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# **AES Panama & AES Changuinola**

## **Presentation to Fitch Ratings**

### **2018 Annual Review**

May 15<sup>th</sup>, 2018

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# Safe Harbor Disclosure

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*This presentation may contain forward-looking statements speculative in nature based on the information, operational plans and forecasts currently available about future trends and facts. As such, they are subject to risks and uncertainties. A wide variety of factors may cause future real facts to differ significantly from the issues presented or anticipated in this presentation, including, among others, changes in general economic, political, government and business conditions. In the event of materializing any of these risks or uncertainties, or if underlying assumptions prove to be mistaken, future real facts may vary significantly. AES Panama or AES Changuinola are not bound to update or correct the information contained in this report.*

# Agenda

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1. Company Overview
2. Market Update
3. Financial Update
4. Key Debt Metrics
5. Changuinola´s 2019 Major Maintenance
6. Projections

# **1. Company Overview**

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# AES in Panama: Company Overview



Largest generation company in Panama with 28% market share (GWh's in 2017)



Well diversified portfolio with run-of-river, reservoir facilities and bunker fueled engines



World class operations with high availability factors and experienced management team



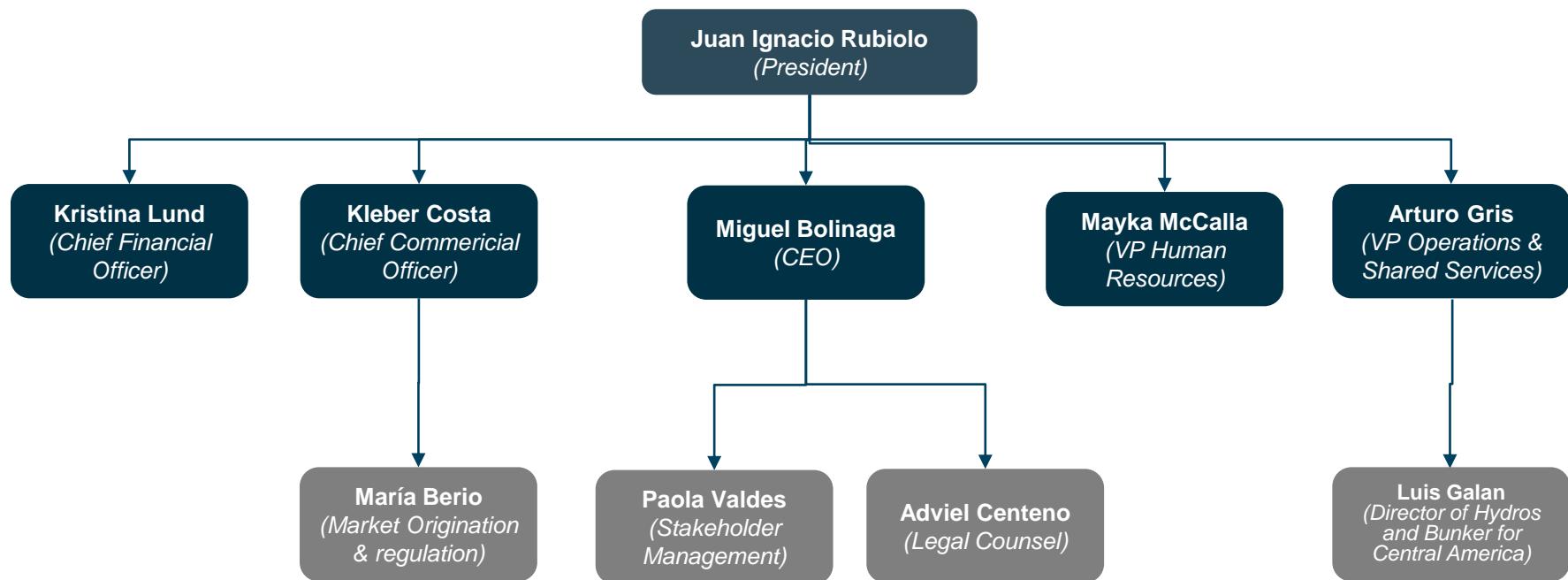
Uniquely positioned in a fast growing and investor friendly market



Majority government ownership, privately managed and controlled

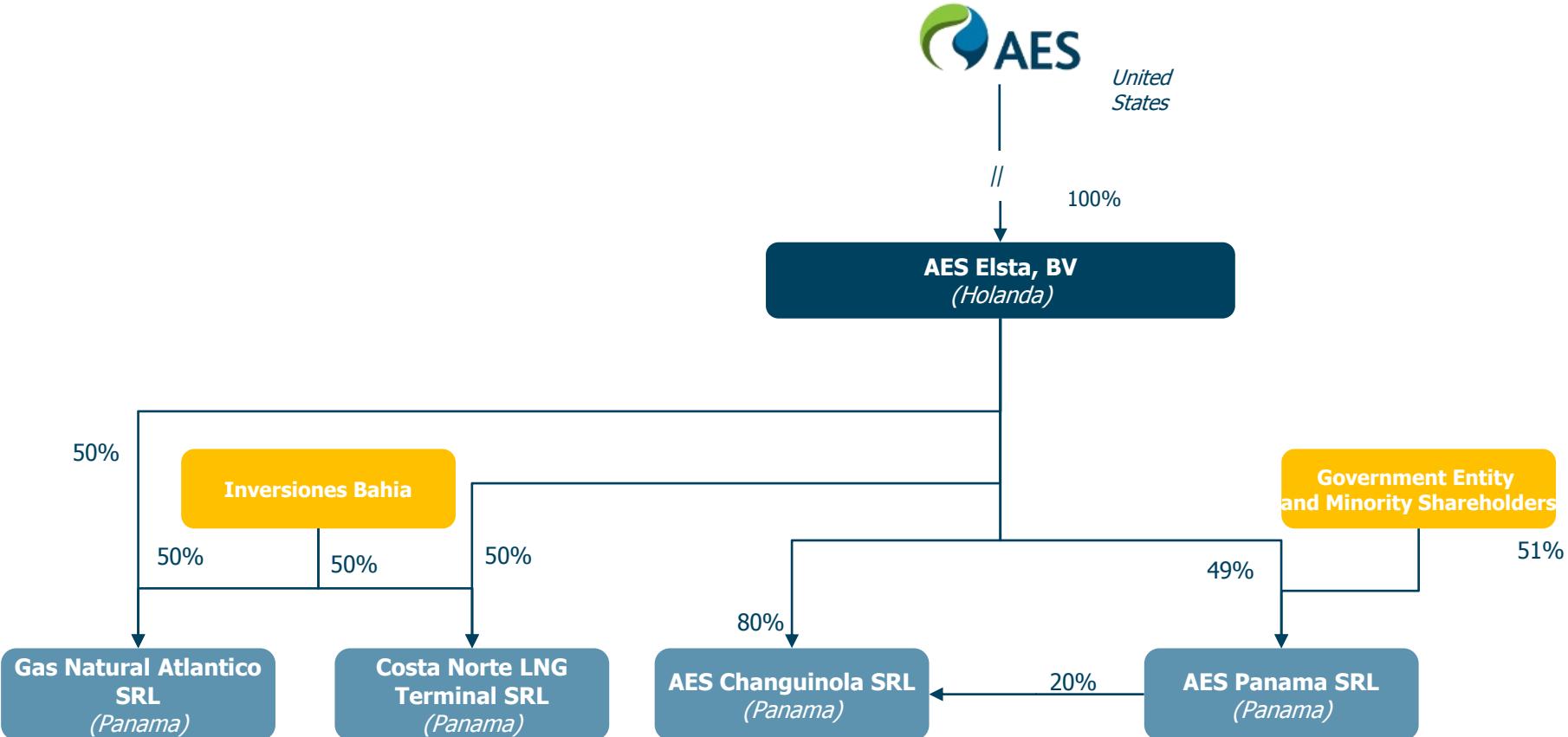
# AES Management Team

Based on the latest AES global reorganization, some of the top management of for the region has recently changed.



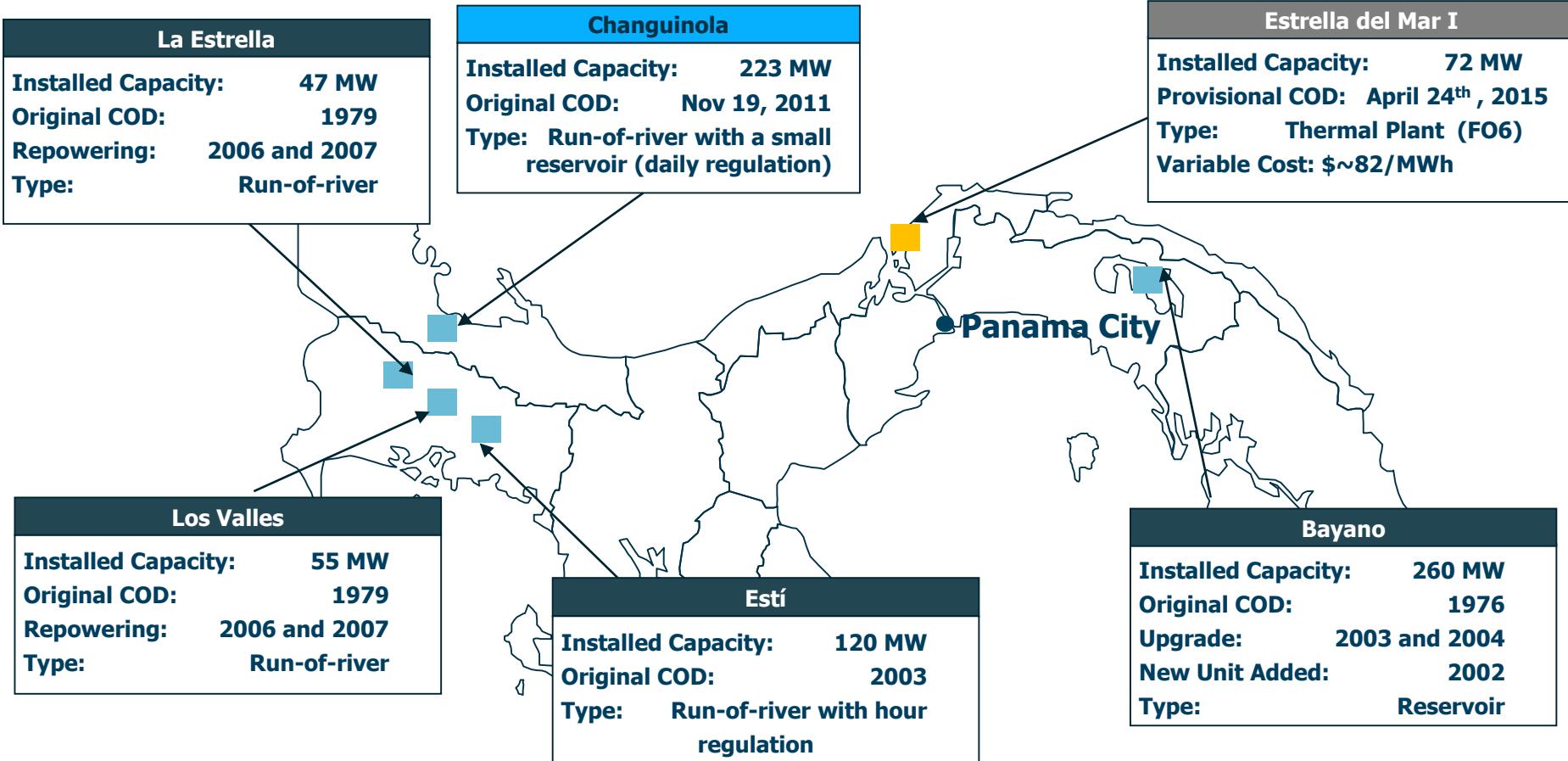
# AES in Panama: Company Overview

## Corporate Structure



# AES in Panama: Company Overview

**As of March 31<sup>st</sup>, AES supplies 29% of Panama's total demand and, with its current 777 MW, has 23% of the installed capacity of the country.**



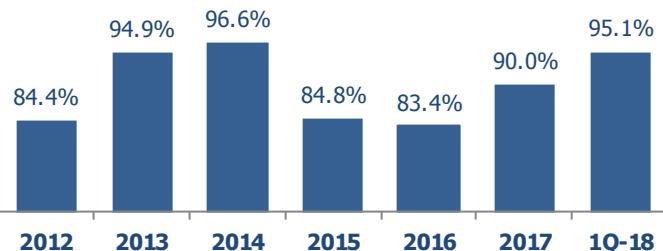
# Key Operating Overview

## AES Panama Hydro

**Net Generation**  
(GWh)



**Availability Factor**  
(%)



**Forced Outage Factor - EFOR**  
(%)

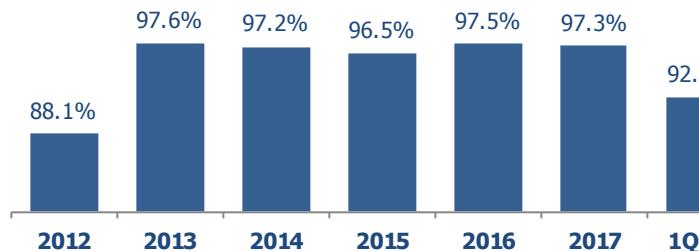


## AES Changuinola

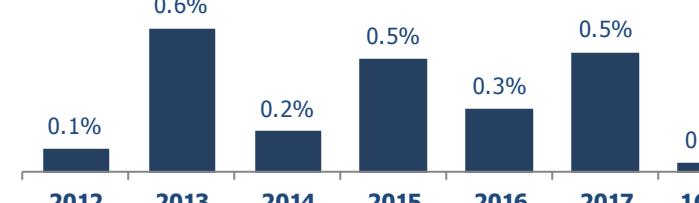
**Net Generation**  
(GWh)



**Availability Factor**  
(%)



**Forced Outage Factor - EFOR**  
(%)

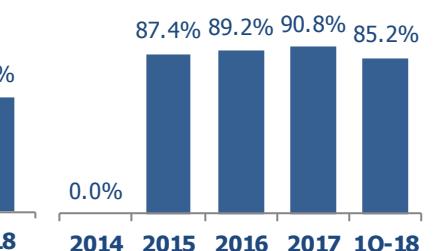


## AES Panama Barge

**Net Generation**  
(GWh)



**Availability Factor**  
(%)



**Forced Outage Factor - EFOR**  
(%)



Note: AES Panama Hydro EAF during 2010/2012 was affected by the collapse of tunnel Estí and 2015/2016 affected by Bay U1

# Current Commercial Structure

## Suppliers

### Spot

#### AES Changuinola Backup Contract

**Ann. Energy:** Based on Changuinola Dispatch (Physical Contract)

**Contracted Capacity:**  
- 175 MW until 2030.



### Fuel Supplier

#### CHEVRON

##### Delivery through oilduct.

Min. reserve of 7days.

##### Price indexed to FO#6

US Gulf FO6 3% + 6.6\$/Bbl

Spot Purchases

Backup Contract

FO#6 Supply

## AES PANAMA



#### •Changuinola Backup Contract

- Reimbursement of spilled energy in case of Transmission Constraints

#### •Regional Transactions

- Short term optimization of the variable margin through importing/exporting energy from/to the Regional Market

### Spot Sales

#### Hydro PPAs Sales

#### Thermal PPAs Sales

#### •Hydro DISCOS Contracts

- Contract sales through Fix Prices

#### • Large Users Contracts

- Mostly Fix Energy Prices and capacity prices are adjusted by Capacity Factor.

#### •Thermal DISCOS Contracts

- Capacity plus Energy charges adjusted by fuel (diesel)

## Off-takers

### Spot

#### DISCOS

EDEMET, EDECHI, ENSA

##### Contracted Capacity:

- 416 MW 2016-2018
- 350 MW 2019-2030
- LF ~67%

#### 18 Large Users

##### Contracted Capacity:

- 17.2 MW 2016-2018
- LF 65%

## Barge PPAs

#### DISCOS

EDEMET, EDECHI,  
ENSA

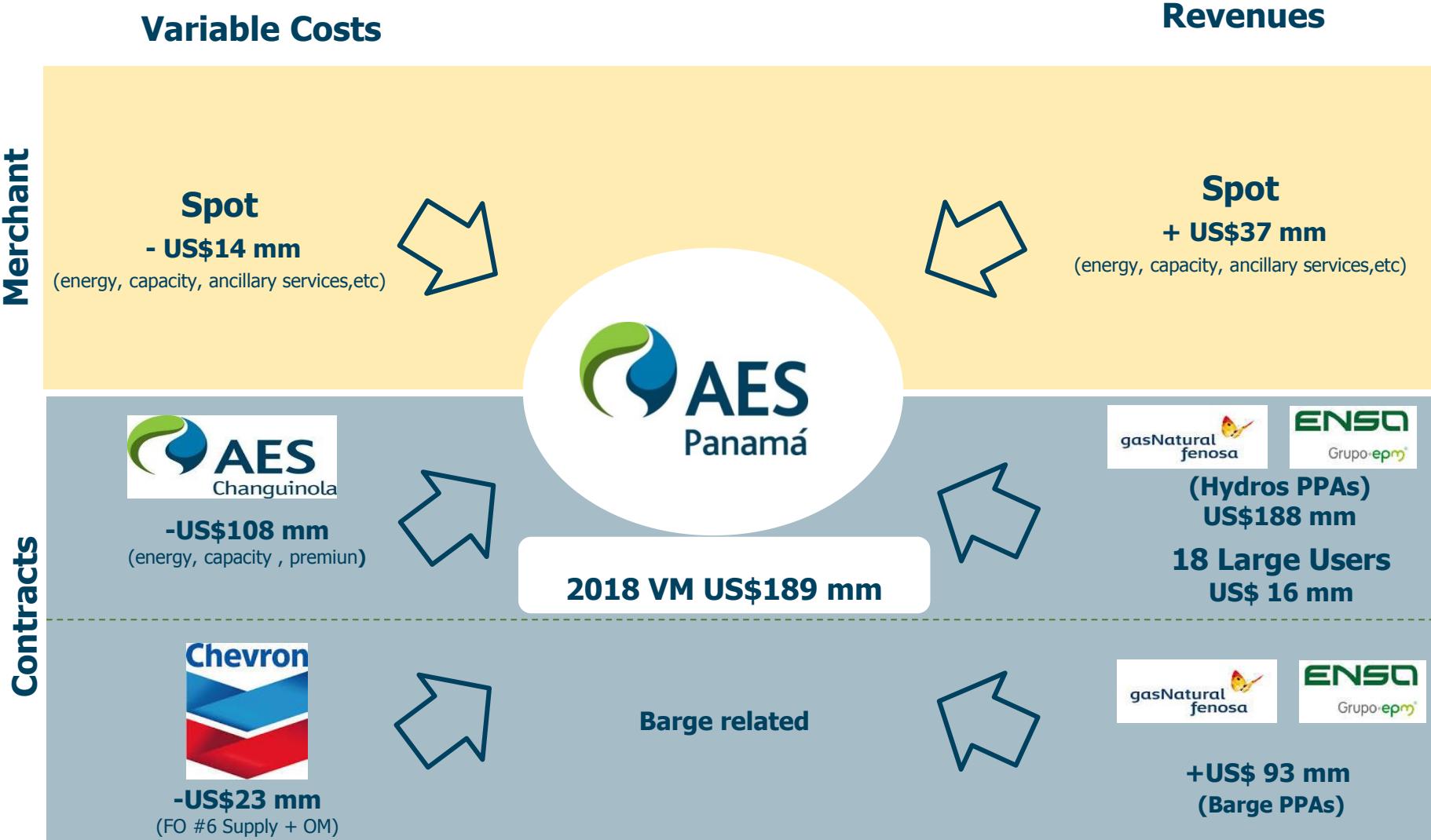
##### Ann. Energy:

~490 GWh

##### Contracted Capacity:

- 80 MW 2015 -2020

# Variable Margin Composition FYF 2018



# Current Contract Level (cont.)

AES Panama is currently at a ~ 94% contracted level. With the current contract maturities, this percentage will go down below 80% by 2023

## Distribution Companies

- **Annual Energy:** ~2,300-2400 GWh
- **Contracted Capacity:** 416 MW (2018) / 350 MW (2019-2030)
- **Current Avge. Monomic Price:** \$84 /MWh

## Large Users

- **Annual Energy:** ~134 GWh
- **Contracted Capacity:** 17 MW (2018-2021)
- **Current Avge. Monomic Price:** \$98 /MWh

## Barge PPAs

- **Annual Energy:** ~ 490 GWh
- **Contracted Capacity:** 80 MW (July 2015 – Jun 2020)
- **Current Avge. Monomic Price:** \$198 /MWh

## AES Changuinola Backup Contract

- **Annual Energy:** Based on Changuinola dispatch (physical contract)
- **Contracted Capacity:** 175 MW until 2030.
- **Current Avge. Monomic Price:** \$94 /MWh

# Large Users Portfolio

AES Panama currently supplies 18 Large Users in the Panamanian System and aims to maintain and potentially grow in that market niche



New entrance:

- April 16 = La Prensa
- May 1st = Toledano
- June 1st = Desarrollo Inmobiliario del Este, Super Xtra, Town Center, Felipe Motta

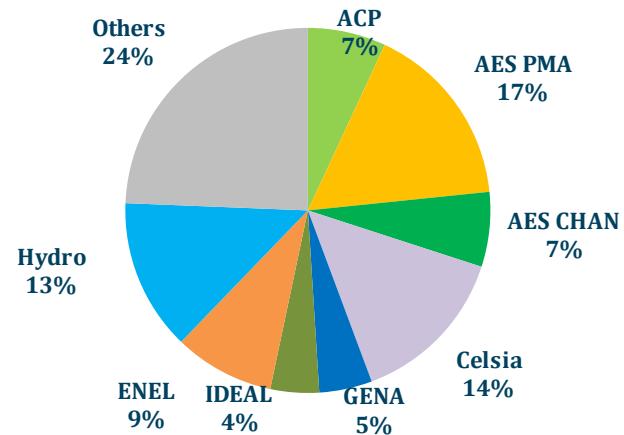
## **2. Market Update**

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# 2018 Panama Market Update

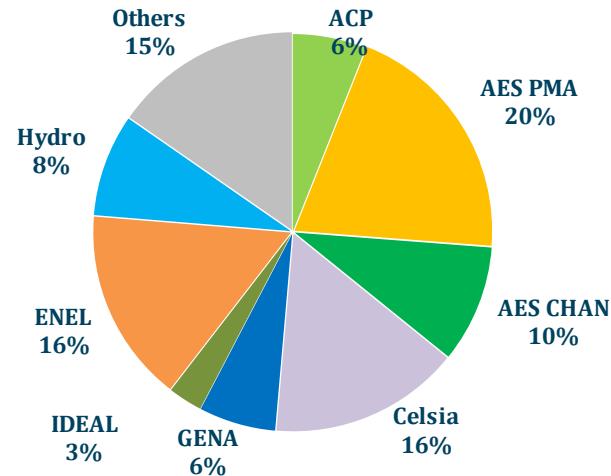
## Installed Capacity, March 2018

Total 3,367 MW



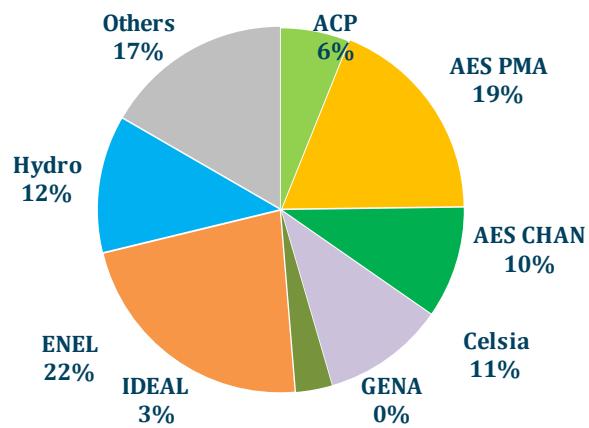
## Firm Capacity, March 2018

Total 1,828 MW



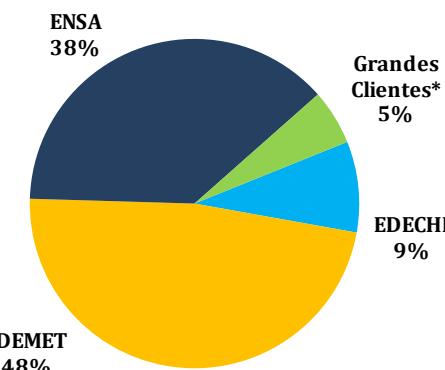
## Generation, YTD March 2018

Total 2,607 GWh



## Energy Demand, YTD March 2018

Total 2,429 GWh

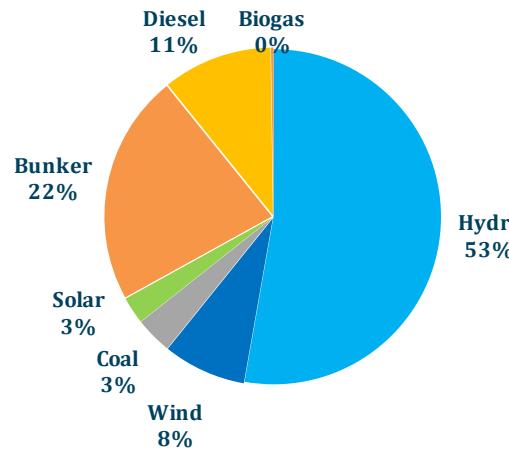


\*There are 29 Large Users of which 12 are AES's active clients

# 2018 Panama Market Update

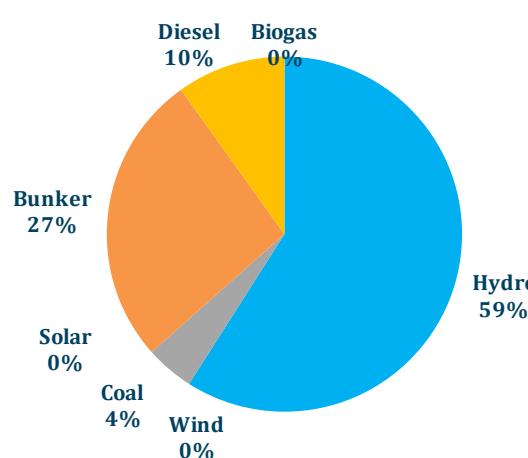
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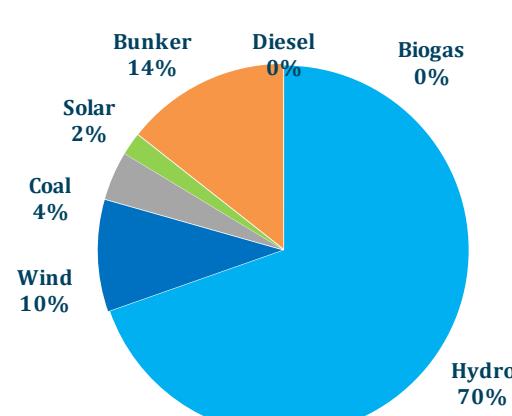
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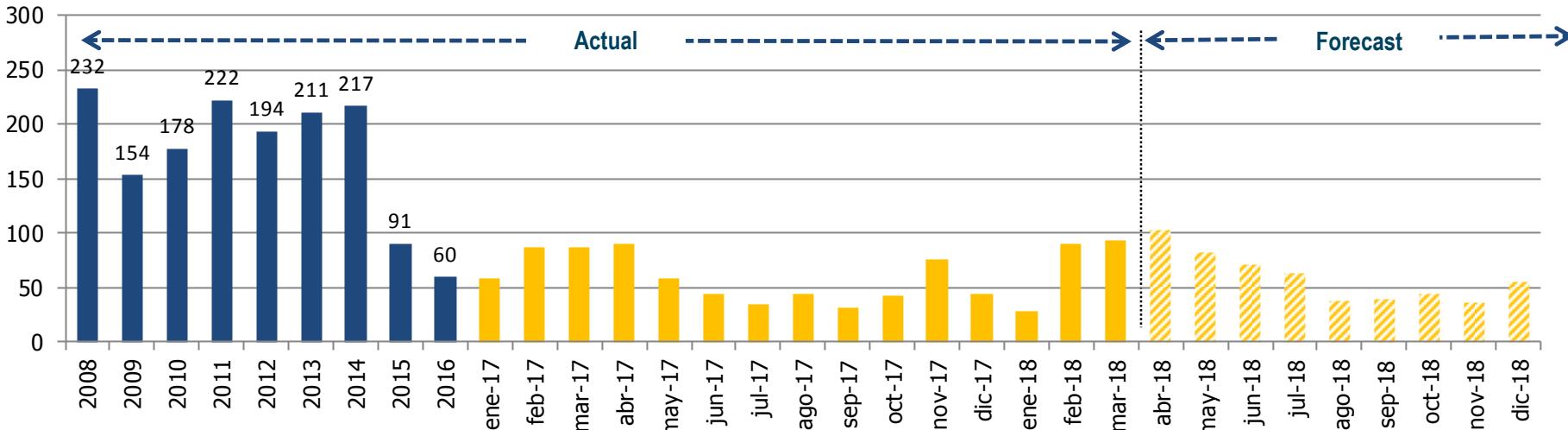
## Generation, March 2018

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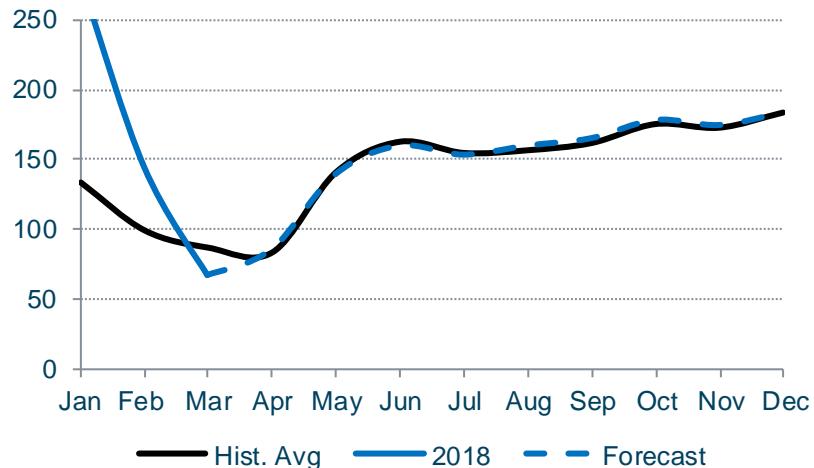
## Spot Price Evolution

US\$/MWh

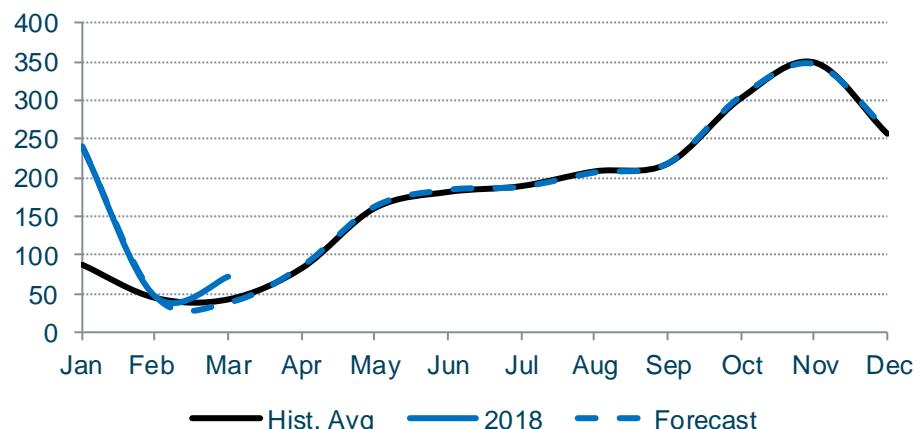


# Panama: 2018 Hydrology

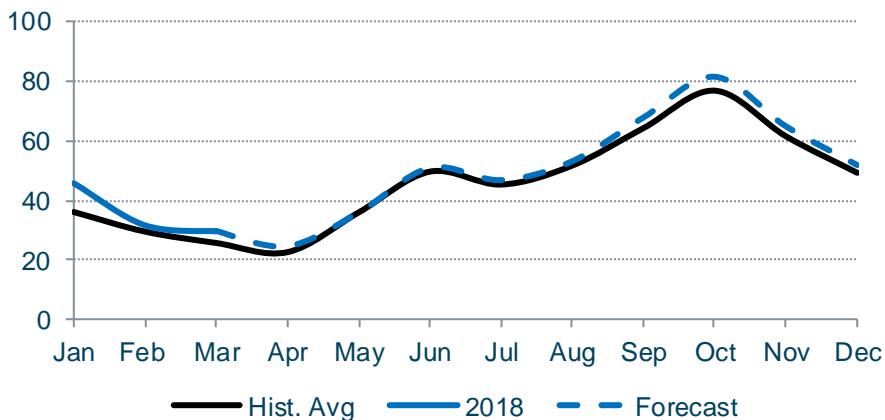
## Changuinola Inflows (m<sup>3</sup>/s)



## Bayano Inflows (m<sup>3</sup>/s)



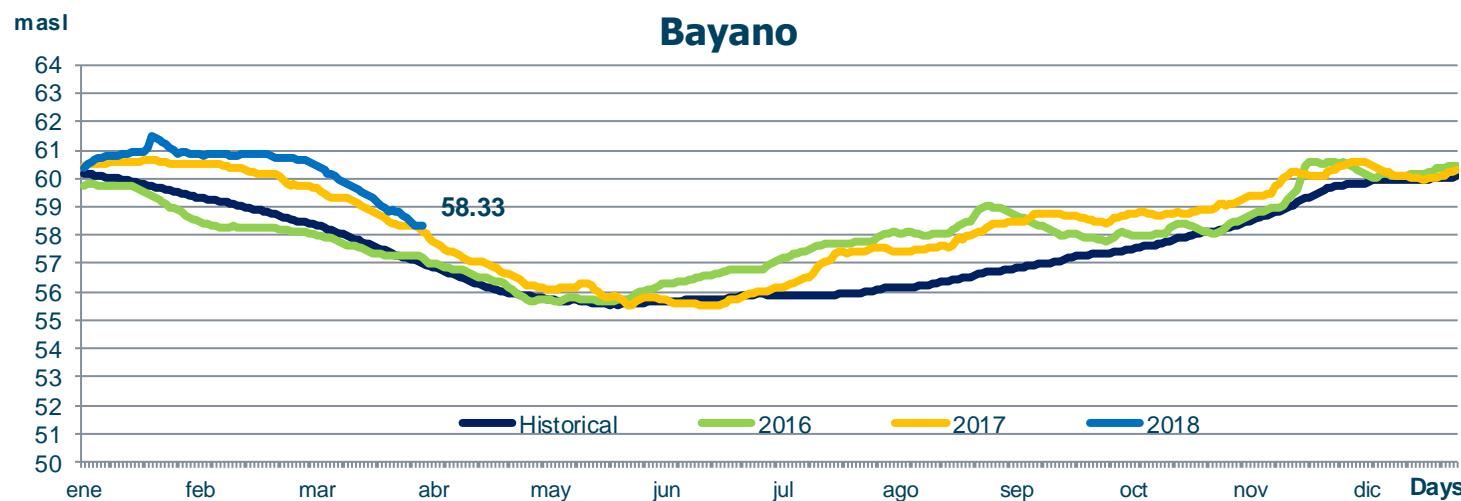
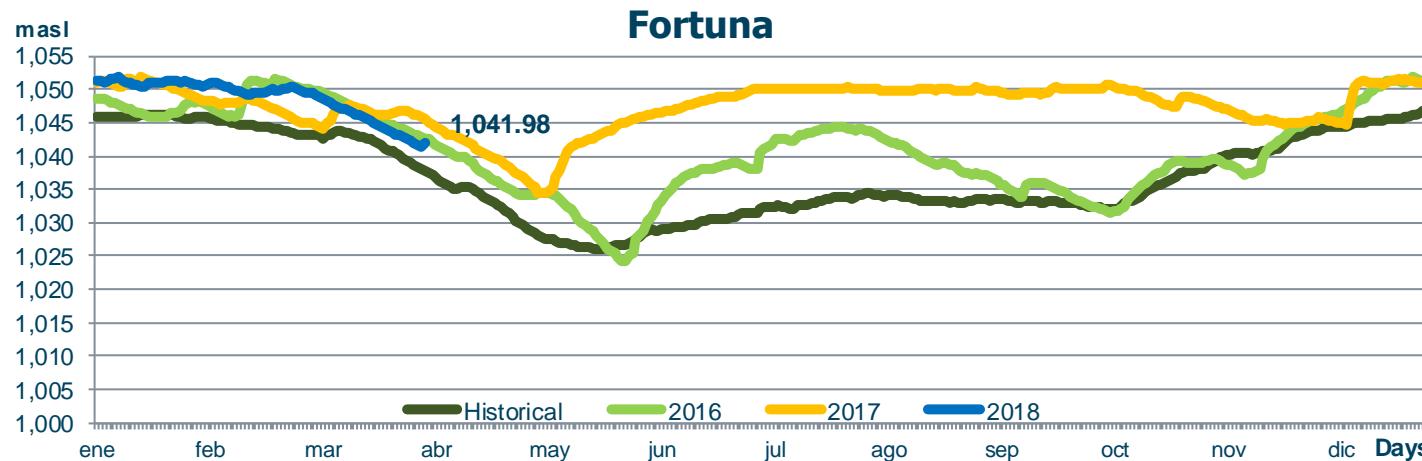
## Chiriquí Inflows (m<sup>3</sup>/s)



- For 1Q 2018, inflows are 53%, 103%, 7% above historical average for Changuinola, Bayano and Chiriquí respectively.

# Panama Reservoir Level Evolution

Both reservoirs have been above historical averages for 2018.



### **3. Financial Update**

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# AES Panama: Income Statement as of December 2017

USGAAP – values in millions US\$

| AES Panama                                 | Dec-17       | Dec-16       | Variation    | %Var.      |
|--|--------------|--------------|--------------|------------|
| Revenues                                   | 342.6        | 316.5        | 26.13        | 8%         |
| Variable Cost                              | (151.4)      | (140.9)      | (10.51)      | 7%         |
| <b>Variable Margin</b>                     | <b>191.2</b> | <b>175.6</b> | <b>15.62</b> | <b>9%</b>  |
| Operating & Maintenance                    | (61.2)       | (56.4)       | (4.73)       | 8%         |
| <b>EBITDA</b>                              | <b>130.0</b> | <b>119.1</b> | <b>10.89</b> | <b>9%</b>  |
| Depreciation                               | (31.4)       | (34.2)       | 2.73         | -8%        |
| Other Income (Expenses), net               | 0.9          | 1.1          | (0.23)       | -21%       |
| Interest Expense, net                      | (22.2)       | (24.4)       | 2.11         | -9%        |
| Equity Earnings in Investment in Affiliate | 4.7          | 3.8          | 0.92         | 24%        |
| <b>Income before Income Tax</b>            | <b>81.9</b>  | <b>65.5</b>  | <b>16.4</b>  | <b>25%</b> |
| Income Tax Expense                         | (18.6)       | (17.6)       | (0.99)       | 6%         |
| <b>Net Income</b>                          | <b>63.3</b>  | <b>47.9</b>  | <b>15.43</b> | <b>32%</b> |

# AES Changuinola: Income Statement as of December 2017

IFRS – values in millions US\$

| AES Changuinola                 | Dec-17      | Dec-16      | Variation   | %Var.      |
|---------------------------------|-------------|-------------|-------------|------------|
| Revenues                        | 98.8        | 93.4        | 5.39        | 6%         |
| Variable Cost                   | (7.8)       | (11.0)      | 3.19        | -29%       |
| <b>Variable Margin</b>          | <b>91.0</b> | <b>82.4</b> | <b>8.58</b> | <b>10%</b> |
| Operating & Maintenance         | (16.5)      | (12.6)      | (3.87)      | 31%        |
| <b>EBITDA</b>                   | <b>74.5</b> | <b>69.8</b> | <b>4.72</b> | <b>7%</b>  |
| Depreciation                    | (16.9)      | (17.2)      | 0.27        | -2%        |
| Other Income (Expenses), net    | 0.1         | 2.6         | (2.53)      | -98%       |
| Interest Expense, net           | (25.2)      | (28.6)      | 3.43        | -12%       |
| <b>Income before Income Tax</b> | <b>32.5</b> | <b>26.6</b> | <b>5.9</b>  | <b>22%</b> |
| Income Tax Expense              | (9.6)       | (8.3)       | (1.33)      | 16%        |
| <b>Net Income</b>               | <b>22.9</b> | <b>18.3</b> | <b>4.56</b> | <b>25%</b> |

## **4. Key Debt Metrics**

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# AES Panama

## Current Debt Structure

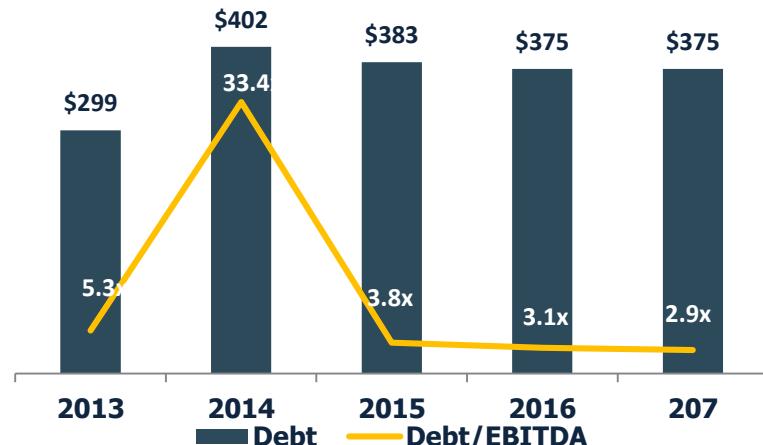
### Long Term Debt

- US\$375 mm of Senior Notes under Rule 144A Reg S.
  - Coupon: 6.0% p.a. / Maturity: June 2022.

### Short Term Debt

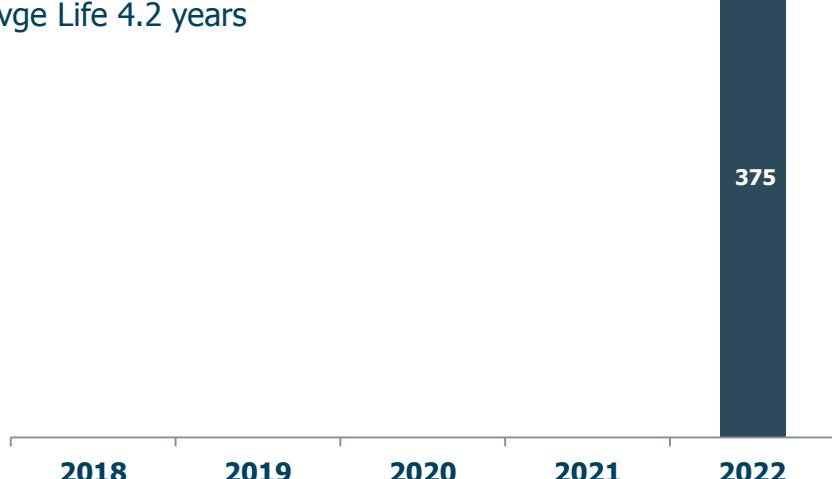
- No committed credit lines. Availability of over 60 million (not drawn)
  - Cost: ~ 3.5%

## Total Debt/ EBITDA

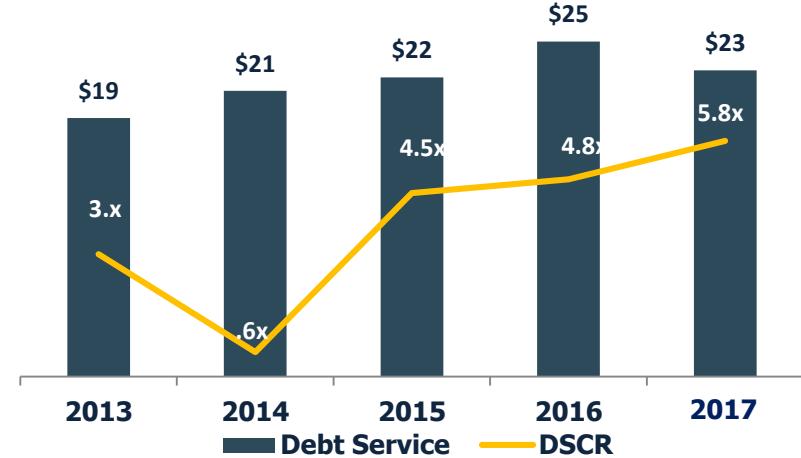


## Current Debt Profile

Avg Life 4.2 years



## Debt Service Coverage Ratio



# AES Changuinola

## Current Debt Structure

### Long Term Debt

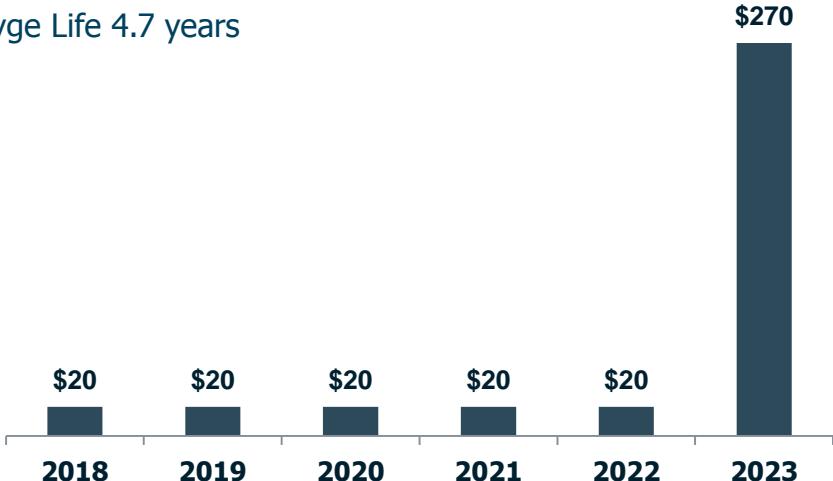
- US\$150 mm of Senior Notes.(Amortizing)
  - Coupon: 6.25% p.a. / Maturity: Nov 2023.
- US\$ 220 mm of Senior Notes (bullet)
  - Coupon: 6.75% p.a. / Maturity: Nov 2023

### Short Term Debt

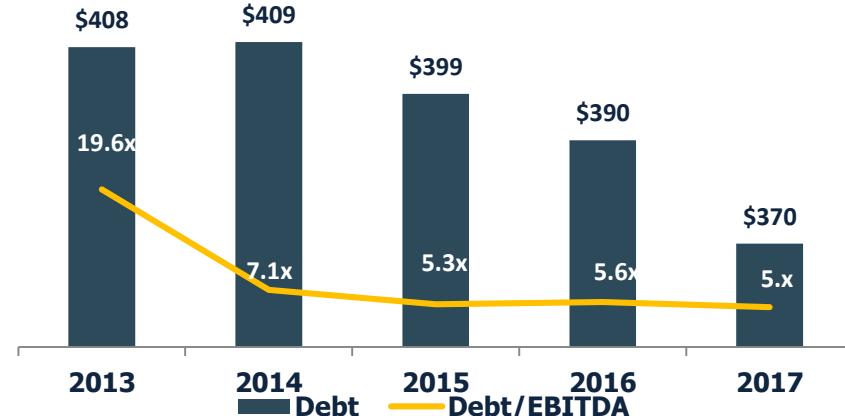
- Company does not currently have short term debt.

## Current Debt Profile

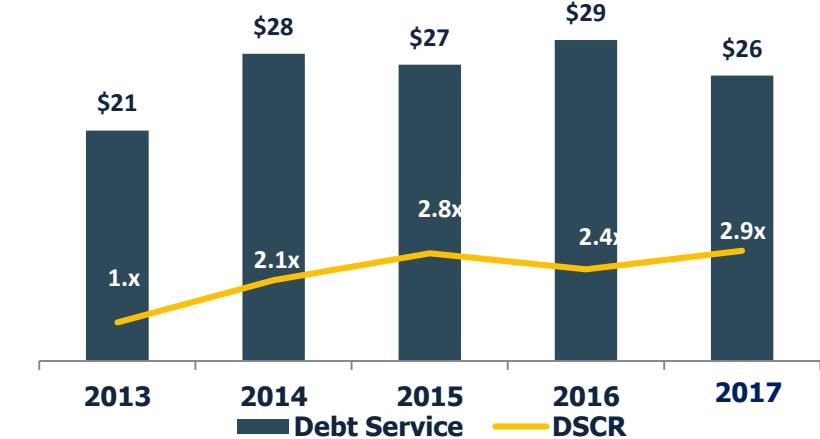
Avg Life 4.7 years



## Total Debt/ EBITDA



## Debt Service Coverage Ratio



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## **5. Changuinola 2019 Major Maintenance**

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## **6. Projections**

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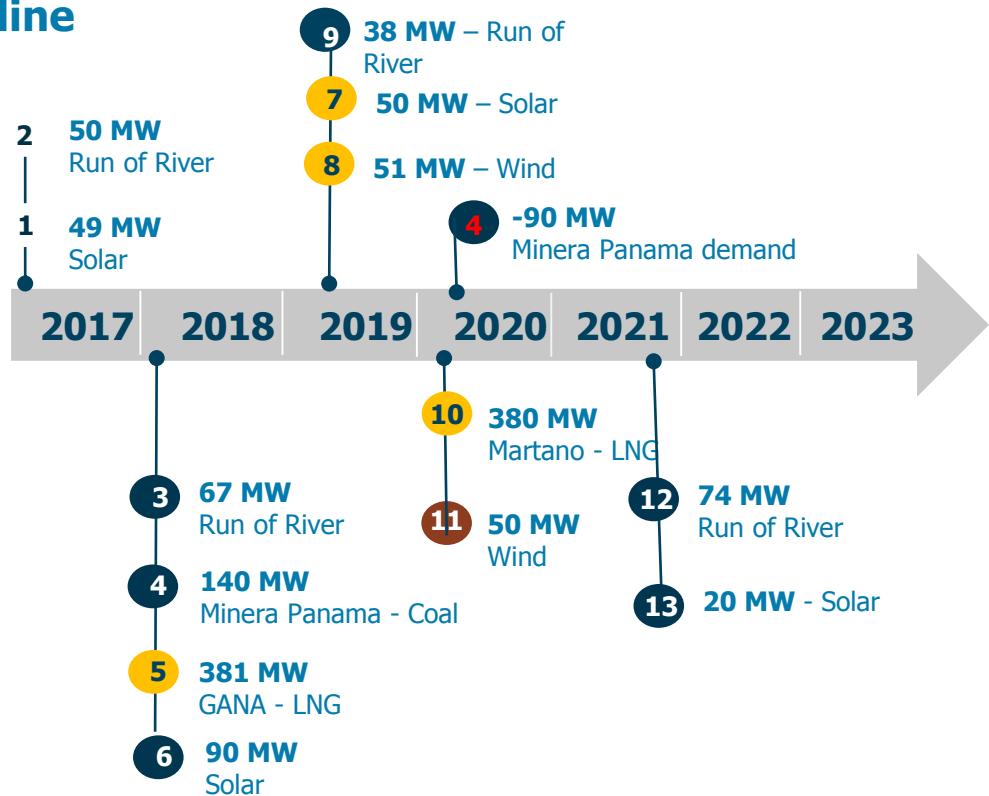
# Generation Expansion Plan

## Long term expansion plan base on LNG and Renewable projects

### Locations



### Timeline



### Legend:

- Commercial Operation
- Under construction
- Secured (Awarded bid)
- New Resources needed to maintain supply/demand balance
- Fuel conversion

# Key Assumptions

| <b>Reference Fuel Prices</b>             | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> |
|--|-------------|-------------|-------------|-------------|-------------|
| NYMEX Crude (WTI) (\$/bbl)               | 59.6        | 56.2        | 53.8        | 52.3        | 51.7        |
| NYMEX Natural Gas (Henry Hub) (\$/mmBtu) | 2.8         | 2.8         | 2.8         | 2.9         | 2.9         |
| API#2 cif ARA b. 6000 kcal nar (\$/ mt)  | 90.3        | 85.3        | 80.7        | 79.5        | 78.4        |
| Gulf Coast FO #6 3% Sulfur (\$/bbl)      | 55.7        | 49.5        | 43.0        | 43.9        | 43.5        |

| <b>Capacity (MWh)</b>         | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|
| Firm Capacity AES Panama      | 374         | 374         | 374         | 374         | 374         |
| Firm Capacity AES Changuinola | 175         | 175         | 175         | 175         | 175         |
| <b>Total Firm Capacity</b>    | <b>549</b>  | <b>549</b>  | <b>549</b>  | <b>549</b>  | <b>549</b>  |
| Contracted Capacity           | 513         | 447         | 464         | 457         | 457         |
| <b>% Contracted</b>           | <b>93%</b>  | <b>81%</b>  | <b>84%</b>  | <b>83%</b>  | <b>83%</b>  |

| <b>Energy (GWh)</b>           | <b>2018</b>  | <b>2019</b>  | <b>2020</b>  | <b>2021</b>  | <b>2022</b>  |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|
| AES Panama Hydro Generation   | 1,712        | 1,802        | 1,795        | 1,779        | 1,787        |
| AES Panama Thermal Generation | 282          | 29           | 3            | 0            | -            |
| AES Changuinola Generation    | 1,069        | 270          | 1,059        | 1,046        | 1,042        |
| <b>Total Generation</b>       | <b>3,064</b> | <b>2,101</b> | <b>2,857</b> | <b>2,826</b> | <b>2,829</b> |
| Contracted Energy Sales       | 2,895        | 2,793        | 2,771        | 2,488        | 2,515        |
| <b>Net Spot Position</b>      | <b>169</b>   | <b>(692)</b> | <b>86</b>    | <b>338</b>   | <b>314</b>   |

| <b>Barcaza Variable Cost (\$US/GWh)</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> |
|---|-------------|-------------|-------------|-------------|-------------|
| Barcaza Variable Cost (\$US/GWh)        | 89.11       | 96.93       | 109.34      | -           | -           |

| <b>Avg. Prices (US\$/MWh)</b>          | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> |
|--|-------------|-------------|-------------|-------------|-------------|
| AES Panama Monomic Contract Price      | 103.8       | 114.0       | 106.9       | 104.4       | 107.5       |
| AES Changuinola Monomic Contract Price | 86.7        | 85.2        | 86.8        | 95.3        | 99.9        |
| Avg. Spot Price                        | 74.9        | 67.0        | 50.1        | 56.3        | 60.4        |

# 2018-2022 AES Panama Financial Projections

**Values in Thousands**

| Income Statements                           | 2018 | 2019  | 2020 | 2021 | 2022 |
|---|------|-------|------|------|------|
| Revenue                                     | 337  | 343   | 333  | 304  | 319  |
| Variable Margin                             | 193  | 237   | 210  | 192  | 200  |
| EBITDA                                      | 150  | 193   | 165  | 148  | 155  |
| Net Income (before Minority Interest)       | 59   | 90    | 74   | 64   | 71   |
| Balance Sheet                               | 2018 | 2019  | 2020 | 2021 | 2022 |
| Cash  | 21   | 22    | 20   | 20   | 20   |
| Total Debt                                  | 375  | 375   | 375  | 375  | 375  |
| <i>Current Debt</i>                         | -    | -     | -    | -    | -    |
| <i>Long term Debt</i>                       | 375  | 375   | 375  | 375  | 375  |
| Cash Flow                                   | 2018 | 2019  | 2020 | 2021 | 2022 |
| Cash Flow from Operating Activities         | 113  | 146   | 96   | 89   | 102  |
| Cash Flow from Investing Activities (CAPEX) | (14) | (7)   | (5)  | (3)  | (3)  |
| Cash Flow from Financing Activities         | (99) | (139) | (93) | (86) | (99) |
| Covenants                                   | 2018 | 2019  | 2020 | 2021 | 2022 |
| Debt to Ebitda                              | 2.5  | 1.9   | 2.3  | 2.5  | 2.4  |
| DSCR  | 6.7  | 8.6   | 7.4  | 6.6  | 6.9  |
| *Net Debt to Ebitda                         | 2.4  | 1.8   | 2.1  | 2.4  | 2.3  |

# 2018-2022 AES Changuinola Financial Projections

**Values in Thousands**

| Income Statements                           | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|------|------|------|------|------|
| Revenue                                     | 109  | 76   | 104  | 98   | 103  |
| Variable Margin                             | 97   | 70   | 94   | 91   | 95   |
| EBITDA                                      | 80   | 51   | 76   | 74   | 78   |
| Net Income (before Minority Interest)       | 28   | 20   | 25   | 24   | 28   |
| Balance Sheet                               | 2018 | 2019 | 2020 | 2021 | 2022 |
| Cash  | 29   | 14   | 9    | 9    | 13   |
| Total Debt                                  | 350  | 330  | 310  | 290  | 270  |
| <i>Current Debt</i>                         | 20   | 20   | 20   | 20   | 20   |
| <i>Long term Debt</i>                       | 330  | 310  | 290  | 270  | 250  |
| Cash Flow                                   | 2018 | 2019 | 2020 | 2021 | 2022 |
| Cash Flow from Operating Activities         | 41   | 15   | 45   | 51   | 53   |
| Cash Flow from Investing Activities (CAPEX) | (13) | (11) | (12) | (2)  | (2)  |
| Cash Flow from Financing Activities         | (33) | (20) | (38) | (49) | (48) |
| Covenants                                   | 2018 | 2019 | 2020 | 2021 | 2022 |
| Debt to Ebitda                              | 4.4  | 6.5  | 4.1  | 3.9  | 3.5  |
| DSCR  | 1.8  | 1.2  | 1.8  | 1.8  | 2.0  |
| *Net Debt to Ebitda                         | 4.0  | 6.2  | 3.9  | 3.8  | 3.3  |