |
| **Value/day (Mil KHR)** | 8.93 |
| **Free Float (%)** | 45% |

*Source: Company data, Team Analysis*

**RELATIVE SHARE PRICE PERFORMANCE**




*Source: CSX, Team Analysis*

# WATER TARIFF HIKES TO SAFEGUARD MARGINS

## INVESTMENT SUMMARY

We issued a BUY recommendation for Phnom Penh Water Supply (PWSA) ordinary shares with a DCF-based target price of KHR 7,094/share, representing an upside gain of 19.4% compared to the current market share price of KHR 5,940 as of 22 November 2019. Our recommendation is based on the following:

### NEW TARIFF SUPPORTS PWSA'S EXPANSION

PWSA has produced consistent growth of profit; this growth will continue with the government's recent approval of increased water tariffs that PWSA is allowed to charge customers. On 22 November 2019, the Ministry of Industry and Handicraft announced a tariff increase from 0% up to more than 100% depending on the customer types of PWSA which will be implemented on 1 January 2020 (8). This tariff increase will support ongoing growth in profit as well as generate cash to help finance expansion. Moreover, the tariff increase will support consistent dividend distributions.

### MONOPOLY POSITION IN PHNOM PENH

PWSA has a strong positioning in the water industry because it holds the exclusive right to water distribution in the Phnom Penh municipality. Such a privileged position has favoured PWSA business operation and allowed it to utilize economies of scale. The exclusive right to distribution in Phnom Penh area will continue indefinitely with the support of the government which has a controlling shareholding.

### ECONOMIC OUTLOOK AND POPULATION GROWTH

Cambodia's economic environment has favour PWSA's ongoing profitability. The Cambodian GDP is forecast to grow at a rate of 7% which is higher than average among ASEAN countries (6). Phnom Penh is enjoying much of this growth and is leading with significant Foreign Direct Investments. There is an ongoing surge of residential construction projects (e.g. Condominiums, Shopping malls, Office buildings, and Apartments, etc.) which will accelerate the need of water. Phnom Penh's population and urbanization experience persistent annual growth.

**TABLE 1: SUMMARY TABLE**

| Summary Table | 2017A | 2018A | 2019E | 2020F | 2021F | 2022F | 2023F | 2024F | 2025F |
|---|---|---|---|---|---|---|---|---|---|
| Revenue | 232,893 | 232,165 | 230,949 | 348,226 | 383,255 | 423,051 | 468,585 | 521,089 | 582,133 |
| Revenue growth | 17.52% | -0.31% | -0.52% | 50.78% | 10.06% | 10.38% | 10.76% | 11.20% | 11.71% |
| EPS | 413 | 880 | 593 | 795 | 929 | 1077 | 1245 | 1435 | 1663 |
| EPS Growth | -28.75% | 113% | -32.6% | 34.02% | 16.77% | 16.03% | 15.54% | 15.26% | 15.90% |
| Net Margin | 15.4% | 33.0% | 22.3% | 19.9% | 21.1% | 22.2% | 23.1% | 23.9% | 24.8% |
| ROA | 2.70% | 3.10% | 2.70% | 3.34% | 3.74% | 4.14% | 4.53% | 4.96% | 5.34% |
| ROE | 3.99% | 8.47% | 5.43% | 6.78% | 7.34% | 7.84% | 8.31% | 8.74% | 9.20% |
| P/E | 7.03 | 4.15 | 11.26 | 7.07 | 6.67 | 6.26 | 5.83 | 5.37 | 5.01 |
| Current Ratio | 2.04 | 1.58 | 4.58 | 3.70 | 3.52 | 3.40 | 3.09 | 3.40 | 3.46 |
| Gearing | 27% | 27% | 43% | 41% | 38% | 35% | 32% | 28% | 25% |
| ROCE | 7% | 5% | 5% | 8% | 8% | 9% | 9% | 10% | 10% |
| Interest Cover Ratio | 2.99 | - | 6.27 | 2.98 | 3.42 | 3.94 | 4.56 | 5.32 | 6.47 |
| EBIT Margin | 34.24% | 27.09% | 33.42% | 37.37% | 37.24% | 37.12% | 36.99% | 36.87% | 36.74% |

*Source: Company data, Team Analysis*

**BUSINESS DESCRIPTION:** PWSA is a water utility that was partially privatized in the year 2012, with 13.5% of shares sold to the public, 1.5% of shared sold to employees and a solid majority of 85% held by the Royal Government of Cambodia (5). PWSA was the first company to list on the Cambodian Securities Exchange. PWSA has three main sources of revenue: water sales, connection fees, construction service sales **(FIGURE 3).** The Ministry of Industry and Handicraft (MIH) supervises technical issues relate to PWSA operations and the Ministry of Economic and Finance is responsible for financial supervision. The Mekong, Tonle Sap, and Tonle Bassac rivers are the sources of PWSA raw water and it is treated at three water treatment plants located in Chrouy Changva, Phum Prek, and Chamkarmon. PWSA is the major water supply utility providing water to Phnom Penh though there are other 6 private water supply companies that provide portable water in Phnom Penh. PWSA supplies water via 367,032 connections to households, businesses and public entities (5). Although PWSA states that the water is potable, the people of Phnom Penh mainly use PWSA water for cleaning and washing; for drinking water, Phnom Penh households order home-delivered pure water from private companies. PWSA water supply value chain is broken down into three main processes. Firstly, upstream raw water distribution mainly involves the transportation of raw water from natural sources such as rivers to downstream water treatment plants, and in some cases, water exploitation and preservation projects are used (eg, reservoir construction). Secondly, tap water operators treat raw water and supply it to the end-users through the operators' pipeline network. As stipulated by the regulations, the water supplier is also responsible for installing water meters to measure water usage and correctly bill and collect integrated tariffs from its clients. Finally, the sewage produced by the end-users is collected through a sewage network and treated before being released into the river **(FIGURE 2).**

**FIGURE 2: VALUE CHAIN**


*Source: Team Analysis*

**EXPANSION:** Since incorporation, PWSA has invested water supply treatment facilities and its distribution network, to enhance the capacity of its water production and to ensure that the population in its water coverage regions have access to adequate treated and clean water. In 2018, PWSA produced 207,787,949$m^3$ of treated water complying with the Drinking Water Standard of the WHO **(FIGURE 13).** PWSA has expanded its service coverage from 2,845 km in2017 to 3,102 km in 2018, increasing water connection to 367,032 by the end of 2018 **(FIGURE 4).**

Due to continued growth in demand for water, PWSA is implementing its third master plan covering the period from 2016 to 2030 which has the purpose of expanding the Greater Phnom Penh Water Supply System (GPPWSS) **(APPENDIX 6).** In March 2019, PWSA announced the opening of the bidding process for a US $296 million water treatment plant (9). The Project will be contracted on 10 hectares of land, in Bak Kheng, Chrouy Changva, close to the newly established Nation Sport Complex. It will have a pumping station, a water treatment plant, and pipe system that can generate up to 400,000 cubic metres of clean water per day to support around 50,000 households (17).

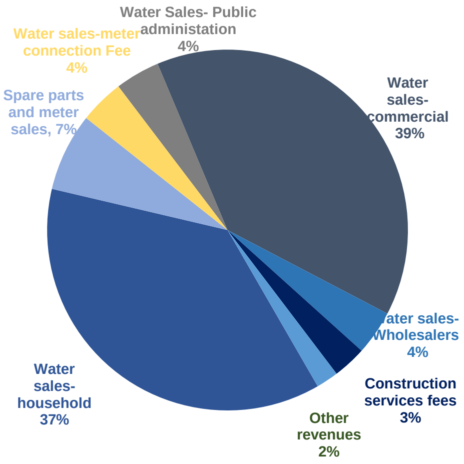
**SHAREHOLDER STRUCTURE:** PWSA shared are divided into two classes., ordinary shares and Class A shares **(FIGURE 5)**. There are 86,973,162 ordinary shares and 391,100,942 Class A shares, both classes of shares having a par value of KHR 1000 per share (5). A total of 15% of ordinary shares are held by private shareholders, and an employee share option scheme, while the rest are held by the Ministry of Economy and Finance (MEF) **(TABLE 2).** Ordinary shares are eligible for dividends and carry voting right, while Class A shares are not eligible for dividends or interest. Furthermore, Class A shares do not have voting right, but there are three main circumstances in which Class A shares have a right to vote: amending the article of incorporation, effecting a capital reduction, and matters that legally require a special resolution.

**TABLE 2: OWNERSHIP STRUCTURE**

| Description | Type | Shareholders | No. of Shares | % |
|---|---|---|---|---|
| **Ordinary shares** | Ordinary shares | Ministry of Economics and Finance | 73,927,167 | 85% |
| | | Private shareholders | 11,741,606 | 13.50% |
| | | Employee share option scheme | 1,304,389 | 1.50% |
| **Total Ordinary Shares** | | | **86,973,142** | **100%** |
| **Other** | Class A | Ministry of Economics and Finance | 391,100,942 | 100% |

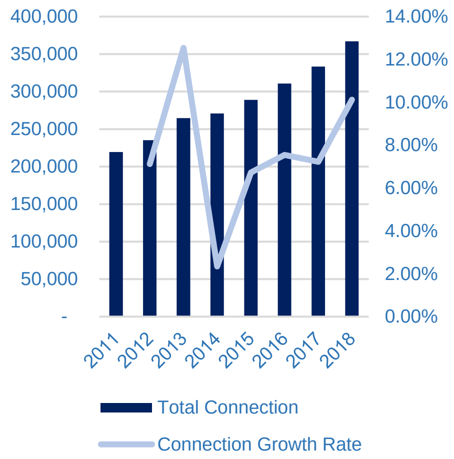
*Source: Company Data, Team Analysis*

**FIGURE 3: SALE COMPOSITION**



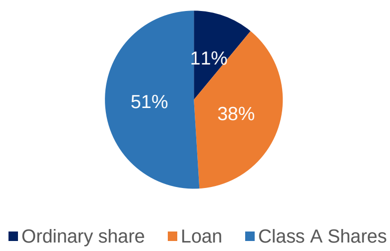

*Source: Company data, Team Analysis*

**FIGURE 4: WATER CONNECTION**



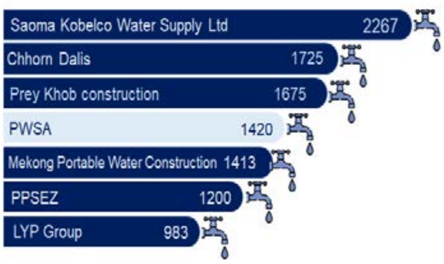

*Source: Company data, Team Analysis*

**FIGURE 5: PWSA CAPITAL STRUCTURE**



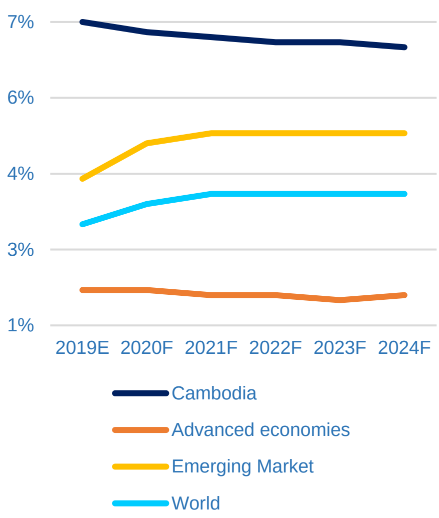

*Source: Company Data, Team Analysis*

**FIGURE 6: WATER TARIFF IN PHNOM PENH**



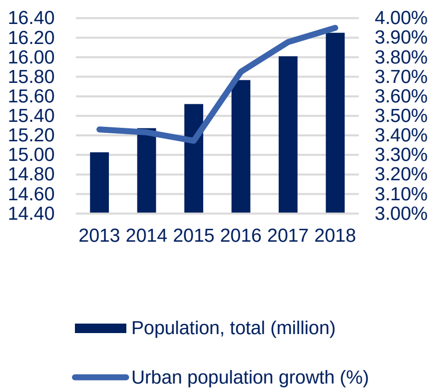

*Source: Ministry of Industry and Handicraft, Team Analysis*

**FIGURE 7: CAMBODIA GDP GROWTH**



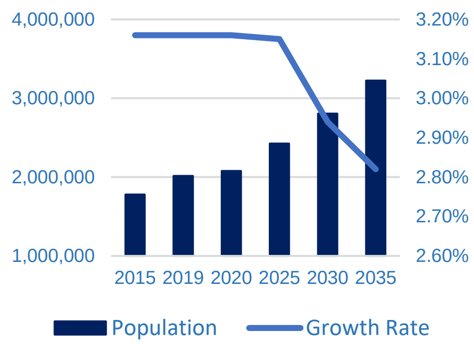

*Source: IMF, Team Analysis*

**FIGURE 8: CAMBODIA POPULATION AND URBANIZATION GROWTH**




*Source: World Bank Data, Team Analysis*

**FIGURE 9: PHNOM PENH POPULATION**




*Source: World Population Review, Team Analysis*

**CORPORATE GOVERNANCE:** PWSA is managed by a board of directors comprised of seven directors. The board has established an audit committee and a risk management committee. The board produces standard disclosures and board meeting reports which are disclosed in accordance with the requirements of the Cambodian Securities Exchange and Cambodian Corporate Governance Code by Securities and Exchange Commission of Cambodia (SECC). The Chairman represents the Ministry of Industry and Handicraft (the regulator) and most directors are appointed by the government (the Chairman is appointed by sub-decree signed by the Prime Minister) which holds an 85% share of the company. Two directors were voted by the non-government shareholders in 2012, but their mandate has been extended by the board itself without a vote of the non-government shareholders (13). Therefore, there are currently no directors directly accountable to the non-government shareholders. Our second concern is that 57% of the board members are government officials and appointed by the government. Thirdly, our concern is about untimely disclosure of material events by PWSA. Overall, based on corporate governance assessment methodology, PWSA scorecard on corporate governance is Fair **(APPENDIX 11).**

## CAMBODIA ECONOMIC OUTLOOK

Over the near term, Cambodia is projected to exhibit strong economic growth despite a weakening external environment. Cambodia's economic growth is projected to stay robust with 7% in 2019 and 6.8% in 2020 driven primarily by robust internal demand, a continued expansion of exports and continued growth in Foreign Direct Investment (FDI) (6). The slower growth in 2020 is attributed to a slowdown in China the advanced economies which are China, a major destination for Cambodian exports. As such growth will likely soften for Cambodia's exports and the tourism sector. Over the medium term, the growth is expected to robust **(FIGURE 7).** With the IMF forecasting growth at an average rate of around 6.5% on the back of improving human capital, a consumption-supportive industrialization policy and initial to develop capital markets. This strong medium-term growth is additionally supported by continued FDI growth attached by the open economy, international trades, liberal policies, development of special economic zones (SEZs) and low wages. Moreover, there is expected continued FDI from Chinese investors in line with the One Belt, One Road Initiative and owing to higher wages and higher tariffs arising from the trade war with the US. In 2018, total FDI inflow reached USD 3.1 bn, up from USD 2.7 billion in 2017(15). The total stock of FDI stood at USD 23.7 billion in 2018, representing around 96.8% of the country's GDP (16).

## INDUSTRY ANALYSIS

### ROBUST DEMAND TO PROPEL INDUSTRY GROWTH OUTLOOK

### INCREASE IN PHNOM PENH POPULATION

PWSA has a monopoly in Phnom Penh, the capital of Cambodia, a developing country. The Phnom Penh population accounted for 12% of the total population in Cambodia. According to Knight Frank, Phnom Penh 's population has experienced an average annual compound growth rate of 4.4% from 1.3 million in 2008 to 2.1 million in 2019(4). A projection made by The United Nations forecasts that the population in Phnom Penh will reach 2.8 million by 2030 **(FIGURE 9).** This growth is due to ongoing urbanization. Currently, 54% of the world's population lives in cities, compared to 29% in 1950, and UN forecasts indicate that 60% will be living in urban areas by 2030(18). By 2020, it is estimated that 22% of residents will live in Phnom Penh and other urban areas.

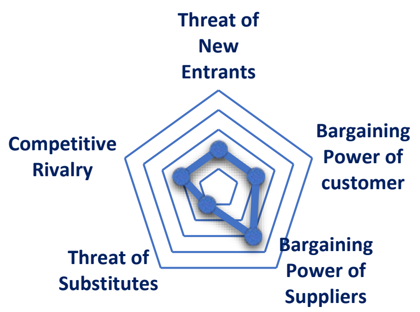
### URBAN POPULATION GROWTH SUPPORTED BY CONSTRUCTION ACTIVITIES

The construction sector in Cambodia continues to grow according to a report by the Ministry of Land Management Urban Planning and Construction (MLMUPC) which shows an increase in investment of more than 67.44% year-on-year to 4,446 construction projects, worth $9.353 billion, on a total area of 18.54 million square metres in 2019 compared to 2,867 construction projects on 11.42 million square metres, worth around $5.228 billion in 2018 (1). More than 50% of these construction activities in high-rise buildings construction and new towns are located in Phnom Penh and Sihanoukville due to urbanisation and increase population **(FIGURE 8)** (11). These ongoing construction activities will support continued demand for water.

### INCREASING WATER TARIFFS TO SUPPORT PROFIT AND INFRASTRUCTURE INVESTMENTS

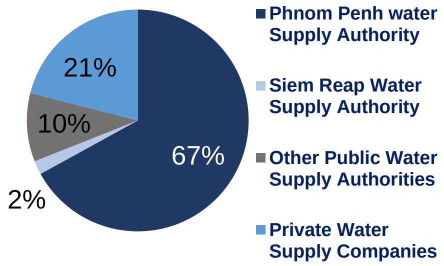
An increase in water tariffs directly and immediately increase PWSA profit. Moreover, the increase tariff is a catalyst for future expansion and for upgrading and maintaining the existing water distribution infrastructure. There is a new water tariff policy which will increase household and commercial tariff's approximately 36% and will increase the tariff for public administration entities by more than 100% **(FIGURE 12)** (8). With this new water tariff policy, the average water tariff of PWSA would be pushed closer to the average water tariff with other private water supply and public water supply in Cambodia **(FIGURE 6 & APPENDIX 7).** The increase in water tariffs is justified by the need to invest in new investment in water treatment plants to meet the growing demand.

FIGURE 10: PORTER'S FIVE FORCES



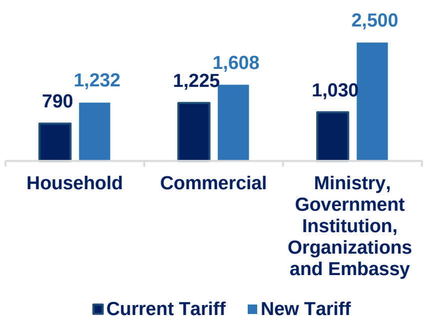

*Source: Team Analysis*

FIGURE 11: WATER SUPPLY MARKET SHARE IN CAMBODIA 2018



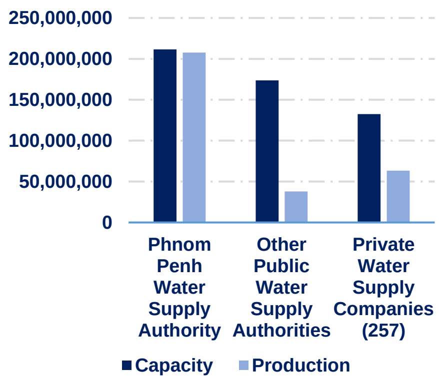

Source: *Ministry of Industry and Handicraft, Team Analysis*

Figure 12: Comparison of Water Tariff (in KHR)




*Source: Company Data, Team Analysis*

FIGURE 13: CAPACITY UTILIZATION AMONG WATER SUPPLY COMPANIES




*Source: Ministry of Industry and Handicraft, Team Analysis*

### RAPID INCREASE ON COMPLETED PROPERTIES IN PHNOM PEHN

Cambodia's real estate sector has achieved unprecedented growth and has been one of the country's best-performing sectors, one of the pistons powering the economy. Whilst Phnom Penh is still where the flow of money in real estate is directed, it has attracted more than 50% of this growth (2). The rapid growth in Phnom Penh's condominium sector since 2014 has primarily been fuelled by interest from foreign purchasers motivated by comparatively high rental yields which range between 5% and 8% (3). By the end of 2019, 43 projects were completed adding a total of 16,939 units to Phnom Penh's condominium stock, equating to 120% growth in total supply on a YoY (4).

Phnom Penh's shopping mall and retail podium subsectors are characterized by rapidly accelerating levels of new supply as developers seek to capitalize on predicted growth in consumer purchasing power. The accumulated retail stock by the end of 2019 is forecast to reach circa 353,415 sqm, a YoY increase of 35.7% (1). The supply of office space in Phnom Penh has reached circa 394,605 sqm with an occupancy rate of 78% at the end of 2019 (4). By the end of 2020, an additional 175,202 sqm of office space is due to be completed bringing a total of up to 552,391 sqm (1). According to the MLMUPC, most sectors of real estate are expected to experience improved growth with industrial and retail sectors also expected to experience improved occupancy rates (3). The increased supply and occupancy rate of these properties will increase demand for PWSA services.

## COMPETITIVE POSITION

### MONOPOLISTIC POSITIONING

As summarised in **FIGURE 10**, there is a low threat of competition or industry rivalry as PWSA has the exclusive right to water supply in Phnom Penh **(APPENDIX 6).** Other private water supplies are prohibited from entering PWSA's distribution zone but there are private water supply companies operate in Phnom Penh is because these companies got the license from the government to operate in those areas before Phnom Penh expanded to those areas. There is limited bargaining power of suppliers; suppliers to PWSA are mainly construction companies (e.g. VINCI) and suppliers of inventories of pipes and chemicals.

There is no bargaining power of customers; customers are captive price takers. However, crucial to the valuation of PWSA is the fact that PWSA is unable to independently set water tariff prices. Water tariff prices are subject to revision based on requests by the government, such as the Prime Minister and the Ministry of Industry and Handicraft (MIH). The most recent price revisions were requested by the Prime Minister (Report on the 1st Board of Directors Extraordinary Meeting, 11 May 2017). On 1 January 2020, the new water tariff policy will be taken into effect **(APPENDIX 5).**

### THREAT OF NEW ENTRANTS- LOW RISK

This is due to PWSA government license and mandate to exclusive supply of potable water to areas of Phnom Penh and some part of Kandal and Takhmao **(APPENDIX 6).** The threat of new entrants is considered to be low because of a high capital requirement (in pipeline and water treatment plant), difficulty in getting a license from the government because a new entrant is not allowed to duplicate in PWSA's distribution zone. There are additional regulatory barriers to entry in that water utilities are subject to stringent government regulation in terms of water quality.

### RIVALRY AMONG EXISTING COMPETITOR - LOW RISK

In Cambodia, there are 257 private and 14 government autonomous water supply companies. In Phnom Penh, there is six private water supply companies license in some areas. Those licenses are limited to 20 years subjected to renewal. As of the end of 2018, PWSA's supply coverage in over 95% of its authorized zone and account for 67% of the total water supply in Cambodia **(FIGURE 11).** The competitors do not have the resource and capability to pose any threat to PWSA as they are not permitted to supply outside their service coverage areas. Therefore, PWSA is not subject to any competition at any stage in its value chain, the principal activities of which are intake of raw water, treatment, and distribution to consumers.

### THREAT OF SUBSTITUTE PRODUCT- VERY LOW RISK

The potable water distributed by the PWSA complies with the WHO and national drinking water standards. The company tests the quality of the water 3 times per day and 80 samples per week at other points in the networks. The quality of the treated water produced by PWSA also tested at the laboratories in Shanghai and Singapore annually. The water tariff of the PWSA is reasonable as it is the lowest among other supplier authority in Cambodia **(APPENDIX 7)** and in comparing with some private water supply companies in Phnom Penh **(FIGURE 6).** The customer switching cost is high as PWSA is the market leader in Phnom Penh city and it is difficult for the customer to change the water supplier. The alternative that customers can find is the well or borehole water. However, to build the well or borehole water, there is a need for a huge capital investment and it is not possible for the people to build the well in their habitation as digging the well need a lot of space and it is an inconvenience in dragging the water. However, there is a substitute for drinking water- bottled purified water, a market for which PWSA has a negligible market share.

## BARGAINING POWER OF CUSTOMER- LOW RISK

There are three main groups of buyers, the household, commercial, and public administration. Each customer is charged with a different tariff **(APPENDIX 7).** The switching cost in the industry are very high, due to customer in the designated district in Phnom Penh cannot switch to other water supply companies because of the restriction on their respective coverage area by the government.

## BARGAINING POWER OF SUPPLIER- MEDIUM RISK

PWSA purchases two main inputs to support ongoing operation: treatment chemicals and electricity. Two primary treatment chemicals are alum and chlorine, which are commodities and may be acquired from many suppliers. For alum, PWSA has contracted for supply from Nary Chhean Thong Co., Ltd. For 30 years from 2000-2030. For chorine, PWSA imports the chemical from Vietnam, switching from Thai supplier due to a border dispute. For electricity, PWSA relies on a single supplier- Electricite Du Cambodge (EDC). Electricity expense totaled an equivalent of 14.6% of PWSA's total revenue in 2018. While PWSA is wholly dependent on EDC for electricity, the risk is moderate because EDC is government-owned equity and electricity rate are standardized and subsidized.

**FIGURE 14: TARGET AND CURRENT PRICE**


*Source: Team Analysis*

# VALUATION ANALYSIS

## INVESTMENT THESIS

We issue a BUY recommendation on Phnom Penh Water Supply Authority (PWSA) with a target price of KHR 7,094 per ordinary share, representing a 19.4% upside gain from the closing price of KHR 5,940 as at November 22, 2019. Our valuation uses the discounted Cash flow (DCF) method, determining the intrinsic value of PWSA based on discounted Free Cash Flow to Equity (FCFE). This method consists of a two-stage growth model. The first phase is based on a specific year on year (YoY) forecast 7 years from 2019 to 2025 and the second phase of constant growth of 3.5%. Based on our DCF analysis, the estimated price is KHR 7,094 **(TABLE 3).** Our buy recommendation is supported by favourable relative multiples valuations, we are using the regional average of EV/EBITDA of the next twelve months (NTM) to calculate and we arrived at a value of KHR 7,538 **(TABLE 4).** However, our valuation is based on DCF model rather than a relative multiple approach because of the superiority of the DCF method (e.g. values future cash flows available to investor, captures opportunity cost, and discounted cash flow for firm-specific risk), and because of PWSA's distinctive economic environment, absences of in-country comparable peers, government-imposed pricing, unique shareholding structure, and unique financial risk. Our DCF model forecasts and discounts future cash flows to equity holders, with the following key assumption:

**TABLE 3: FREE CASH FLOW TO EQUITY FORECAST**

| Opening Date | | 1/1/2019 | 1/1/2020 | 1/1/2021 | 1/1/2022 | 1/1/2023 | 1/1/2024 | 1/1/2025 | 1/1/2026 |
|---|---|---|---|---|---|---|---|---|---|
| Ending Date | | 12/31/2019 | 12/31/2020 | 12/31/2021 | 12/31/2022 | 12/31/2023 | 12/31/2024 | 12/31/2025 | 12/31/2026 |
| Number of years used in discount factor | | **0.083** | **1.083** | **2.083** | **3.083** | **4.083** | **5.083** | **6.083** | |
| (in '000KHR) | | **2019E** | **2020F** | **2021F** | **2022F** | **2023F** | **2024F** | **2025F** | |
| Profit after tax | | 51,607,421 | 69,164,184 | 80,764,917 | 93,710,723 | 108,272,754 | 124,794,652 | 144,637,554 | |
| Changes in Working Capital (excluding cash) | | -1,059,383 | -15,065,447 | -4,407,899 | -5,022,072 | -5,762,450 | -6,662,817 | -7,767,047 | |
| Change in Water Deposits and Non-Current Liabilities | | 1,376,150 | 36,533,291 | 9,356,112 | 8,163,354 | 6,739,062 | 5,631,831 | 5,800,786 | |
| - CAPEX + Depreciation and Amortisation | | -95,238,950 | -76,215,847 | -63,102,425 | -66,979,548 | -68,654,923 | -73,798,729 | -77,978,214 | |
| + Increase in Debt | | 403,964,839 | -31,438,602 | -31,438,602 | -31,438,602 | -31,438,602 | -50,675,023 | -19,236,421 | |
| FREE CASH FLOW TO EQUITY | | 360,650,076 | -17,022,422 | -8,827,897 | -1,566,144 | 9,155,842 | -710,087 | 45,456,658 | 522,751,564 |
| Discount Factor | **12.50%** | 0.990271638 | 0.880241456 | 0.78243685 | 0.695499422 | 0.618221708 | 0.549530407 | 0.488471473 | |
| Present Value of FCFE | | **357,141,542** | **-14,983,841** | **-6,907,272** | **-1,089,252** | **5,660,340** | **-390,214** | **22,204,281** | |

*Source: Team Analysis*

| Terminal growth rate | 3.5% |
|---|---|
| **Total PV of FCFE** | **361,635,583** |
| **PV of terminal year** | **255,349,227** |
| **Total Equity value** | **616,984,810** |
| **No of Shares** | **86,973** |
| **Intrinsic Value (KHR)** | **7,094** |
| **Current Price (22/11/2019)** | **5,940** |
| **Upside Gain** | **19.4%** |

*Source: Team Analysis*

# KEY ASSUMPTIONS

**COST OF EQUITY:** The cost of equity is 12.53% using the capital asset pricing model (CAPM) (a non-resident investor will need to consider the 14% withholding tax on dividends) adjusted to the country risk premiums. It may be argued that country risk is diversifiable; if we remove country risk from our CAPM model results in a cost of equity of 4.79% and share price of KHR 8,574; however, rate of 4.79% would be lower than the company's cost of debt and would not reflect typical frontier market equity risk premiums. To capture opportunity cost in the CAPM model, we use a developed country market equity risk premium of 5.75% (S&P implied equity risk premium, KPMG 2019) and 5-year US treasury risk-free rate of 1.51%, all of which are adjusted with a country risk premium of 7.64%. (Table 5). We use the following CAPM model formula to determine to cost of equity: Cost of equity= Risk-Free Rate + Beta x Mature Market Equity Risk Premium + Country risk x % earning exposure to country risk **(TABLE 5).**

**BETA:** Our CAPM model uses a beta of 0.57 is a bottom-up beta based on the water utility average (0.42) re-geared to our forecast debt to equity ratio of 0.50.

### TABLE 4: EV/EBITDA VALUATION

| EV/EBITDA | 8.46 |
|---|---|
| EBITDA | 162,811,270 |
| Enterprise Value Estimate | 1,376,918,169 |
| Value of Debt (Book Value) | 457,407,086 |
| Class A Share | 391,100,942 |
| Cash and Cash Equivalents | 127,225,296 |
| EV/EBITDA Value of Equity | 655,635,437 |
| Number shares | 86,973 |
| Intrinsic Value (KHR) | 7,538 |
| Current Price (KHR) | 5,940 |
| Upside Gain | 26.9% |

*Source: Team Analysis*

### TABLE 5: COST OF EQUITY ASSUMPTIONS

| Assumption | Rate | Methodology |
|---|---|---|
| **Beta** | 0.57 | Bottom-up beta (based on water utility average) |
| **Risk-free rate** | 1.51% | Risk-free rate (five-year US treasury yield) |
| **Equity risk premium** | 5.75% | Mature market equity risk premium (based on KPMG) |
| **Country risk premium** | 7.64% | Cambodia country risk premium (Moody's B2 rating) |
| **Percent exposure** | 100% | Percent exposure to country risk |
| **Debt to Equity Ratio** | 0.50 | Debt to Equity Ratio (average book value) |
| **Tax rate** | 20% | Cambodia corporate tax rate |
| **COST OF EQUITY** | **12.53%** | **The capital asset pricing model** |

*Source: Team Analysis*

**GROWTH IN SALES:** Our sales revenue is forecasted based on the average growth of consumption over the past three years of 7.4%, incorporating an increase in water prices to all segments of customers by 36% to reflect the new tariffs which will be effective from the start of 2020. While some models forecast sales based on the water production or water connections, we believe that this is misleading as we find that the water consumption demand.

**OPERATING EXPENSES:** We forecast operating expenses at 69% of sales. This is based on the average historical percent of sales of 76%, reduced to 69% to reflect the increase in water tariff which will not cause a proportional increase in operating expenses.

**ELECTRICITY EXPENSES:** We forecast electricity expense as a steady percent of sales, the same as reported in the 2019 third quarter PWSA financial report. Electricity as a proportion of revenue has been decreasing during the last 5 years from 18.30% in 2014 to 16.72% in 2018, Possibly due to efficiency gain in utilizing water treatment machinery.

**SALARY EXPENSES:** We forecast salaries as a proportion of operating expense base on the proportion reported using the published 2019 third quarterly financial statement of PWSA. We note that salaries as a proportion of operating expenses have been increasing during the last 5 years from 21.55% in 2014 to 31.90% in 2018.

**CURRENT ASSETS AND WORKING CAPITAL**: We forecast current assets including cash at 100% of sales, which is lower than the 2010-2018 average of 162%, but we note that the company has steadily reduced its working capital during the last 4 years. Moreover, the current assets of previous years were inflated with large short-term investments; now, with the need for cash to pay for dividends and capital expenditure during the last 4 years. The loan of $100 million taken by PWSA at the end of FY 2019 would be sufficient to pay for the dividends and capital expenditure for the forecasted period, with this we forecast that the short-term investment would continue to slowly grow in the forecasted years **(TABLE 3)**.

**CAPITAL EXPENDITURE**: We forecast capital expenditure based on non-current assets as a percent of sales of 610% in 2019 (reflecting the current ratio) with the estimated growth rate of 15% in number of water connections in 2020 and stable at 10% thereafter in subsequent years and reflecting the planned investment in the $296 million Bakheng Water treatment plant for both steps **(APPENDIX 3)**.

**TERMINAL GROWTH VALUE:** We calculate the terminal growth rate by using the 5-year CAGR of the urbanisation growth rate of 3.5%. We believe that using this rate is justifiable considering water sales growth comes from population growth (in the case of PWSA, urbanization too), taking over new territories, and offering additional water services to existing customers.

**SENSITIVITY ANALYSIS:** We have identified cost of equity and terminal growth rate as key variables in deriving our target price, so we have performed the sensitivity analysis on these two significant variables in order to check the effect of the change on our recommendation. In order to turn our recommendation from BUY to HOLD, the cost of equity need to increase by 250 bps to 15% or more, or the terminal growth rate need to decrease by 250 bps to just 1% or less (Assuming one variable change at a time) **(TABLE 6).**

### TABLE 6: SENSITIVITY ANALYSIS

| Terminal Year Growth | Cost of Equity | | | | | | |
|---|---|---|---|---|---|---|---|
| | 9% | 10% | 11% | **12.50%** | 13% | 14% | 15% |
| 0% | 12.70% | 10.10% | 7.70% | 4.40% | 3.30% | 1.30% | -0.50% |
| 1% | 16.80% | 14.00% | 11.40% | 7.70% | 6.60% | 4.50% | 2.40% |
| 2% | 21.60% | 18.60% | 15.70% | 11.80% | 10.50% | 8.10% | 5.90% |
| **3.50%** | 30.90% | 27.40% | 24.00% | **19.40%** | 18.00% | 15.20% | 12.60% |
| 4% | 34.80% | 31.00% | 27.50% | 22.60% | 21.10% | 18.10% | 15.40% |
| 5% | 43.90% | 39.70% | 35.70% | 30.20% | 28.40% | 25.10% | 22.00% |
| 6% | 56.00% | 51.10% | 46.50% | 40.10% | 38.10% | 34.30% | 30.70% |

*Source: Team Analysis*

## PEER COMPARISON ANALYSIS

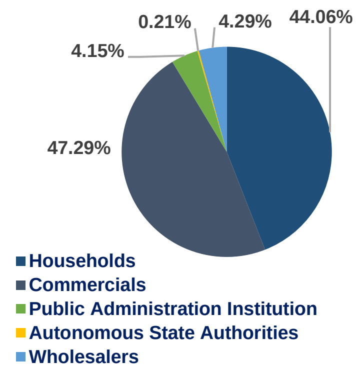
The peer group comprised of major and regional water supply companies with a comparable size. However, due to the lack of publicly-listed water utility companies in Cambodia and the difference in the company's economic environment, financing, shareholder structure and local regulations, we believe that the relative multiple valuation method is inappropriate for the valuation of PWSA. Nevertheless, a peer comparison of EV/EBITDA show our relative valuation of KHR 7,538 based on the regional average of 8.46x, that PWSA is relatively undervalue and supports our buy recommendation **(TABLE 4; FIGURE 14).** We identified Enterprise Value (EV) to Earnings before Interest, Taxes, Depreciation, Amortization (EBITDA) as the most appropriate multiple to compare PWSA to its peers. We used EV/EBITDA mainly because water supply companies are capital intensive businesses and have a significant amount of debt on their balance sheets. PWSA's EV/EBITDA has had a premium over its peers for the most recent financial years; fact we took into consideration in our analysis. This premium has been a reflection of higher dividend yield and lower debt than the rest and lower risk profile (debt/equity ratio) **(TABLE 7)**.

**TABLE 7: PEER COMPARISON**

| Company | TICKER | MKT CAP (USD mil) | Debt to Equity | Dividend Yield | ROE | P/S (x) | P/E (x) | P/E (x) | EV/EBITDA (x) | EV/EBITDA (x) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | TTM | TTM | TTM | TTM | TTM | NTM | TTM | NTM |
| **China Water Affairs Group Ltd** | **0855.HK** | 1,242.0 | 144.2% | 4.62% | 6.61% | 1.17 | 7.20 | 6.33 | 5.90 | 5.33 |
| **Manila Water Company Inc** | **MWC.PS** | 783.0 | 82.7% | 4.75% | 4.97% | 2.00 | 7.28 | 9.20 | 7.70 | 7.20 |
| **Siic Environment Holdings Ltd** | **SIIC.SI** | 517.0 | 110.9% | 7.41% | 2.42% | 0.68 | 6.70 | 6.50 | 10.00 | 8.10 |
| **Guangdong Investment Ltd** | **0270.HK** | 14,201.0 | 18.1% | 3.22% | 7.62% | 7.97 | 22.17 | 21.66 | 9.80 | 9.10 |
| **Chongqing Water Group Company Ltd** | **601158.SS** | 3,910.8 | 8.1% | 4.91% | 7.16% | 4.84 | 16.25 | 15.83 | 12.20 | 10.50 |
| **Thai Tap Water Supply** | **TTW.BK** | 1,761.3 | 67.0% | 4.48% | 13.16% | 8.86 | 18.81 | 17.31 | 12.40 | 12.00 |
| **Ranhill Holdings Berhad** | **RANH.KL** | 322.4 | 203.0% | 3.47% | 2.77% | 0.81 | 27.32 | 20.58 | 7.32 | 6.97 |
| **Regional Comps. Average** | | | **90.6%** | **4.69%** | **6.39%** | **3.76** | **15.10** | **13.92** | **9.33** | **8.46** |
| **California Water Service Group** | **CWT** | 530.0 | 112.0% | 1.50% | 8.21% | 3.66 | 39.47 | 34.30 | 17.34 | 13.56 |
| **SJW Group** | **SJW** | 1,960.0 | 57.0% | 1.74% | 7.45% | 4.85 | 34.99 | 31.30 | 15.76 | 14.22 |
| **Consolidated Water** | **CWCO** | 246.3 | 2.0% | 2.07% | 6.05% | 3.45 | 26.02 | 24.80 | 11.66 | 13.14 |
| **International Comps. Average** | | | **57.0%** | **1.77%** | **7.24%** | **3.99** | **33.49** | **30.13** | **14.92** | **13.64** |
| **Overall Comps. Average** | | | **80.5%** | **3.82%** | **6.64%** | **3.83** | **20.62** | **18.78** | **11.01** | **10.01** |
| **Phnom Penh Water Supply** | **PWSA** | 539.2 | 36% | 5.18% | 4.95% | 2.32 | 7.39 | 7.68 | 11.74 | 9.19 |

*Source: Zacks, Bloomberg, Reuters, Team Analysis: TTM = Trailing twelve months; NTM = next twelve months*

**FIGURE 15: WATER SALES BREAKDOWN (FY18)**




*Source: Company Data, Team Analysis*

## FINANCIAL ANALYSIS

PWSA is a profitable company that generates a low return on assets. It has a low but increasing level of liquidity risk and solvency risk **(APPENDIX 14).** PWSA is a profitable company with stable operating profit margins averaging 31% (we have excluded the one-off 2018 gain on employee retirement obligations) over the past 9 years. PWSA sales have been increasing at an annual average of 10.5% over the past nine years (2010-2018) but operating expenses have been increasing at an average of 11.2% over the same period **(FIGURE 12).** Two significant expenses that have been increasing are salaries (increasing an annual average 16%) and repairs and maintenance (increasing an annual average of 15%).

Net profits and net margins have been historically high, but these historical margins are an unreliable indicator of future profits since in the past PWSA earned significant finance income from short-term investments. Due to ongoing capital expenditure and cash needs, these short-term investments have been depleted. Moreover, it is prudent to exclude the finance income from FCEF forecast since finance income is not a normal sustainable source of income for a water supply company; if investor wish to gain such financial income, they would be better off to invest directly in local financial institutions.

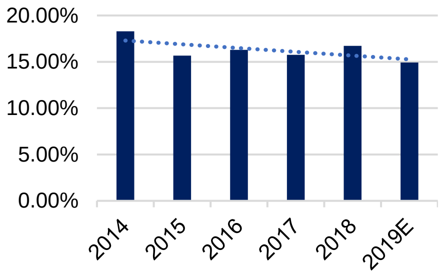
While the PWSA is profitable, its average return on assets is only 4.4%. The PWSA ROCE average from 2011-2018 is only 6% and in 2018 was only 5% (excluding the one-off settlement gain). If such a low ROCE persists, the company will be destroying shareholder value whenever it borrows at a rate above 5% **(TABLE 8).**

**TABLE 8: KEY FINANCIAL RATIOS**

| | 2018A | 2019E | 2020F | 2021F | 2022F | 2023F | 2024F | 2025F |
|---|---|---|---|---|---|---|---|---|
| **DuPont Analysis** | | | | | | | | |
| Operating Margin | 27.1% | 33.4% | 37.4% | 37.2% | 37.1% | 37.0% | 36.9% | 36.7% |
| Net Margin | 33.0% | 22.3% | 19.9% | 21.1% | 22.2% | 23.1% | 23.9% | 24.8% |
| Return on Assets | 5.3% | 2.7% | 3.3% | 3.7% | 4.1% | 4.5% | 5.0% | 5.3% |
| Return on Equity | 8.5% | 5.4% | 6.8% | 7.3% | 7.8% | 8.3% | 8.7% | 9.2% |
| Return on Capital Employed | 5.1% | 4.6% | 7.6% | 8.1% | 8.6% | 9.1% | 9.7% | 10.2% |
| **Liquidity Indicators** | | | | | | | | |
| Current Ratio (x) | 1.58 | 4.58 | 3.70 | 3.52 | 3.40 | 3.09 | 3.40 | 3.46 |
| Quick Ratio (x) | 0.88 | 3.81 | 2.86 | 2.67 | 2.53 | 2.27 | 2.46 | 2.51 |
| **Leverage Indicators** | | | | | | | | |
| Debt/Equity (x) | 0.36 | 0.77 | 0.68 | 0.60 | 0.53 | 0.46 | 0.39 | 0.34 |
| Gearing Ratio | 26.7% | 43.4% | 40.6% | 37.7% | 34.7% | 31.6% | 27.9% | 25.3% |
| **Operating Efficiency indicators** | | | | | | | | |
| EPS (KHR/Sh) | 880 | 593 | 795 | 929 | 1077 | 1245 | 1435 | 1663 |
| EPS Growth | 113% | -33% | 34% | 17% | 16% | 16% | 15% | 16% |

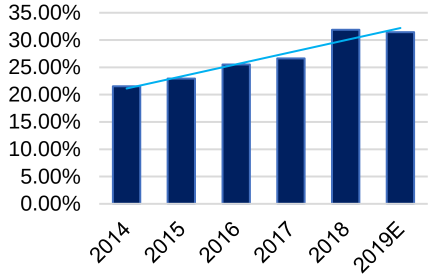
*Source: Company Data, Team Analysis*

**Figure 16: Total Electricity Costs as % of revenue**




*Source: Team Analysis*

**Figure 17: Total Salaries as % of Operating Expenses**




*Source: Company Data, Team Analysis*

**SALARY EXPENSE:** Salaries as a proportion of operating expenses has been increasing during the last 5 years from 21.55% in 2014 to 31.90% in 2018 **(FIGURE 17).** The increase in salaries could be explained by the increase in water supply production and because of the dividend policy that stated if the profit is more than 20% of the total annual operational expenses, the bonus payment shall be equal to 3 months of net salary to management and each employee, and in 2018 the profit as proportion to total operational expenses is 45.2%, combined with annual inflation this could be a reason why the total salaries as proportion to operating expenses increase dramatically in 2018. In subsequent year, we calculate the salaries by using the published third quarterly financial statement of PWSA.

**ELECTRICITY EXPENSE:** Electricity as a proportion of revenue has been decreasing during the last 5 years from 18.30% in 2014 to 16.72% in 2018 **(FIGURE 16).** The electricity prices have remained constant during those 5 years and the water tariff has also remained constant in those 5 years. The possible reason for the reduction in electricity cost in proportion to revenue could be because of efficiency in utilizing the machine in water treatment plant resulting in cutting down the electricity expenses. For the following years, we use the figure of third quarter of the financial statement to make a forecast.

**REPORTED EARNINGS:** Annual audits have been conducted by BDO, expressing that the financial statements of PWSA is presented objectively. We performed the 5 variable Beneish M-score analysis for the last seven year-end financial statements to evaluate PWSA's earning quality. Based on the variables, we found that the company have a likelihood of profit manipulation in 2012 and 2017, and the reason could be because in 2012 the company is just listed on the market so there might be some accounting errors, since from 2013 to 2016 the company has a low probability of profit manipulation. In 2017, because the company is decreasing its current assets while increasing its PPE, this cause a huge change by increase more than double of the Asset quality Index so when we calculate the score, it falls a bit short of the target indicator of -2.22 with -2.003. **(APPENDIX 13)**.

## INVESTMENT RISKS

**EARNINGS MANAGEMENT RISK – MEDIUM RISK:** Firstly, there is an accounting risk in that returns of the company are overstated. It is noted that the company boosted profits in 2018 with a gain on settlement of employee retirement obligations; it may not be a coincidence that 2018 is also a year that – without the settlement – the company would have had a dramatic drop in profit. It is also noted that the company reclassified significant accrued water revenues as a contract asset; this may have had the intended purpose of avoiding an impairment write-down expense.

**OPERATIONAL AND POLITICAL RISK – MEDIUM RISK:** PWSA faces the risk that political concerns may prevent the company from increasing prices even though operating costs are rising. The company also faces operating risks in that assets may not be put to profitable use in the best interest of the shareholder. For example, it may have been for political reason that PWSA offered construction services on credit to Pursat Water Supply at an interest rate far below the market lending rate. Moreover, in 2016, PWSA incurred a loss on its construction services.

**FOREIGN EXCHANGE RISK – HIGH RISK:** Overall, the company faces a low level of risk with its stable cash flows and captive customers. However, the company does face financial risk in that its incoming cash flow are riel denominated but much of its debts are denominated in dollar and Euro.

**DICLOSURE RISK – LOW RISK:** There is a risk that PWSA will not disclosure material events in a timely manner. For example, PWSA does not disclose details regarding the construction services it offers to other water supply companies. Moreover, in June 2019, PWSA and European Investment Bank (EIB) signed a loan agreement to the tone of €85.9 million (USD 15.2 million) in debt as part of the finance required for the new water treatment plant in Bakheng.[7]. However, PWSA did not announce the details and terms of this debt.

**OPERATIONAL RISK – ELECTRCITY EXPENSE – MEDIUM RISK:** Running its operation, PWSA has relied mostly on electrical power, which is supplied solely by EDC. An increase in the price of electricity would have a significant negative impact on the profit of PWSA.

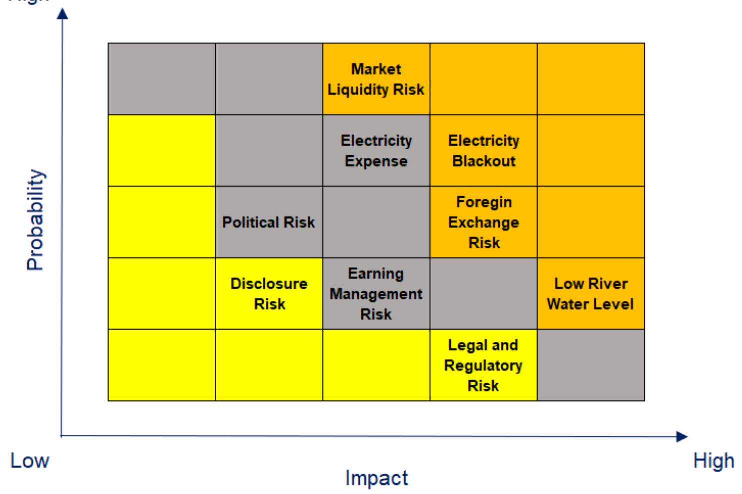
**MARKET LIQUIDITY RISK – HIGH RISK:** Share trading rise problem for shareholders as in the past market share of PWSA is not active. Plus, CSX's market may not be regard as semi-strong efficient which means prices may not promptly reflect publicly available information.

**LEGAL AND REGULATORY RISK – LOW RISK:** As a water supply company, PWSA must be strictly regulated on standard of water production as the whole Phnom Penh population uses PWSA produced water for daily life and business. In case the water production does not meet World Health Organization standards, its exclusive distribution right will be terminate.

**LOW RIVER WATER LEVEL – HIGH RISK:** Though there is low possibility and beyond the control of PWSA, low river levels could have a huge impact on company's water production as it relies heavily on natural water from river to supply its customer. Its sources of water are from Tonle Bassac, Mekong, and Tonle Sab rivers and the levels of these rivers are subject to change every year.

**ELECTRICITY BLACKOUT – HIGH RISK:** PWSA rely heavily on electricity to pump the raw water from the river into the water tank for water treatment, this process requires a lot of electricity. Any electricity blackout would cause the operation to stop and there is no alternative way to get electricity since electricity generator couldn't support such a large usage of power.

**FIGURE 18: INVESTMENT RISK ASSESSMENT**




*Source: Company Data, Team Analysis*

# APPENDIX 1: Statement of Financial Position

| STATEMENT OF FINANCIAL POSITION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **(in '000 KHR, except per share data)** | **2018A** | **2019E** | **2020F** | **2021F** | **2022F** | **2023F** | **2024F** | **2025F** |
| ASSETS | | | | | | | | |
| Non-current assets | | | | | | | | |
| **Property, plant and equipment** | 1,215,679,824 | 1,290,317,033 | 1,365,645,181 | 1,428,012,641 | 1,494,212,067 | 1,562,067,354 | 1,635,006,536 | 1,712,076,524 |
| **Intangible assets** | 14,326,092 | 15,205,649 | 16,093,348 | 16,828,313 | 17,608,435 | 18,408,071 | 19,267,618 | 20,175,843 |
| | **1,230,005,916** | **1,305,522,682** | **1,381,738,529** | **1,444,840,954** | **1,511,820,502** | **1,580,475,425** | **1,654,274,153** | **1,732,252,367** |
| Current assets | | | | | | | | |
| **Inventories** | 97,014,178 | 100,970,805 | 157,237,857 | 173,700,661 | 192,457,301 | 213,979,136 | 238,863,700 | 267,872,387 |
| **Trade and other receivables** | 18,468,010 | 19,221,210 | 29,932,432 | 33,066,358 | 36,636,948 | 40,733,931 | 45,471,057 | 50,993,267 |
| **Loan to Pursat Water Supply** | 112,365 | 116,948 | 182,118 | 201,186 | 222,910 | 247,838 | 276,660 | 310,259 |
| **Loans to employess** | 5,478,350 | 5,701,779 | 8,879,156 | 9,808,804 | 10,867,983 | 12,083,312 | 13,488,533 | 15,126,642 |
| **Income tax receivable** | 5,312,052 | 5,312,052 | 5,312,052 | 5,312,052 | 5,312,052 | 5,312,052 | 5,312,052 | 5,312,052 |
| **Short-term investments** | 33,622,417 | 34,993,674 | 54,494,270 | 60,199,820 | 66,700,350 | 74,159,220 | 82,783,518 | 92,837,122 |
| **Contract assets** | 46,041,769 | 47,919,537 | 74,623,207 | 82,436,257 | 91,337,934 | 101,551,940 | 113,361,856 | 127,129,032 |
| **Cash and cash equivalents** | 13,353,758 | 390,090,745 | 360,791,946 | 349,705,106 | 348,061,658 | 359,756,573 | 364,142,474 | 416,304,087 |
| | **219,402,899** | **604,326,750** | **691,453,039** | **714,430,244** | **751,597,136** | **807,824,000** | **863,699,849** | **975,884,849** |
| Total assets | **1,449,408,815** | **1,909,849,432** | **2,073,191,568** | **2,159,271,198** | **2,263,417,638** | **2,388,299,425** | **2,517,974,003** | **2,708,137,216** |
| EQUITY AND LIABIITIES | | | | | | | | |
| Equity attributable to shareholders | | | | | | | | |
| **Share capital** | 541,227,282 | 541,227,282 | 541,227,282 | 541,227,282 | 541,227,282 | 541,227,282 | 541,227,282 | 541,227,282 |
| **Retained earnings & Reserves** | 358,110,804 | 409,718,225 | 478,882,409 | 559,647,326 | 653,358,049 | 761,630,803 | 886,425,455 | 1,031,063,009 |
| Total equity | **899,338,086** | **950,945,507** | **1,020,109,691** | **1,100,874,608** | **1,194,585,331** | **1,302,858,085** | **1,427,652,737** | **1,572,290,291** |
| | | | | | | | | |
| LIABILITIES | | | | | | | | |
| Non-current liabilities | | | | | | | | |
| **Deferred income tax liabilities** | 45,580,070 | 47,391,084 | 73,145,443 | 80,680,741 | 89,265,965 | 99,116,864 | 110,506,940 | 123,784,696 |
| **Other payables** | 56,848,623 | 59,107,365 | 91,228,858 | 100,627,073 | 111,334,782 | 123,621,075 | 137,827,068 | 154,387,422 |
| **Deferred government and other grants** | 23,131,029 | 24,050,084 | 37,119,938 | 40,943,960 | 45,300,800 | 50,299,946 | 56,080,196 | 62,818,407 |
| **Borrowings** | 285,635,901 | 696,315,928 | 664,877,326 | 633,438,725 | 602,000,123 | 551,325,100 | 532,088,679 | 512,852,258 |
| | **411,195,623** | **826,864,462** | **866,371,565** | **855,690,498** | **847,901,669** | **824,362,985** | **836,502,883** | **853,842,784** |
| Current liabilities | | | | | | | | |
| **Borrowings** | 42,118,629 | 31,438,602 | 31,438,602 | 31,438,602 | 31,438,602 | 50,675,023 | 19,236,421 | 19,236,421 |
| **Current income tax liabilities** | 14,469,609 | 15,044,524 | 23,220,367 | 25,612,483 | 28,337,903 | 31,465,118 | 35,080,951 | 39,296,038 |
| **Trade and other payables** | 82,250,223 | 85,518,237 | 131,992,536 | 145,590,143 | 161,082,365 | 178,858,527 | 199,412,166 | 223,372,163 |
| **Contract liabilities** | 36,645 | 38,101 | 58,807 | 64,865 | 71,767 | 79,687 | 88,844 | 99,519 |
| | **138,875,106** | **132,039,463** | **186,710,312** | **202,706,093** | **220,930,637** | **261,078,354** | **253,818,383** | **282,004,141** |
| Total liabilities | **550,070,729** | **958,903,925** | **1,053,081,877** | **1,058,396,590** | **1,068,832,307** | **1,085,441,339** | **1,090,321,266** | **1,135,846,925** |
| Total equity and liabilities | **1,449,408,815** | **1,909,849,432** | **2,073,191,568** | **2,159,271,198** | **2,263,417,638** | **2,388,299,425** | **2,517,974,003** | **2,708,137,216** |

| STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (in '000 KHR, except per share data) | 2018A | 2019E | 2020F | 2021F | 2022F | 2023F | 2024F | 2025F |
| **REVENUES** | | | | | | | | |
| **Sales** | 205,841,498 | 214,020,112 | 330,327,874 | 364,357,591 | 403,128,821 | 447,615,894 | 499,053,954 | 559,016,852 |
| **Construction Service Fee** | 8,092,103 | 2,720,750 | 2,965,618 | 3,202,867 | 3,427,068 | 3,632,692 | 3,814,326 | 3,966,899 |
| **Other income** | 18,231,549 | 14,208,256 | 14,932,877 | 15,694,454 | 16,494,871 | 17,336,109 | 18,220,251 | 19,149,484 |
| **TOTAL REVENUE** | **232,165,150** | **230,949,118** | **348,226,368** | **383,254,912** | **423,050,759** | **468,584,695** | **521,088,531** | **582,133,235** |
| **EXPENSES** | | | | | | | | |
| **Depreciation and amortization charges** | (43,069,524) | (49,217,736) | (63,195,843) | (69,706,152) | (77,123,572) | (85,634,504) | (95,475,246) | (106,946,897) |
| **Electricity costs** | (38,826,732) | (34,672,396) | (49,215,015) | (54,285,047) | (60,061,510) | (66,689,567) | (74,353,240) | (83,287,015) |
| **Salaries, wages and related expenses** | (53,996,452) | (48,370,504) | (68,658,511) | (75,731,573) | (83,790,157) | (93,036,777) | (103,728,156) | (116,191,419) |
| **Raw materials for water treatment** | (7,502,667) | (6,319,302) | (8,969,802) | (9,893,854) | (10,946,657) | (12,154,669) | (13,551,431) | (15,179,678) |
| **Raw materials for household water connections** | (3,556,905) | (3,362,344) | (4,772,610) | (5,264,274) | (5,824,445) | (6,467,198) | (7,210,381) | (8,076,730) |
| **Repairs and maintenance** | (8,313,279) | (6,380,196) | (9,056,237) | (9,989,193) | (11,052,141) | (12,271,794) | (13,682,015) | (15,325,952) |
| **Construction service expenses** | (5,672,339) | (1,793,578) | (2,384,542) | (2,575,305) | (2,755,576) | (2,920,911) | (3,066,956) | (3,189,635) |
| **Impairment on loan to employee** | 443,486 | 4,695,728 | | | | | | |
| **Other expenses** | (8,785,828) | (8,350,756) | (11,853,308) | (13,074,412) | (14,465,658) | (16,062,008) | (17,907,784) | (20,059,460) |
| **TOTAL EXPENSES** | (169,280,240) | (153,771,084) | (218,105,867) | (240,519,810) | (266,019,716) | (295,237,429) | (328,975,209) | (368,256,786) |
| **OPERATING PROFIT** | **62,884,910** | **77,178,034** | **130,120,502** | **142,735,102** | **157,031,044** | **173,347,267** | **192,113,322** | **213,876,449** |
| **Foreign exchange gains/(losses) - net** | (941,822) | (357,954) | | | | | | |
| **Gain on settlement of retirement obligation** | 32,928,143 | - | - | - | - | - | - | - |
| **Finance income** | 16,814,254 | 5,874,816 | | | | | | |
| **Finance costs** | (16,176,827) | (18,185,620) | | | | | | |
| **Finance income/(costs) - net** | 33,565,570 | (12,310,804) | (43,665,272) | (41,778,956) | (39,892,640) | (38,006,323) | (36,120,007) | (33,079,506) |
| **Profit before income tax** | **95,508,658** | **64,509,276** | **86,455,230** | **100,956,146** | **117,138,404** | **135,340,943** | **155,993,314** | **180,796,943** |
| **Income tax expense** | (19,007,953) | (12,901,855) | (17,291,046) | (20,191,229) | (23,427,681) | (27,068,189) | (31,198,663) | (36,159,389) |
| **PROFIT FOR THE YEAR** | **76,500,705** | **51,607,421** | **69,164,184** | **80,764,917** | **93,710,723** | **108,272,754** | **124,794,652** | **144,637,554** |

## APPENDIX 3: Capital Expenditure Schedule

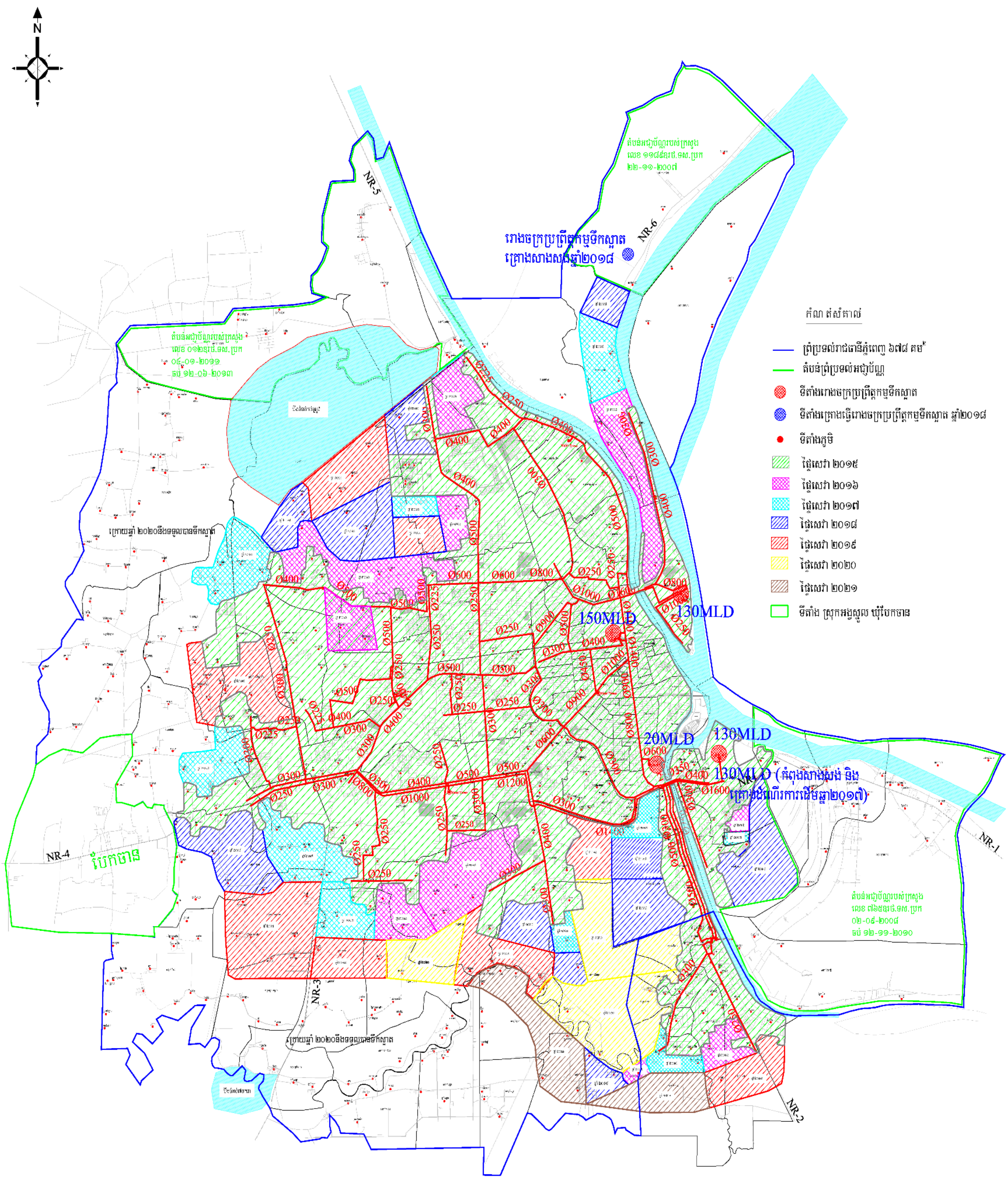
| CAPEX Schedule | 2109E | 2020F | 2021F | 2022F | 2023F | 2024F | 2025F |
|---|---|---|---|---|---|---|---|
| | 45% | 15% | 10% | 10% | 10% | 10% | 10% |
| **Water Connection CAPEX** | 95,238,950 | 49,549,181 | 36,435,759 | 40,312,882 | 44,761,589 | 49,905,395 | 54,084,880 |
| **Bakheng Water Treatment Plant** | | 26,666,666 | 26,666,666 | 26,666,666 | 23,893,333 | 23,893,333 | 23,893,333 |
| **Total CAPEX** | 95,238,950 | 76,215,847 | 63,102,425 | 66,979,548 | 68,654,922 | 73,798,728 | 77,978,213 |

## APPENDIX 4: Initial Public Offering

| IPO Information | |
|---|---|
| Offering price | KHR6,300 |
| Par value | KHR1,000 |
| Outstanding Shares post IPO | 86,973,162 |
| Number of offering shares | 13,045,975 |
| 1st Trading date | 18-Apr-19 |
| 1st closing price | KHR9,300 |
| Underwriter: | TONGYANG securities (Cambodia)Plc.Now,<br>Yuanta Securities (Cambodia) Plc. |

## APPENDIX 5: New and Old Water Tariff Policy

| Type of customers | Quantity $m^3$/month | New Price KHR/$m^3$ | Quantity $m^3$/month | Old Price KHR/$m^3$ |
|---|---|---|---|---|
| Household | No more than 07 $m^3$ | 400 KHR/$m^3$ | From 00$m^3$ to 03$m^3$ | 400 KHR/$m^3$ |
| | From 08 $m^3$ to 15 $m^3$ | 720 KHR/$m^3$ | From 04$m^3$ to 07$m^3$ | 500 KHR/$m^3$ |
| | From 16 $m^3$ to 25 $m^3$ | 920 KHR/$m^3$ | From 08$m^3$ to 15$m^3$ | 770 KHR/$m^3$ |
| | From 26 $m^3$ to 50 $m^3$ | 1250 KHR/$m^3$ | From 16$m^3$ to 50$m^3$ | 1.010 KHR/$m^3$ |
| | From 51 $m^3$ to 100 $m^3$ | 1900 KHR/$m^3$ | Over 50$m^3$ | 1.270 KHR/$m^3$ |
| | From 101 $m^3$ up | 2200 KHR/$m^3$ | | |
| Commercial | No more than 15 $m^3$ | 950 KHR/$m^3$ | From 0$m^3$ to 100$m^3$ | 950 KHR/$m^3$ |
| | From 16 $m^3$ to 45 $m^3$ | 1100 KHR/$m^3$ | From 101$m^3$ to 200$m^3$ | 1150 KHR/$m^3$ |
| | From 46 $m^3$ to 100 $m^3$ | 1400 KHR/$m^3$ | From 201$m^3$ to 500$m^3$ | 1350 KHR/$m^3$ |
| | From 101 $m^3$ to 200 $m^3$ | 1700 KHR/$m^3$ | Over 500$m^3$ | 1450 KHR/$m^3$ |
| | From 201 $m^3$ to 500 $m^3$ | 2100 KHR/$m^3$ | | |
| | From 501 $m^3$ up | 2400 KHR/$m^3$ | | |
| Ministry, Government Institution, Organizations and Embassy | Without consideration of quantity | 2500 KHR/$m^3$ | Without consideration of quantity | 1030 KHR/$m^3$ |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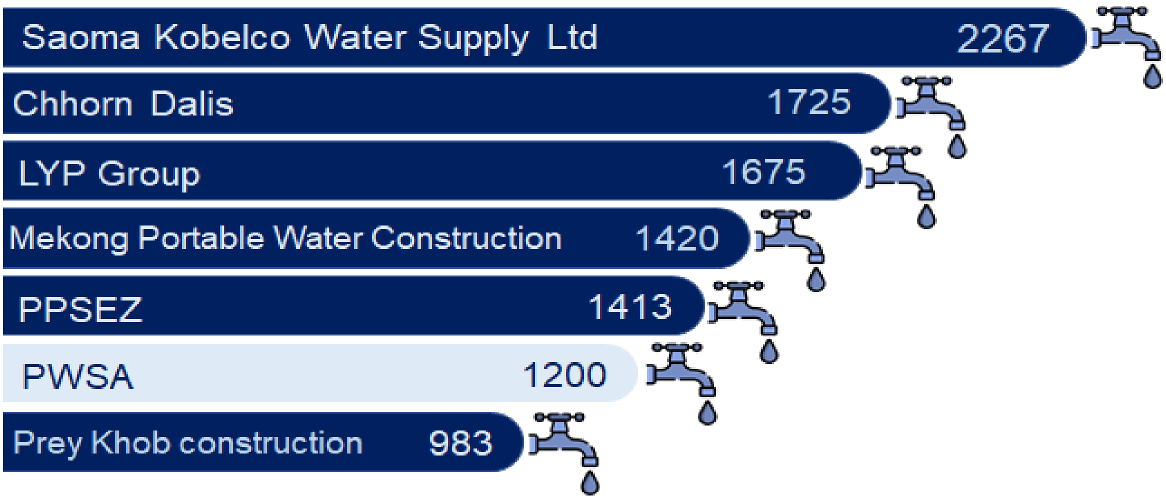
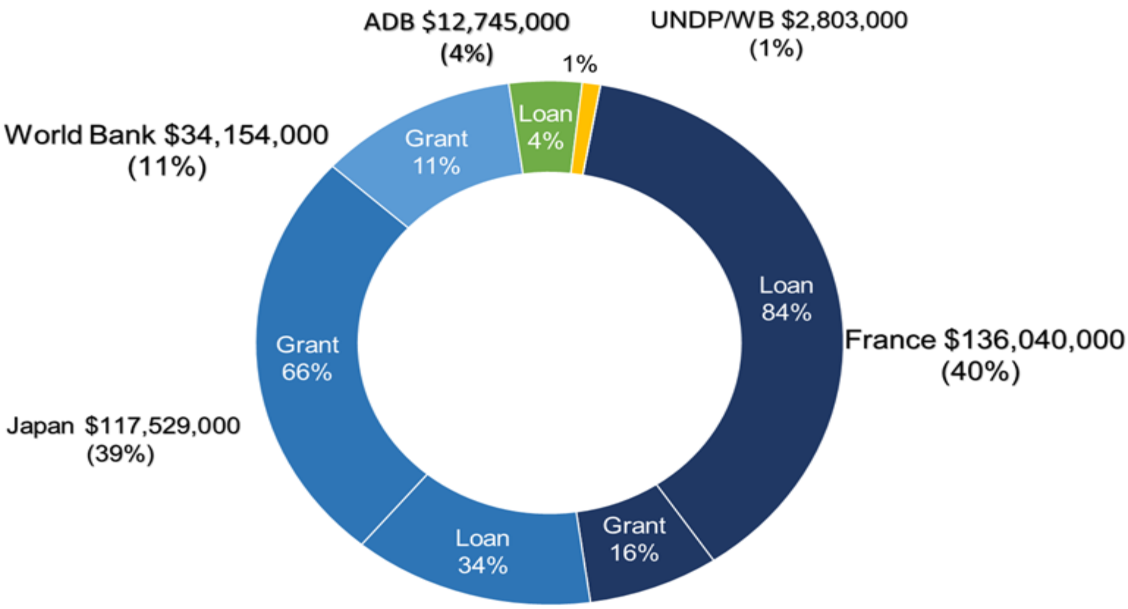
## APPENDIX 7: Average Water Tariff in Cambodia 2020 (In KHR/m³)


## APPENDIX 8: Average Water Tariff in Phnom Penh FY2019 (In KHR/m³)



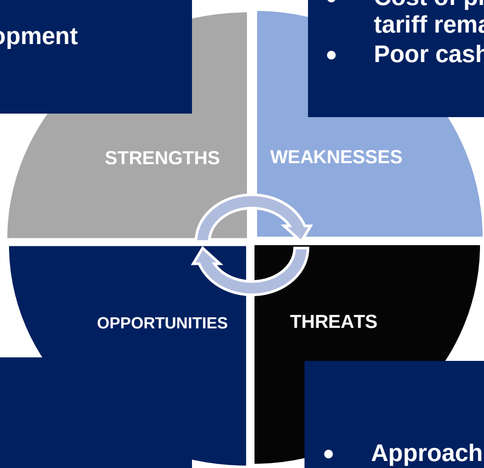
## APPENDIX 9: PWSA Loan and Grant In FY2018




## APPENDIX 10: SWOT Analysis

- Monopoly
- Rarely had any issues with the authority as the government owned 85% of the total shares.
- Non-revenue water is at 8.18% in 2018 which is very low in the international standards and also earned them many awards.
- Many strategic partners and development partners

- The Board of directors are mostly government officials.
- Poor governance practices and disclosures.
- Financial statements problem due to messy note
- Cost of production increase due to inflation but tariff remain the same
- Poor cash flow management




- Expansion: Implementation of the third master plan

- Approaching maturity stage, so the company need to diversify their operation
- Slow growth due to the government interference with the company business operation.

## APPENDIX 11: Corporate Governance Assessment

Evaluating the PWSA quality of corporate governance by following the Indian Corporate Governance Scorecard methodology that was established in December 2016.

| Legend: | |
|---|---|
| 0 | If the company needs to improve in that element of corporate governance |
| 1 | If the company follows reasonable practices for that element of corporate governance |
| 2 | If the company follows the Cambodian or Global best practices for that element of corporate governance |

| | Score | Weight | Explanation |
|---|---|---|---|
| **Right & Equitable Treatment of Shareholders** | **0-2** | **30%** | |
| Shareholder voting right | 2 | | The ordinary share has 1 vote for 1 share as stated in the IPO document which is complied with Prakas on Corporate Governance for Listed Public Enterprise-Chapter 2-Article 8-Equitable Treatment of Shareholders. |
| Shareholder right to dividend | 2 | | Ordinary shareholder right to dividend is subjected to the board decision. |
| Right of Shareholder in Annual General Meeting (AGM) | 0 | | The shareholders have right to raise and discuss any concerns that is related to the company in AGM according to the IPO document-b-12-7-General Meeting of Shareholders. |
| Right of Using Proxy in Voting | 2 | | According to IPO document-b12-7-General Meeting of Shareholders, shareholders have a right of using proxy to vote. |
| Right of External Auditors to participate in AGM | 2 | | The external auditor did attend the 7th AGM- 31 May, 2019. |
| Right of Minority Shareholders on proposing agenda item in a shareholder meeting | 0 | | There is no publicly stated information about this issue. |
| Additional Right for Preference Shareholders (Class A) | 2 | | According to IPO, preference shareholders have special right on voting which are related to the issue that relate to amend the AOI, affect a capital reduction, and any other matters that require a special resolution under the relevant laws and regulations. |
| Company's Policy requiring all related party transaction (RPTs) to be dealt only by independent non-conflicted board members | 0 | | There is no publicly stated information about this issue. |
| Absence of evidence of structures or mechanisms that have the potential to violate minority shareholders right | 0 | | There is no publicly stated information about this issue. |
| **Total Score** | **10** | | |

| | Score | Weight | Explanation |
|---|---|---|---|
| **Role of Stakeholders** | **0-2** | **10%** | |
| Committed forwards developing stakeholder relationship | 0 | | The company tries to keep and develop the relationship with their stakeholders, but there is a limited disclosure. |
| Publicly disclosed policies to address the health, safety, and welfare of employees | 2 | | The company has complied with the Prakas on Corporate Governance for Listed Public Enterprise-Chapter 1 General Provision, which include one board member to protect employee interest. |
| Commitment to protect the right of its lenders, creditors, and suppliers | 2 | | The company always tries to protect the right of those who provide financial support by paying them back on a timely basis. |
| Commitment to a strong ethical practice | 1 | | There is a disclosure statement about the code of ethic and conflict of interest for the senior management in the annual report. |
| Commitment to being a good corporate citizen | 2 | | Company has a policy of clean water for the poor and the program for community's development. |
| **Total Score** | **7** | | |

| | Score | Weight | Explanation |
|---|---|---|---|
| **Disclosure & Transparency** | **0-2** | **30%** | |
| Policy for determining and disclosing material information | 0 | | There is a policy which discloses the material information to the public, but the information is not always announced on a timely basis in accordance with the Chapter 9 of article 47-Disclousure and Transparency on Prakas of Corporate Governance for the Listed Public Enterprise. |
| Transparency in disclosing financial performance on a quarterly basis | 2 | | The quaterly financial performance is announced on the PWSA official website. |
| Transparency in disclosing non-financial information | 0 | | The company has provided information on some non-financial information parameter, however, all has not been disclosed. |
| Disclosing on foreseeable risks | 1 | | There is a limited risks disclosure in the Financial Statements. |
| Disclosing detailed minutes or transcripts of the previous AGM | 2 | | The company has disclosed the minutes of AGM in the Its own official website and Cambodia Securities Exchange Market. |
| Disclosing of articulated a dividend policy for its shareholders | 2 | | The dividend policy always discloses in the PWSA or CSX website. |
| Disclosing of process in appointing external auditor | 0 | | There is no detail disclosure of process of appointing external auditor |
| Periodically rotated its external auditors | 2 | | The company has rotated the external auditors as stated in the Prakas on Corporate Governance for Listed Public Enterprise-Chapter 7 Article 41-Change of Professional Accounting Firm. |
| Identifying board members and senior executive responsibility | 2 | | Board members and senior executives' responsibility is stated in annual report. |
| Disclosing the experience of each board member and senior executives | 2 | | There are a disclosure of the board and senior members experiences. |
| Clearly identified its independent directors in the annual report and on its website | 2 | | There is a disclosure in the annual report and its website. |
| Disclosing of process in appointing new directors | 0 | | The process is not detail publicly disclosed. |
| Disclosing of directors' remuneration structure and other compensation | 2 | | The company has disclosed the board of director renumeration structure and other compensation in the annual report as stated in Prakas on Corporate Governance for Listed Public Enterprise Chapter 3 Article 14 Compensation or Renumeration of the Directors and Senior Officers. |
| Details disclosing on company training, development programs for directors | 0 | | There is a disclosure of the training, but the information is not in detail. |
| **Total Score** | **17** | | |

| | Score | Weight | Explanation |
|---|---|---|---|
| **Responsibilities of Board** | **0-2** | **30%** | |
| Separation of roles between the Chairperson and the General Director | 2 | | The Chairman is H.E. Soem Nara while the General Director is H.E. Sim Sitha |
| Sufficient skills, competence and expertise | 2 | | There are 2 PhD, 2 Master degree, and 3 Post Graduates |
| Diversity gender on the board members | 0 | | There is no female on board of directors. |
| Adequate independent representation on the board | 2 | | The company has complied with the Prakas on Corporate Governance for Listed Public Enterprise-Chapter 3 Article 11 Composition of the Board. For the best practice, there should be at least 1/3 of independent directors in the board of directors. |
| Maintaining a formal board committee | 2 | | PWSA has 2 committees which are the audit and risk management committee, in accordance with Chapter 6 Article 32-Committee of the Board in Prakas on Corporate Governance for Listed public Enterprise. |
| Representative of government officials in the board | 0 | | 57% of the board members are the government officials |

| | | |
|---|---|---|
| Does company have a succession plan for its directors? | 0 | There is no publicly stated information about the succession. |
| Strong and robust internal audit framework | 1 | The internal auditor is reported to the audit committee, which consist of 2/3 board members. |
| **Total Score** | **9** | |

| Category | Total Score | Maximum Attainable Score | Category Weight | Weighted Score |
|---|---|---|---|---|
| | (A) | (B) | (C) | (A/B) *C |
| Right & Equitable Treatment of Shareholders | 10 | 18 | 30% | 17 |
| Role of Stakeholders | 7 | 10 | 10% | 7 |
| Disclosure & Transparency | 17 | 28 | 30% | 18 |
| Responsibilities of Board | 9 | 16 | 30% | 17 |
| **FINAL SCORE (FAIR)** | | | | **59** |

**Based on the final score, company will be grouped into the following buckets:**

| | | |
|---|---|---|
| **1** | **LEADERSHIP** | **>=70** |
| **2** | **GOOD** | **60-69** |
| **3** | **FAIR** | **50-59** |
| **4** | **BASIC** | **<50** |

## APPENDIX 12: Corporate Governance

| No. | Name | Title | Starting | Ending | Qualification |
|---|---|---|---|---|---|
| 1 | **H.E. Soem Nara** | Chairman (Rep. of Ministry of Industry & Handicraft) | 24-02-2014 | 24-02-2020 | Post-Degree of Business Administration in Swinburne University of Technology 2002. Bachelor Degree Chemical Engineer of Institute of Chemical Engineering 1993 |
| 2 | **H.E. Sim Sitha** | Member (PPWSA Director General) | 27-07-2012 | 27-07-2021 | Ph.D. of Business Administration 2014.<br>Post-Degree of Business Administration in University of Management and Economic in Sihanoukville, Cambodia 2007.<br>Civil Engineering 1989. |
| 3 | **H.E. Mey Vann** | Member (Rep. of Ministry of Economy & Finance) | 24-02-2014 | 24-02-2020 | Ph.D. of Business Administration at Preston, USA 2009.<br>Master Degree in Economic Policy 1999. |
| 4 | **H.E. Noun Pharath** | Member (Rep. of Phnom Penh Municipality) | 18-08-2017 | 18-08-2020 | Postgraduate Professional Court and Criminal Science and post-degree of law at Jean Moulin Lyon 2003.<br>Bachelor Degree of Public and Private Law 2001. |
| 5 | **Mr. Long Naro** | Member (Rep. of PPSWA Employees) | 08-02-2017 | 08-02-2020 | Master in General Management at Charles Sturt University 2003-2006.<br>Mechanical Engineer at George Dimitroff School of Engineering for Plant and Construction in Germany 1984-1989. |

| | | | | | |
|---|---|---|---|---|---|
| 6 | **Mr. Om Sengbora** | Member (Independent Director) | 20-02-2013 | 20-02-2019 | Bachelor Degree of Chemistry at សកលវិទ្យាល័យបច្ចេកទេសតាលានបទពិសោធនការងារ 1995 |
| 7 | **Mr. Zhang Yun Feng** | Member (Non-Executive Director, Rep. of Private Shareholders) | 20-02-2013 | 20-02-2019 | Bachelor Degree of Accounting<br>Master of Business Administration<br>Honorary Doctor of Business Administration. |

## APPENDIX 13: BENEISH M SCORE

The Beneish's M- score analysis, created in 1999 by Dr Messod Beneish, was used by our team to verify PPWSA's earnings quality in their financial results, in regards of earnings manipulation detection. The method contemplates different variables which identify any earnings manipulation or financial distortions incurred by the firm. For interpretation needs, Beneish concluded that if a company scored greater than -2.22 (i.e. a less negative or positive number) there was a likely probability of profit manipulation. The formula for the 5 variable model is:

M-score = -6.065 + 0.823*DSRI + 0.906*GMI + 0.593*AQI + 0.717*SGI + 0.107*DEPI

| Input variables (KHR 'billion) | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **Revenue** | 115 | 135 | 152 | 157 | 191 | 198 | 233 | 265 |
| **COGS** | 54 | 59 | 61 | 69 | 80 | 92 | 101 | 112 |
| **Net receivables** | 40 | 28 | 30 | 31 | 34 | 35 | 45 | 18 |
| **Current assets** | 231 | 251 | 253 | 288 | 306 | 259 | 233 | 219 |
| **PPE** | 632 | 741 | 836 | 875 | 937 | 1,036 | 1,124 | 1,216 |
| **Depreciation** | 21 | 21 | 25 | 34 | 35 | 36 | 37 | 43 |
| **Total Asset** | 865 | 1,000 | 1,099 | 1,166 | 1,245 | 1,298 | 1,362 | 1,449 |
| **SGA expense** | 19 | 21 | 20 | 25 | 31 | 36 | 41 | 54 |
| **Net Income** | 32 | 34 | 39 | 46 | 54 | 50 | 36 | 77 |
| **Cash flow from operations** | 40 | 37 | 75 | 84 | 79 | 101 | 83 | 83 |
| **Current liabilities** | 49 | 61 | 57 | 53 | 65 | 78 | 114 | 139 |
| **Long-term debt** | 183 | 192 | 228 | 251 | 256 | 252 | 258 | 286 |
| **Working capital - cash – depreciation** | 153 | 155 | 161 | 186 | 194 | 128 | 65 | 24 |
| | | | | | | | | |
| Variable to calculate M score | | | | | | | | |
| | | | | | | | | |
| DSRI= Day's Sales Receivables Index | | 0.6 | 0.94 | 1.00 | 0.92 | 0.98 | 1.09 | 0.36 |
| GMI= Gross Margin Index | | 0.94 | 0.94 | 1.07 | 0.96 | 1.09 | 0.95 | 0.98 |
| AQI= Asset Quality Index | | 3.97 | 1.24 | 0.29 | 0.74 | 0.81 | 2.28 | 2.53 |
| SGI= Sales Growth Index | | 1.17 | 1.12 | 1.03 | 1.22 | 1.04 | 1.18 | 1.14 |
| DEPI= Depreciation Index | | 1.16 | 0.98 | 0.75 | 1.05 | 1.07 | 1.06 | 0.93 |
| | | | | | | | | |
| **M-Score-5 Variable model** | | **-1.393** | **-2.792** | **-3.28** | **-3.017** | **-2.935** | **-2.003** | **-2.464** |

**Result: Based of the M-Score, PWSA appear likely to manipulates its earnings in 2012 and 2017 but in 2018, the M-Score shows that the company is not likely to manipulate its earning result.**

The Altman Z-Score Analysis indicates a company's financial health and, consequently, the probability of filing for bankruptcy. With the specified formula, the indicator shows a score, in which below of 1.80 indicates a firm is said to be in the "distress zone" and has a very high probability of reaching the stage of bankruptcy. If the score is between 2.99 and 1.81, this show that the firm is in the "grey zone" and has moderate probability for bankruptcy, and if the score is greater than 2.99, then the firm is said to be in the "safe zone" which has a negligible probability of filing bankruptcy.

The formula is (1.2*X1) + (1.4*X2) + (3.3*X3) + (0.6*X4) + (1.0*X5).

| INPUT VARIABLES (KHR ’billion) | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| **Current Assets** | 251 | 253 | 288 | 306 | 259 | 233 | 219 |
| **Current Liabilities** | 61 | 57 | 53 | 65 | 78 | 114 | 139 |
| **Total Liabilities** | 340 | 404 | 430 | 461 | 478 | 523 | 550 |
| **Total Assets** | 1,000 | 1,099 | 1,166 | 1,245 | 1,298 | 1,362 | 1,449 |
| **Retained Earnings** | 34 | 38 | 46 | 57 | 49 | 33 | 74 |
| **Revenues** | 135 | 152 | 157 | 191 | 198 | 233 | 232 |
| **Operating Income** | 44 | 53 | 43 | 58 | 57 | 80 | 63 |
| **Market Capitalization** | 539 | 466 | 383 | 442 | 357 | 336 | 290 |
| **Working Capital** | 190 | 196 | 235 | 241 | 181 | 118 | 81 |
| | | | | | | | |
| DERIVED VARIABLES | | | | | | | |
| **X1. Working Capital / Total Assets** | 0.19 | 0.18 | 0.2 | 0.19 | 0.14 | 0.09 | 0.06 |
| **X2. Retained Earnings/ Total Assets** | 0.03 | 0.03 | 0.04 | 0.05 | 0.04 | 0.02 | 0.05 |
| **X3. EBIT/ Total Assets** | 0.04 | 0.05 | 0.04 | 0.05 | 0.04 | 0.06 | 0.04 |
| **X4. Market Capitalization/ Total Liabilities** | 1.59 | 1.15 | 0.89 | 0.96 | 0.75 | 0.64 | 0.53 |
| **X5. Revenue/ Total Assets** | 0.14 | 0.14 | 0.13 | 0.15 | 0.15 | 0.17 | 0.16 |
| | | | | | | | |
| OUTPUT | **1.51** | **1.25** | **1.09** | **1.18** | **0.96** | **0.89** | **0.76** |

**Result: Considering the financial information from the period 2012-2018, PWSA has a HIGH probability of filing for bankruptcy.**

# APPENDIX 15: Endnotes


1. Pisei, H. (2019). Construction sector healthy despite drop in revenues. Phnom Penh Post, Available at https://www.phnompenhpost.com/post-property/construction-sector-healthy-despite-drop-revenues
2. Styllis, G. (2019). Cambodia's property sector rises above politics. PropertyGuru Property Report Magazine. Available at http://www.property-report.com/detail/-/blogs/cambodian-real-estate-rises-above-politi-1
3. Hakim, L. (2018)..Cambodiareal estatehighlights. KnightFrank. Available at https://www.knightfrank.com.kh/research/cambodia-real-estate-highlights-5808.aspx
4. CBRE, (2019). Asia Pacific real estate market outlook 2019Cambodia. CBRE Research. Available at https://www.cbre.com.kh/wp-content/uploads/2019/04/Cambodia-Real-Estate-Market-Outlook-2019.pdf
5. PWSA_Annual_Report_2018. (2019, March 20). Retrieved December 9, 2019, from PWSA_Annual_Report_2018(KH).pdf 1 / 144.
6. IMF, (2019). World Economic Outlook (October 2019) - Real GDP Growth, International Monetary Fund, available at https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/KHM
7. Cambodia's construction sector remains strong. (2019, October 15). Retrieved December 9, 2019, from https://www.khmertimeskh.com/651253/cambodias-construction-sector-remains-strong/.
8. Notification of Newly Revised Water Tariff. (2019, November 22). Retrieved January 6, 2020, from http://www.ppwsa.com.kh/en/index.php?page=newsdetail&id=278.
9. Tharith. (2019, November 22). តម្លៃទឹកស្អាតរបស់រដ្ឋាករទឹកភ្នំពេញ នឹងត្រូវកែសម្រួលចាប់ថ្ងៃទី១ ខែមករា ឆ្នាំ២០២០តទៅ, ពលរដ្ឋប្រើប្រាស់ក្រោម ២៥ម៉ែត្រគូបក្នុង១ខែ ចុះថ្លៃជាងមុន (Video inside). Retrieved December 9, 2019, from http://freshnewsasia.com/index.php/en/localnews/140495-2019-11-22-11-44-51.html?fbclid=IwAR06FPDwsE5JMTX5UQS3x9iGNLqeEVfW_fdCetswvogDMfR8bmQtmB7gUAM.
10. Cambodia GDP. (n.d.). Retrieved December 9, 2019, from https://tradingeconomics.com/cambodia/gdp.
11. Xinhua, (2019). Cambodia's construction sector attracts 4.56 bln USD investments in 7 months, up 52 pct. Xinhua Net, available at http://www.xinhuanet.com/english/2019-08/29/c_138348125.htm
12. Economy of Cambodia. (2019, December 4). Retrieved December 9, 2019, from https://en.wikipedia.org/wiki/Economy_of_Cambodia.
13. Disclose Public Issuance of Equity Securities (Public Offering) - PPWSA. (2012, April 4). Retrieved January 7, 2020, from https://www.ppwsa.com.kh/Administration/stock/English/doc/Disclosure_English_Version.pdf
14. "Economy to grow at 7 percent this year: ADB - Khmer Times." 4 Apr. 2019, https://www.khmertimeskh.com/593269/economy-to-grow-at-7-percent-this-year-adb/. Accessed 7 Jan. 2020.
15. Foreign investment in Cambodia - Santandertrade.com." 4 Dec. 2019, https://santandertrade.com/en/portal/establish-overseas/cambodia/investing-3. Accessed 7 Jan. 2020.
16. World Investment Report 2019: Special Economic Zone." - UNCTAD." 9 Aug. 2018, https://unctad.org/en/PublicationsLibrary/wir2019_en.pdf. Accessed 7 Jan. 2020
17. Bids Open for Construction of New Water Treatment Plant. (2019, March 20). Retrieved January 7, 2020, from https://www.construction-property.com/bids-open-for-construction-of-new-water-treatment-plant/
18. The World's Cities in 2018 - the United Nations. (n.d.).Retrieved January 7, 2020, from https://www.un.org/en/events/citiesday/assets/pdf/the_worlds_cities_in_2018_data_booklet.pdf