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# **AES Panama & AES Changuinola**

## **Presentation to Fitch Ratings**

### **2017 Annual Review**

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May 10<sup>th</sup>, 2017

# 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. Projections

# **1. Company Overview**

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# AES in Panama: Company Overview



Largest generation company in Panama with 26% market share (GWh's in 2016)



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



World class operations with high availability factors and experienced management team



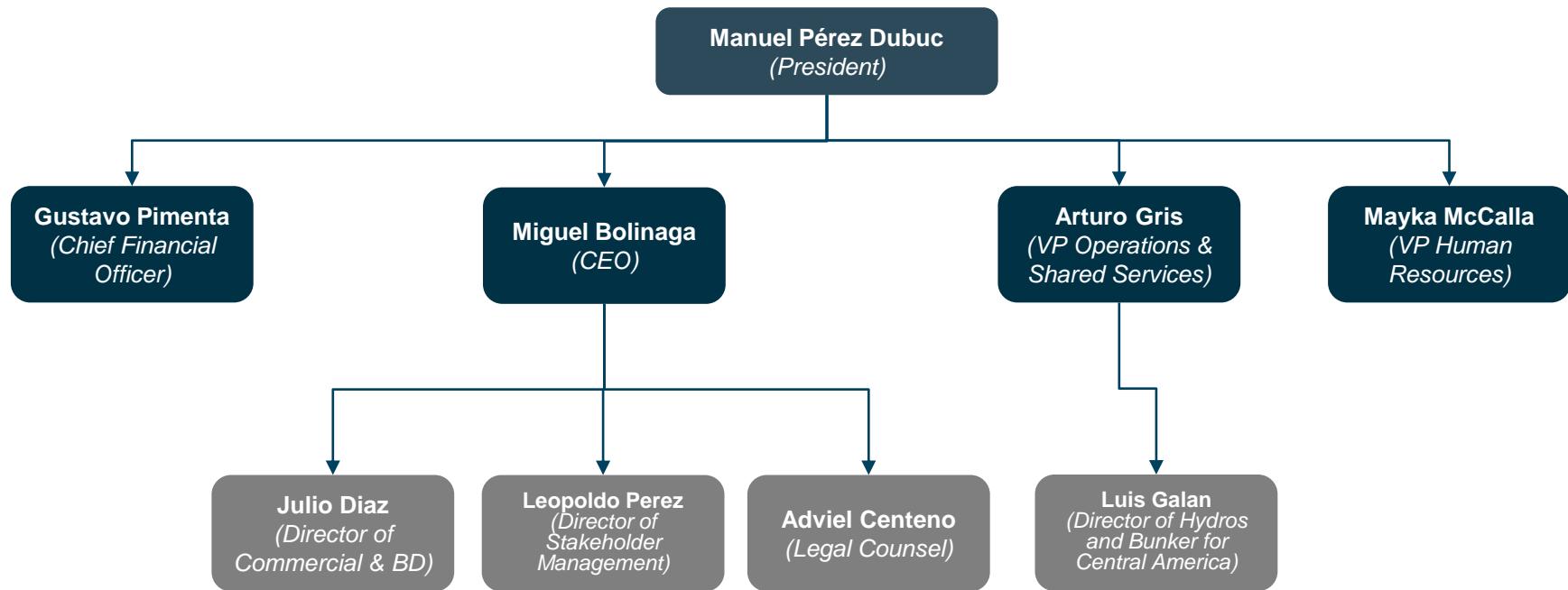
Uniquely positioned in a fast growing and investor friendly market



Majority government ownership, privately managed and controlled

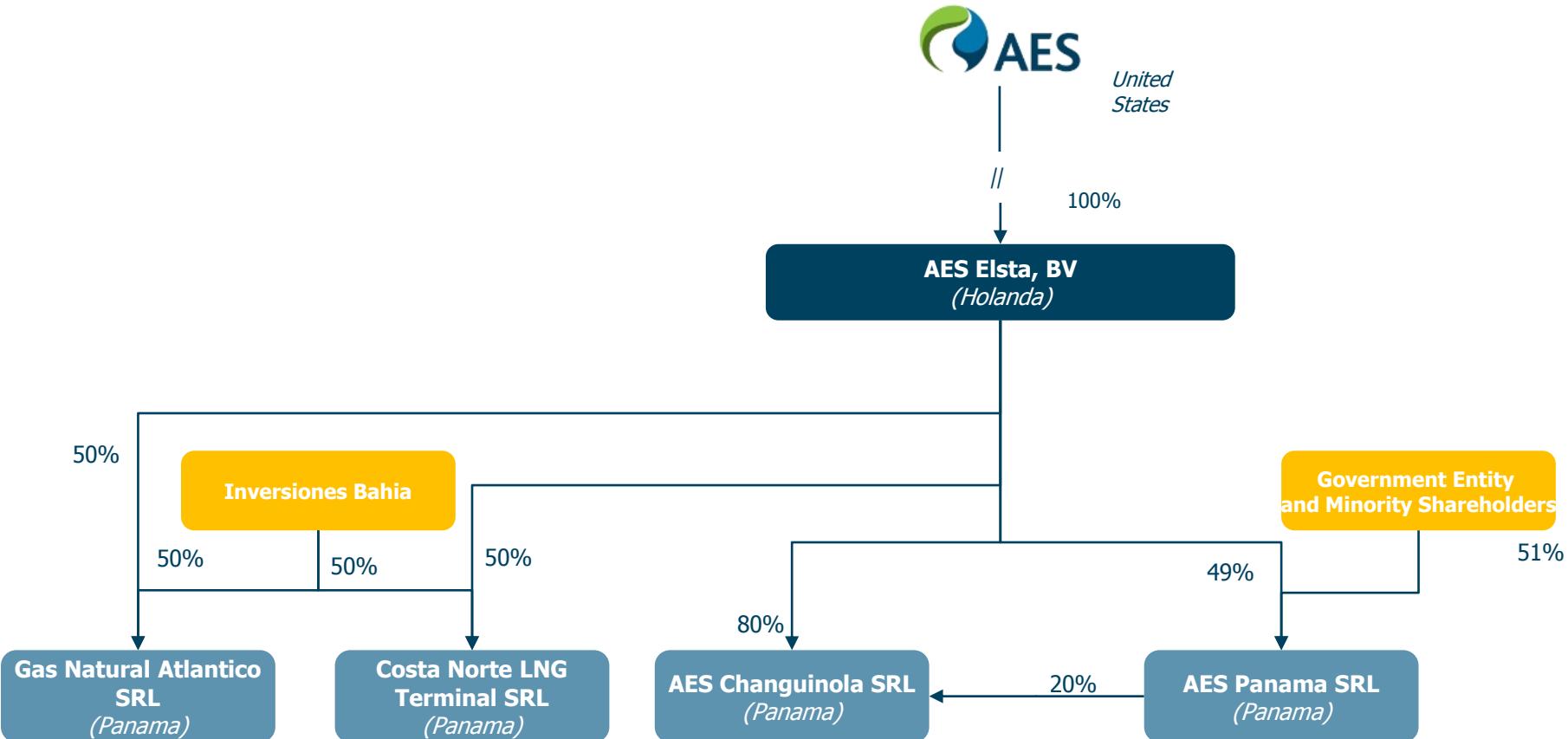
# AES Management Team

**AES Panama has a highly experienced management team, with an average tenure of nine years, unmatched sector expertise and on-the-ground working knowledge.**



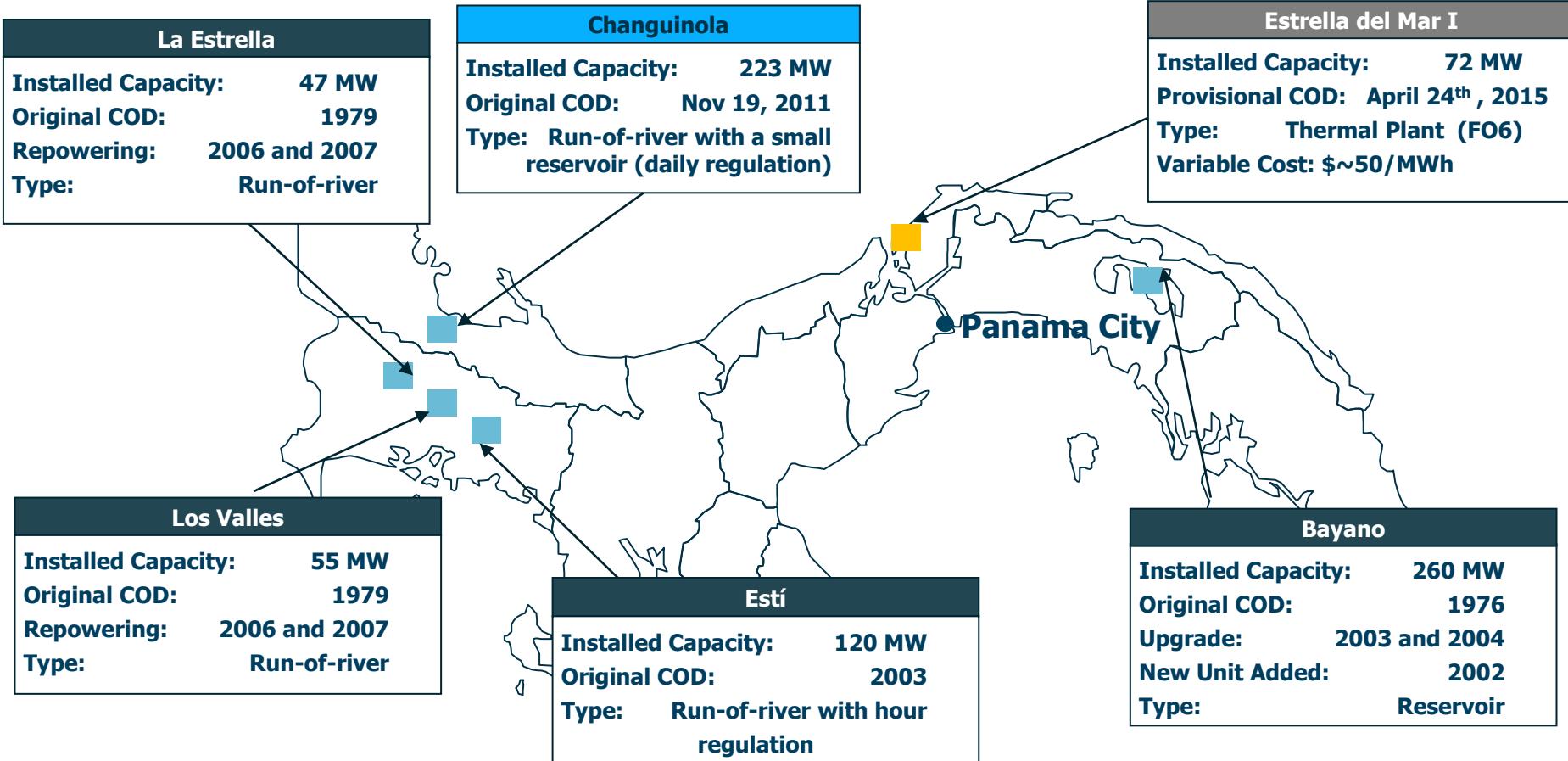
# AES in Panama: Company Overview

## Corporate Structure



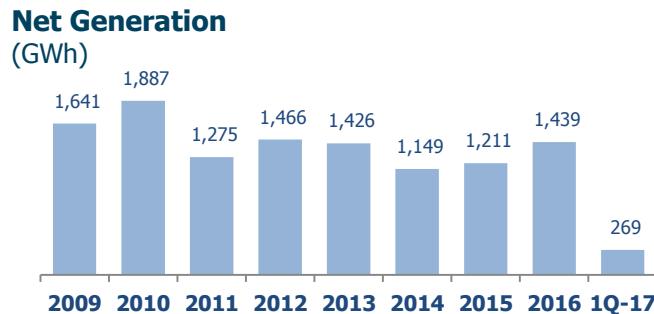
# AES in Panama: Company Overview

**As of March 31<sup>st</sup>, AES supplies 24% of Panama's total demand and, with its current 777 MW, has 24% of the installed capacity of the country.**

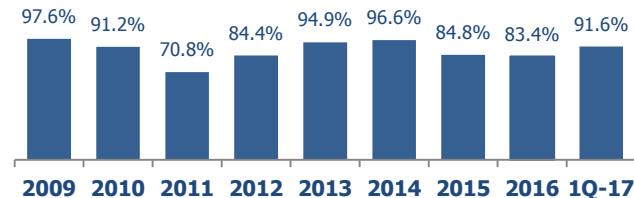


# Key Operating Overview

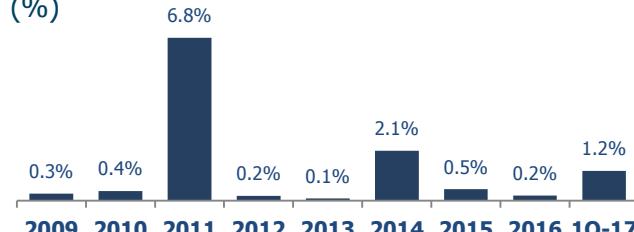
## AES Panama Hydro



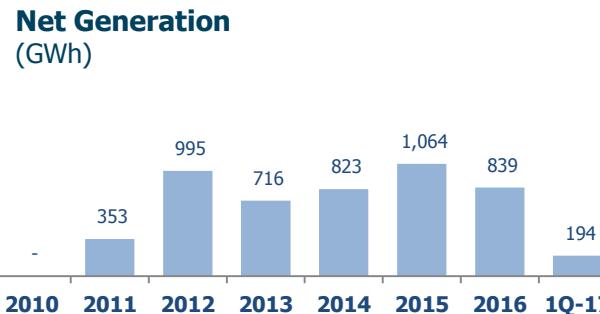
## Availability Factor (%)



## Forced Outage Factor - EFOR (%)



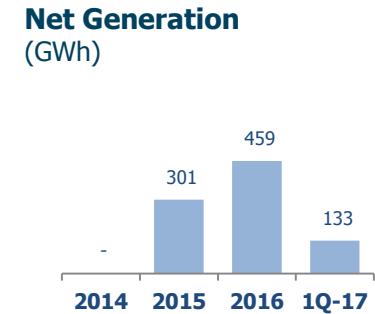
## AES Changuinola



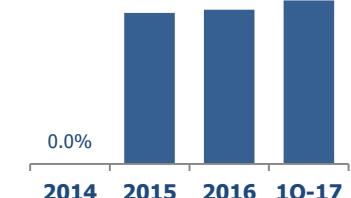
## Availability Factor (%)



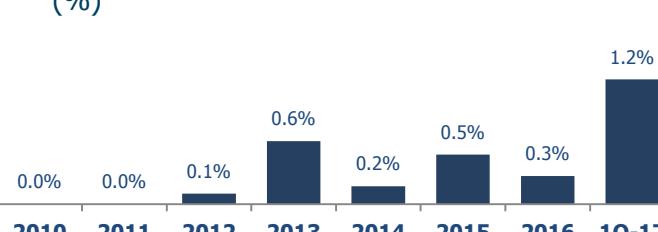
## AES Panama Barge



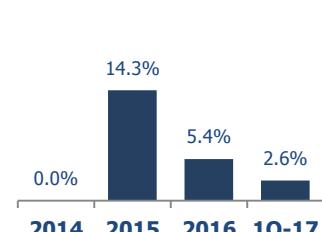
## Availability Factor (%)



## Forced Outage Factor - EFOR (%)



## 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

## AES PANAMA



Spot Purchases

Backup Contract

FO#6 Supply

#### •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

All in Prices  
\$/MWh

Changuinola

~94

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

#### Ann. Energy:

~2,300-2400 GWh

#### Contracted Capacity:

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

#### 9 Large Users

#### Ann. Energy:

-90 GWh

#### 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

All in Prices

\$/MWh

DISCOS

Large  
Users

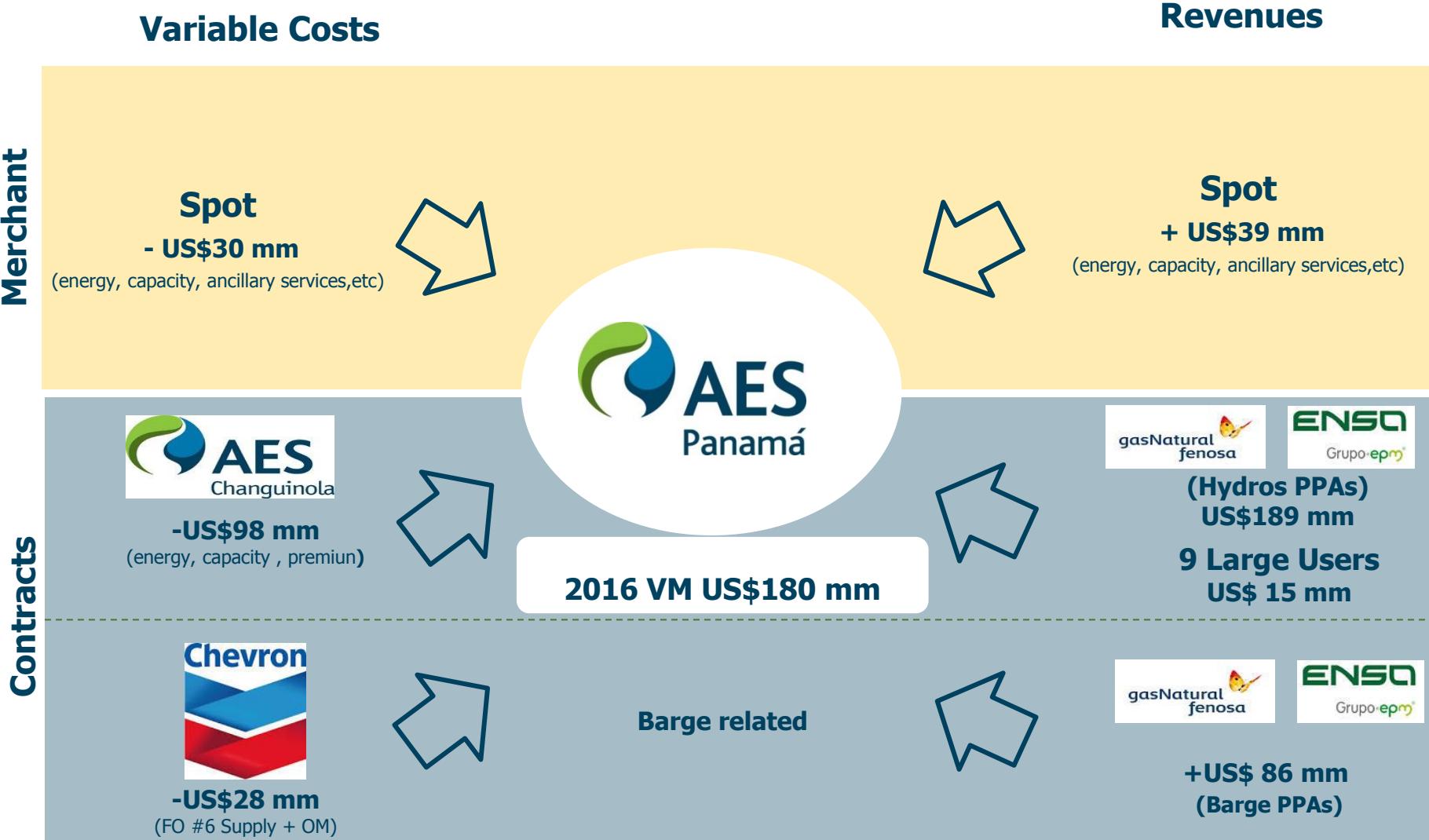
Barge  
PPAs

~84

~98

~183

# Variable Margin Composition FYF 2017



# Current Contract Level (cont.)

AES Panama is currently at a ~ 93% contracted level. With the current contract maturities, this percentage will go down below 80% by 2019.

## Distribution Companies

- **Annual Energy:** ~2,300-2400 GWh
- **Contracted Capacity:** 416 MW (2016-2018) / 350 MW (2019-2030)
- **Avge. Monomic Price:** \$84 /MWh / \$112 /MWh

## Large Users

- **Annual Energy:** ~134 GWh
- **Contracted Capacity:** 17 MW (2016-2018)
- **Avge. Monomic Price:** \$98 /MWh

## Barge PPAs

- **Annual Energy:** ~ 490 GWh
- **Contracted Capacity:** 80 MW (July 2015 – Jun 2020)
- **Avge. Monomic Price:** \$182 /MWh

## AES Changuinola Backup Contract

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

# Large Users Portfolio

AES Panama currently supplies 9 Large Users in the Panamanian System and aims to maintain and potentially grow in that market niche



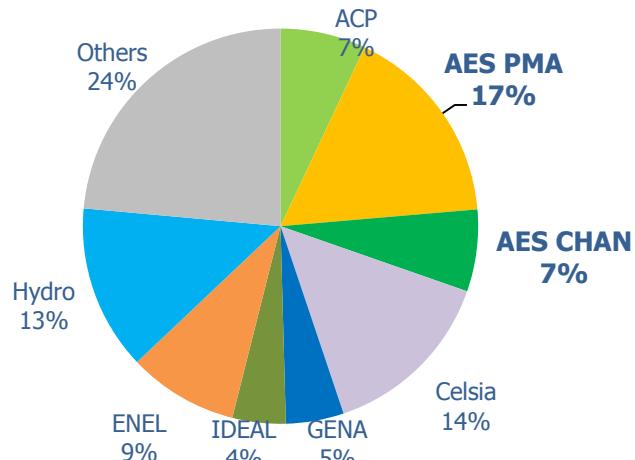
## **2. Market Update**

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# 2016 Panama Market Update

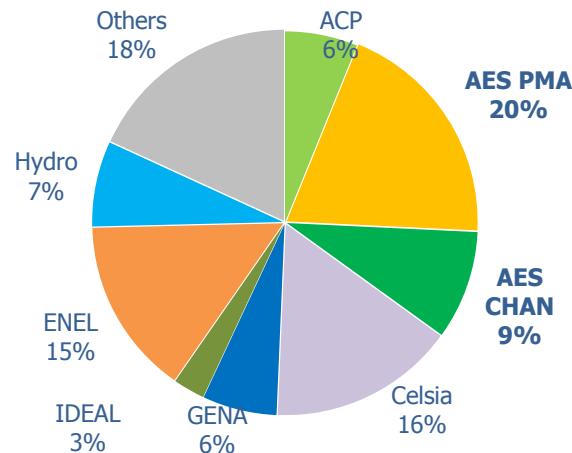
## Installed Capacity, Dec 2016

Total 3,329 MW



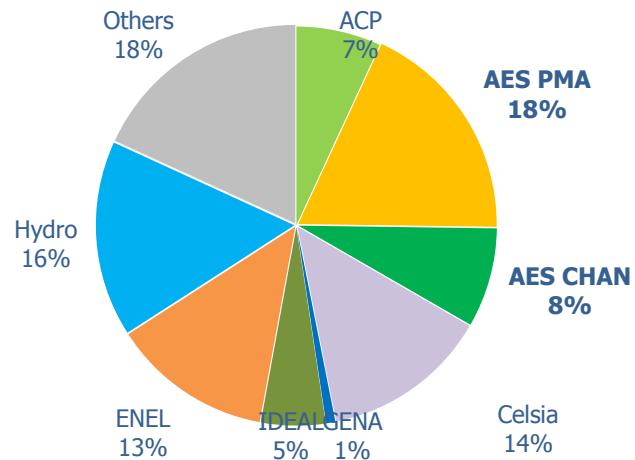
## Firm Capacity, Dec 2016

Total 1,905 MW



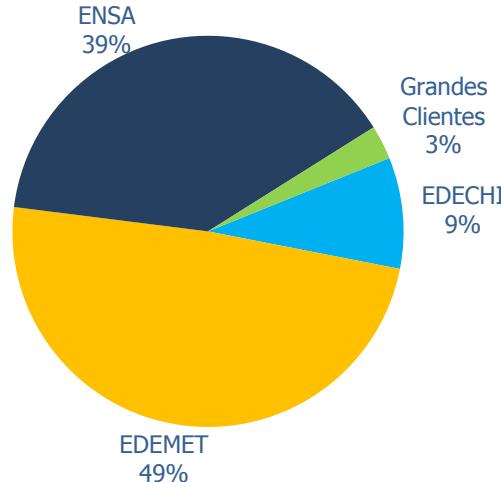
## Generation, YTD Dec 2016

Total 10,360 GWh



## Energy Demand, YTD 2016

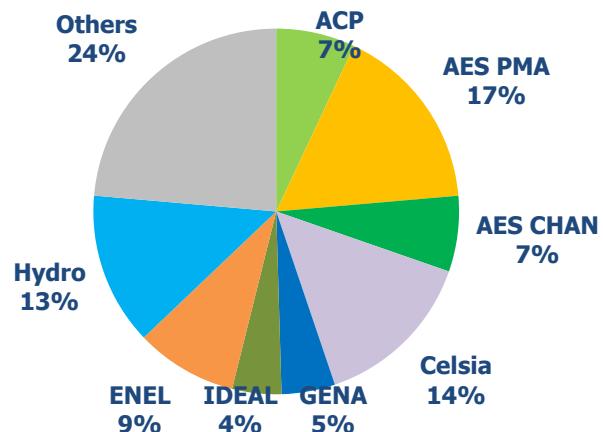
Total 9,3611 GWh



# 2017 Panama Market Update

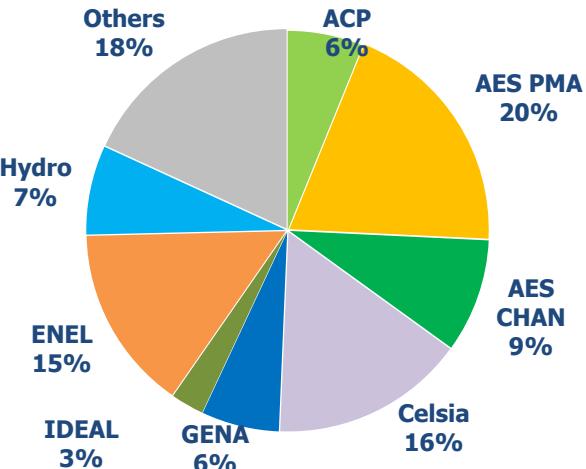
## Installed Capacity, Mar 2017

Total 3,331 MW



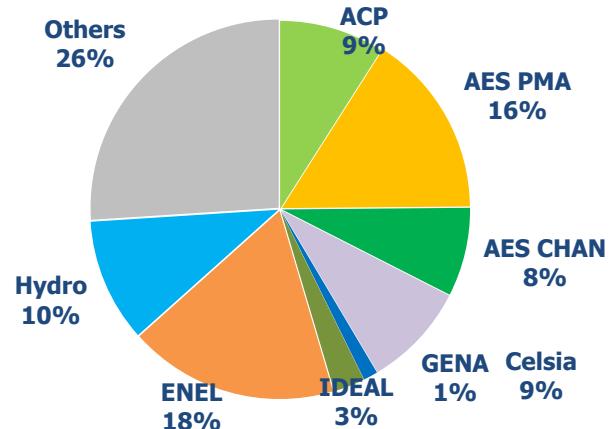
## Firm Capacity, Mar 2017

Total 1,905 MW



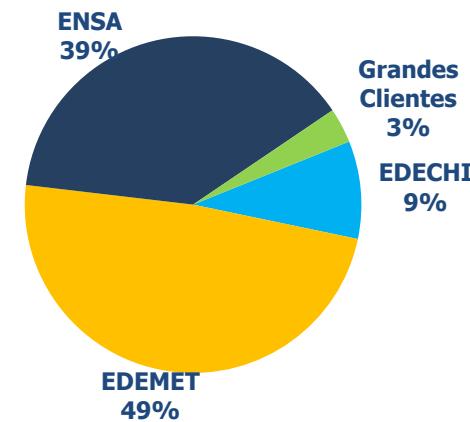
## Generation, YTD Mar 2017

Total 2,540 GWh



## Energy Demand, YTD 2017

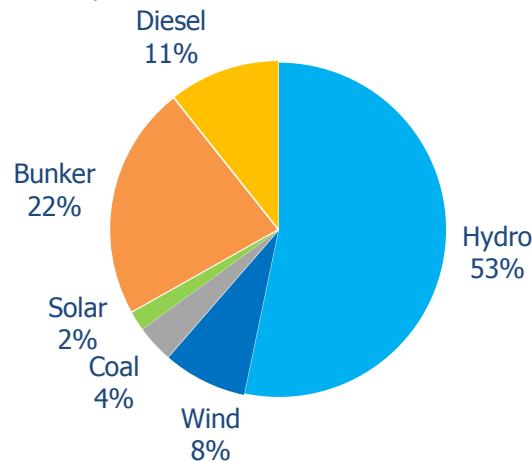
Total 2,398 GWh



# 2017 Panama Market Update

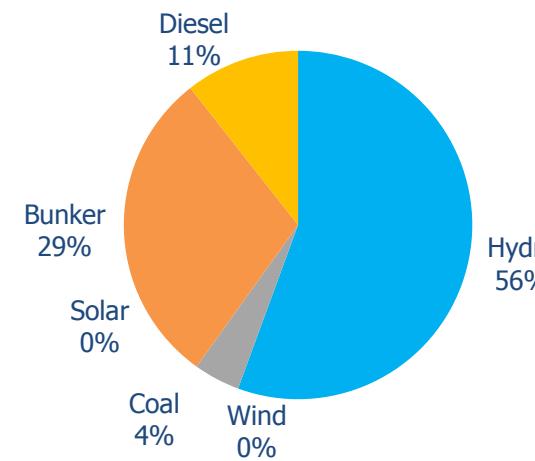
## Installed Capacity, Mar 2017

Total 3,331 MW



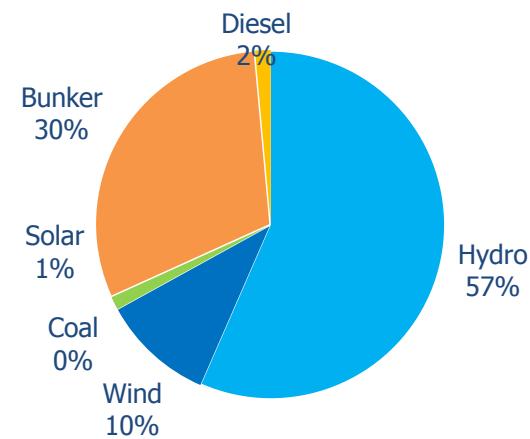
## Firm Capacity, Mar 2017

Total 1,905 MW



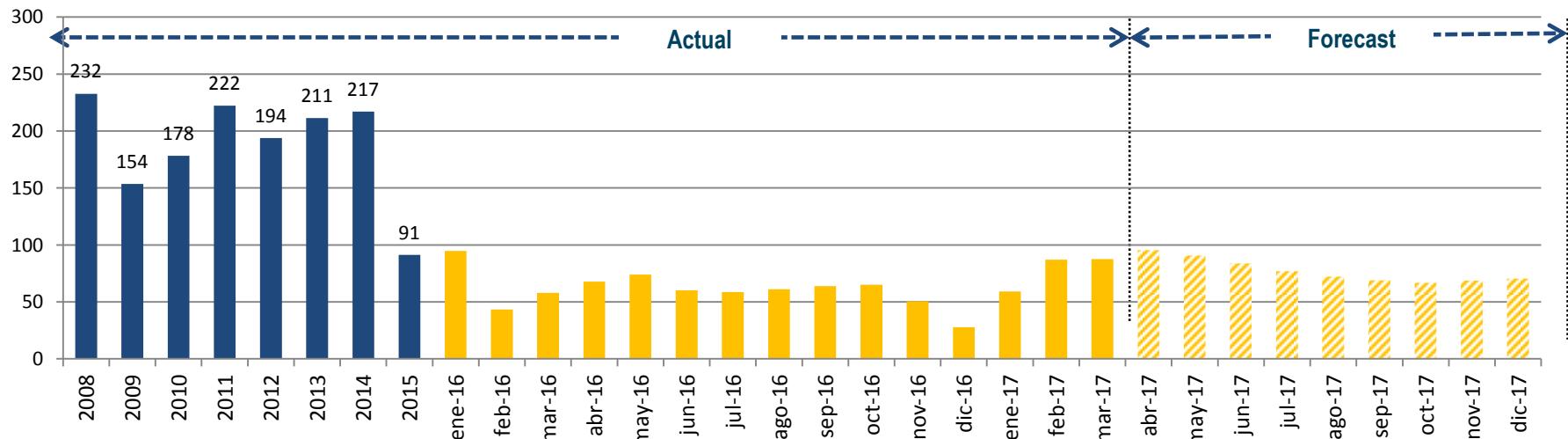
## Generation, Mar 2017

Total 2,540 GWh



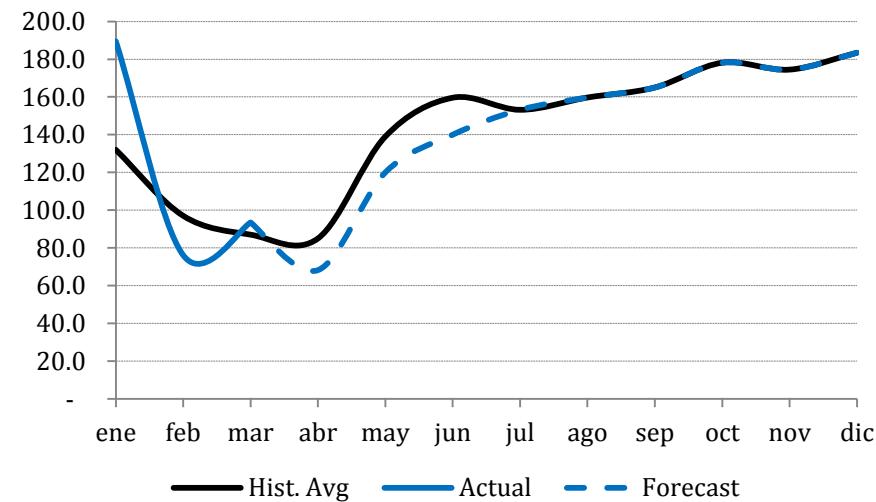
## Spot Price Evolution

US\$/MWh

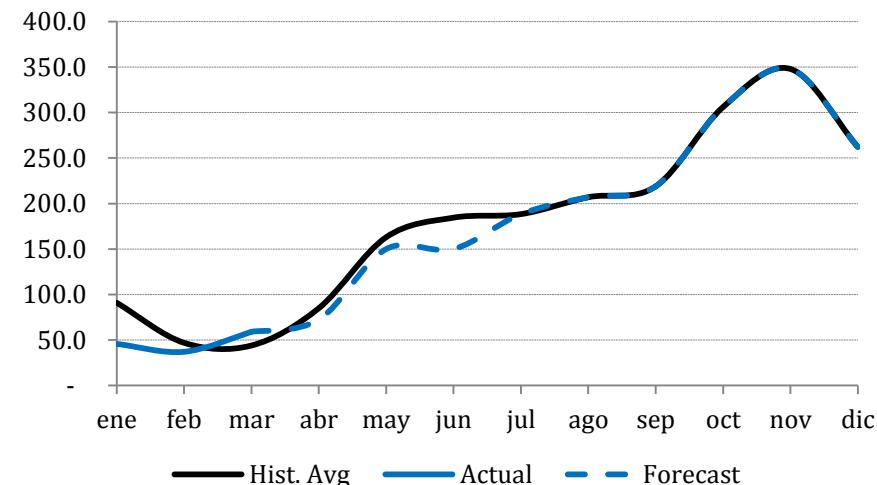


# Panama: 2017 Hydrology

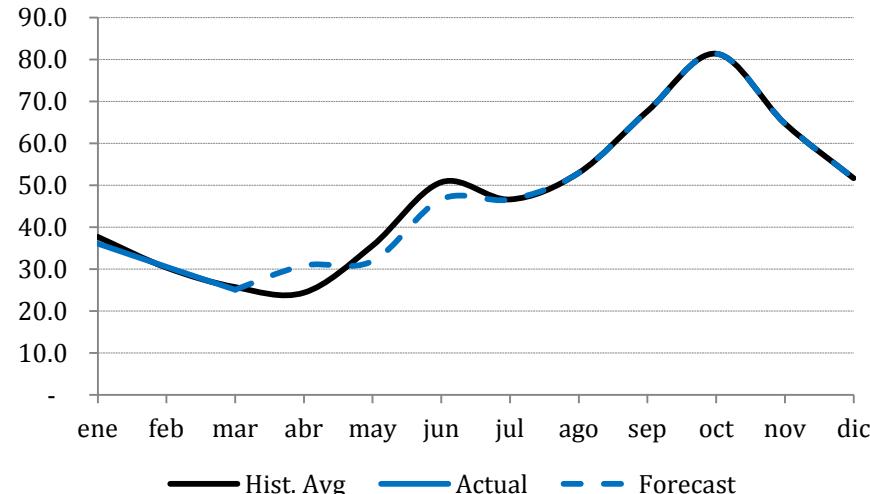
## Changuinola Inflows ( $m^3/s$ )



## Bayano Inflows ( $m^3/s$ )



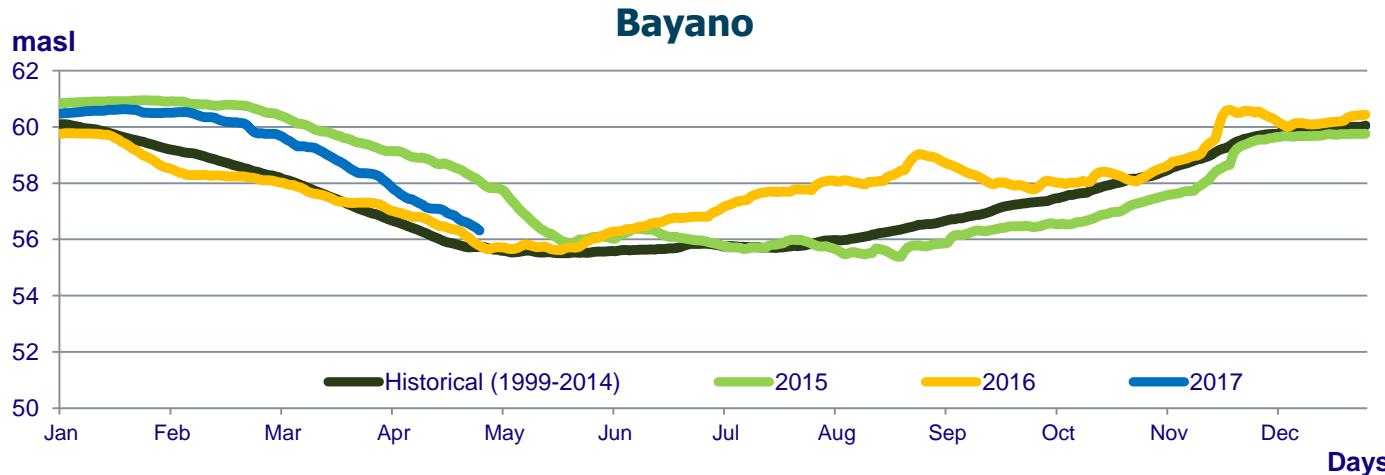
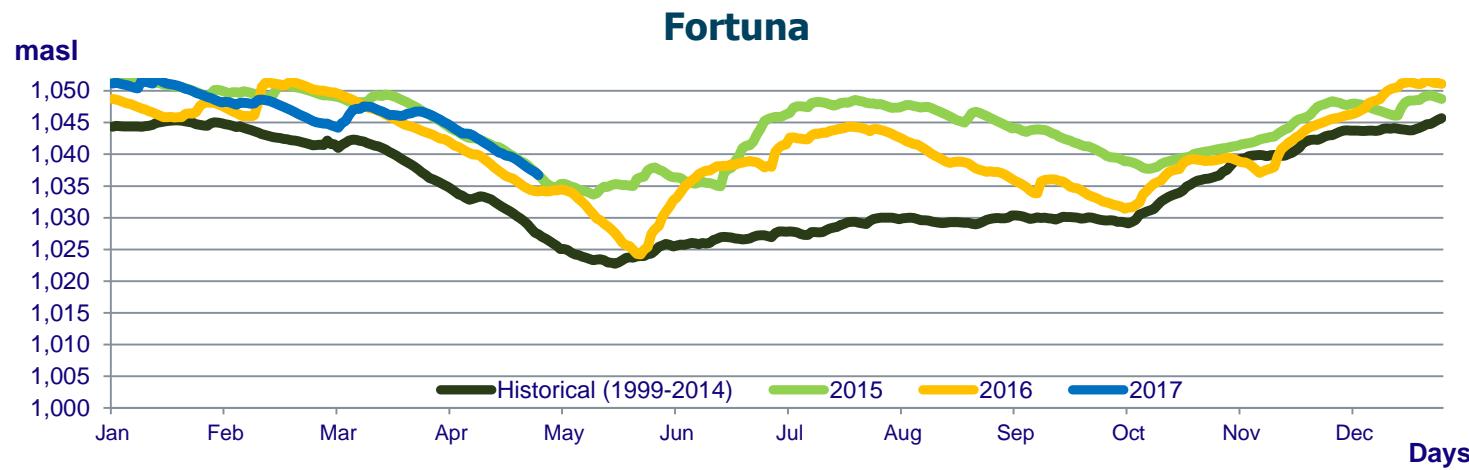
## Chiriquí Inflows ( $m^3/s$ )



- 2016 FY inflows were 13%, 26% and 7% below LTA for Changuinola, Chiriquí and Bayano respectively.
- For 1Q 2017, inflows are 15% above LTA for Changuinola and 2% and 22% below LTA for Chiriquí and Bayano respectively.

# Panama Reservoir Level Evolution

Both reservoirs have been above historical averages for 2017.



## **4. Financial Update**

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# AES Panama: Income Statement as of December 2016

USGAAP – values in millions US\$

AES Panama	Dec-16	Dec-15	Variation	%Var.
Revenues	316.5	299.1	17.38	6%
Variable Cost	(140.9)	(156.3)	15.40	-10%
<b>Variable Margin</b>	<b>175.6</b>	<b>142.8</b>	<b>32.79</b>	<b>23%</b>
Operating & Maintenance	(56.4)	(43.1)	(13.39)	31%
<b>EBITDA</b>	<b>119.1</b>	<b>99.7</b>	<b>19.40</b>	<b>19%</b>
Depreciation	(34.2)	(30.3)	(3.84)	13%
Other Income (Expenses), net	1.1	5.0	(3.89)	-77%
Interest Expense, net	(24.4)	(22.9)	(1.44)	6%
Equity Earnings in Investment in Affiliate	3.8	5.2	(1.48)	-28%
<b>Income before Income Tax</b>	<b>65.5</b>	<b>56.7</b>	<b>8.8</b>	<b>15%</b>
Income Tax Expense	(17.6)	(13.8)	(3.80)	28%
<b>Net Income</b>	<b>47.9</b>	<b>43.0</b>	<b>4.95</b>	<b>12%</b>

# AES Changuinola: Income Statement as of December 2016

IFRS – values in millions US\$

AES Changuinola	Dec-16	Dec-15	Variation	%Var.
Revenues	93.4	95.7	(2.26)	-2%
Variable Cost	(11.0)	(9.5)	(1.46)	15%
<b>Variable Margin</b>	<b>82.4</b>	<b>86.1</b>	<b>(3.71)</b>	<b>-4%</b>
Operating & Maintenance	(12.6)	(11.0)	(1.58)	14%
<b>EBITDA</b>	<b>69.8</b>	<b>75.1</b>	<b>(5.29)</b>	<b>-7%</b>
Depreciation	(17.2)	(17.2)	0.04	0%
Other Income (Expenses), net	2.6	0.2	2.38	1100%
Interest Expense, net	(28.6)	(30.0)	1.38	-5%
<b>Income before Income Tax</b>	<b>26.6</b>	<b>28.1</b>	<b>(1.5)</b>	<b>-5%</b>
Income Tax Expense	(8.3)	(2.1)	(6.22)	301%
<b>Net Income</b>	<b>18.3</b>	<b>26.1</b>	<b>(7.72)</b>	<b>-30%</b>

## **5. Key Debt Metrics**

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# AES Panama

## Current Debt Structure

### Long Term Debt

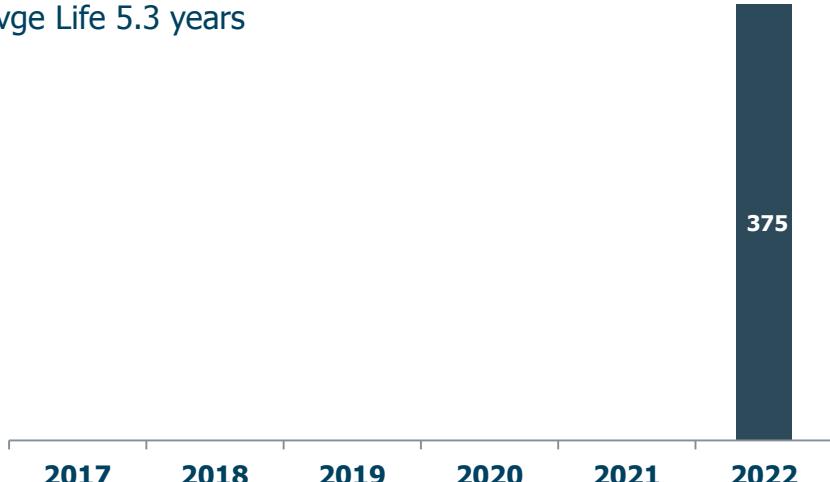
- US\$375 mm of Senior Notes under Rule 144A Reg S.
  - Coupon: 6.0% p.a. / Maturity: June 2022.

### Short Term Debt

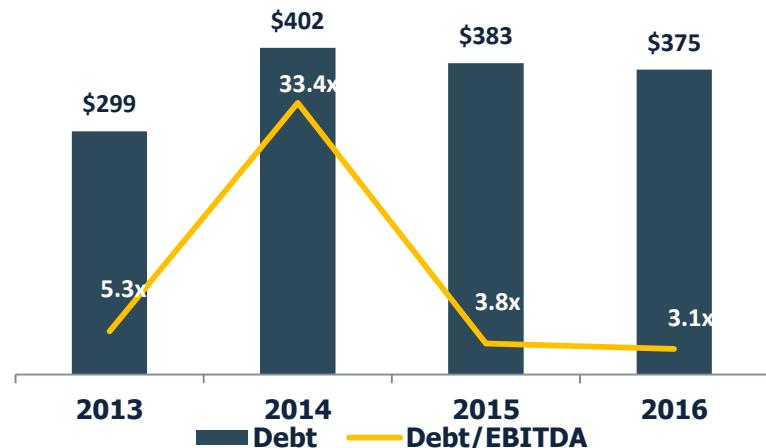
- \$ 105 mm available in WC Lines. Non are committed (not drawned)
  - Cost: ~ 3.0%

## Current Debt Profile

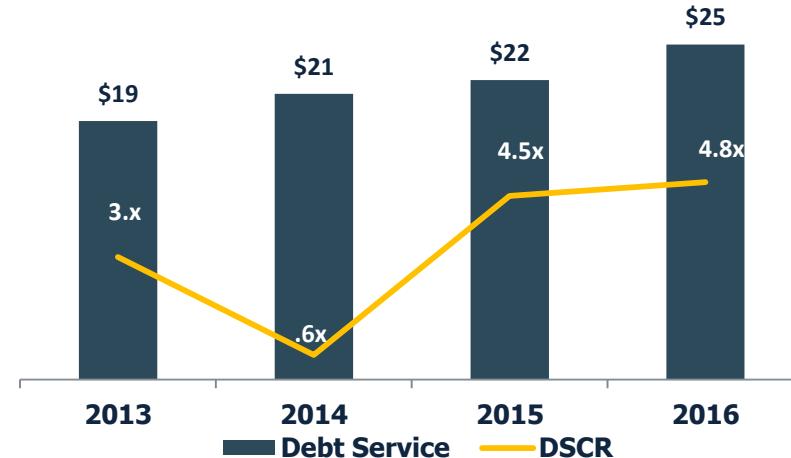
Avg Life 5.3 years



## Total Debt/ EBITDA



## Debt Service Coverage Ratio



# AES Changuinola

## Current Debt Structure

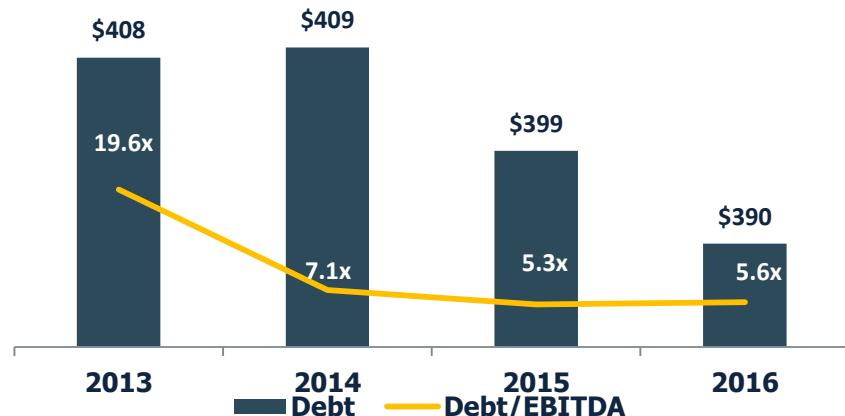
### Long Term Debt

- US\$200 mm of Senior Notes.(Bullet)
  - Coupon: 6.75% p.a. / Maturity: Nov 2023.
- US\$ 220 mm of Senior Notes (Amortized)
  - Coupon: 6.35% p.a. / Maturity: Nov 2023

### Short Term Debt

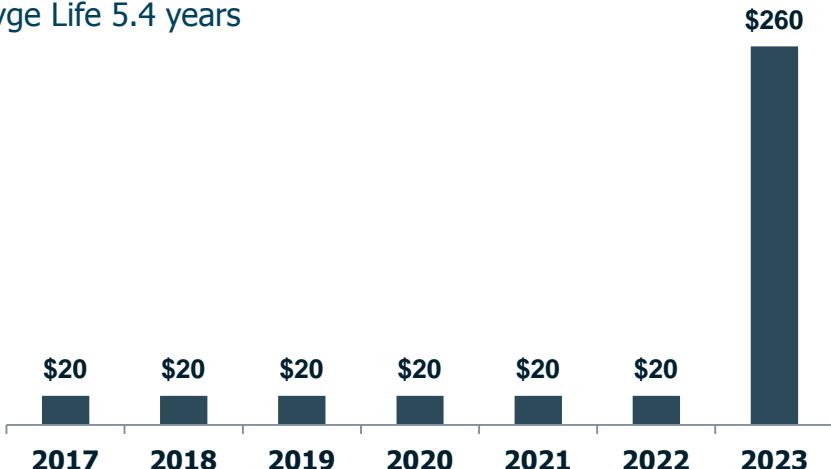
- Company does not currently have short term debt.

## Total Debt/ EBITDA

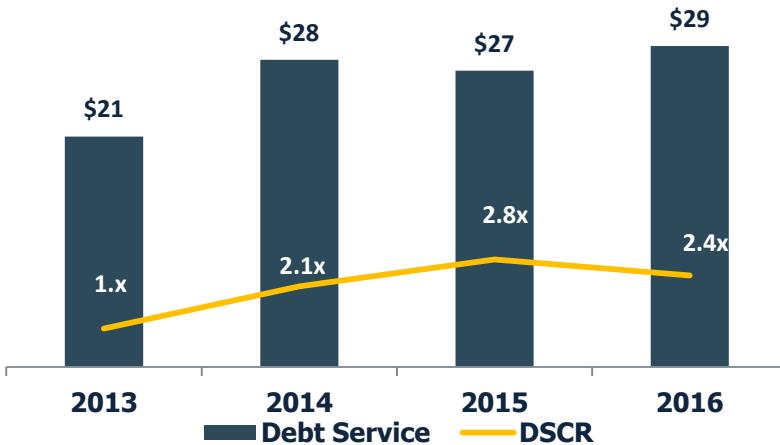


## Current Debt Profile

Avg Life 5.4 years



## Debt Service Coverage Ratio



## **6. Projections**

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# Key Assumptions

**2017 generation is slightly affected by lower than average hydrology.  
Afterwards, average hydrology is assumed for all of the hydro plants.**

Reference Fuel Prices	2016	2017	2018	2019	2020	2021
NYMEX Crude (WTI) (\$/bbl)	43.3	51.6	51.9	51.4	51.4	52.0
NYMEX Natural Gas (Henry Hub) (\$/mmBtu)	2.6	3.2	3.0	2.8	2.8	2.8
API#2 cif ARA b. 6000 kcal nar (\$/ mt)	59.3	73.9	65.7	62.9	62.1	62.0
Gulf Coast FO #6 3% Sulfur (\$/bbl)	32.0	44.3	43.5	42.7	39.6	41.0
Capacity (MWh)	2016	2017	2018	2019	2020	2021
Firm Capacity AES Panama	374	374	374	374	374	374
Firm Capacity AES Changuinola	175	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>	<b>549</b>
Contracted Capacity	513	513	513	447	390	390
<b>% Contracted</b>	<b>93%</b>	<b>93%</b>	<b>93%</b>	<b>81%</b>	<b>71%</b>	<b>71%</b>
Energy (GWh)	2016	2017	2018	2019	2020	2021
AES Panama Generation	1,831	1,940	1,951	1,827	1,792	1,820
AES Changuinola Generation	866	977	1,069	1,069	1,069	18,815
<b>Total Generation</b>	<b>2,697</b>	<b>2,918</b>	<b>3,020</b>	<b>2,896</b>	<b>2,861</b>	<b>20,635</b>
Contracted Energy Sales	2,864	2,881	2,895	3,008	2,771	2,504
<b>Net Spot Position</b>	<b>(167)</b>	<b>37</b>	<b>125</b>	<b>(111)</b>	<b>90</b>	<b>18,131</b>
Avg. Prices (US\$/MWh)	2016	2017	2018	2019	2020	2021
AES Panama Monomic Contract Price	97.3	100.6	101.2	110.7	107.6	105.4
AES Changuinola Monomic Contract Price	90.4	89.3	86.7	86.7	86.7	4.4
Avg. Spot Price	63.7	76.4	55.6	41.9	30.1	33.3

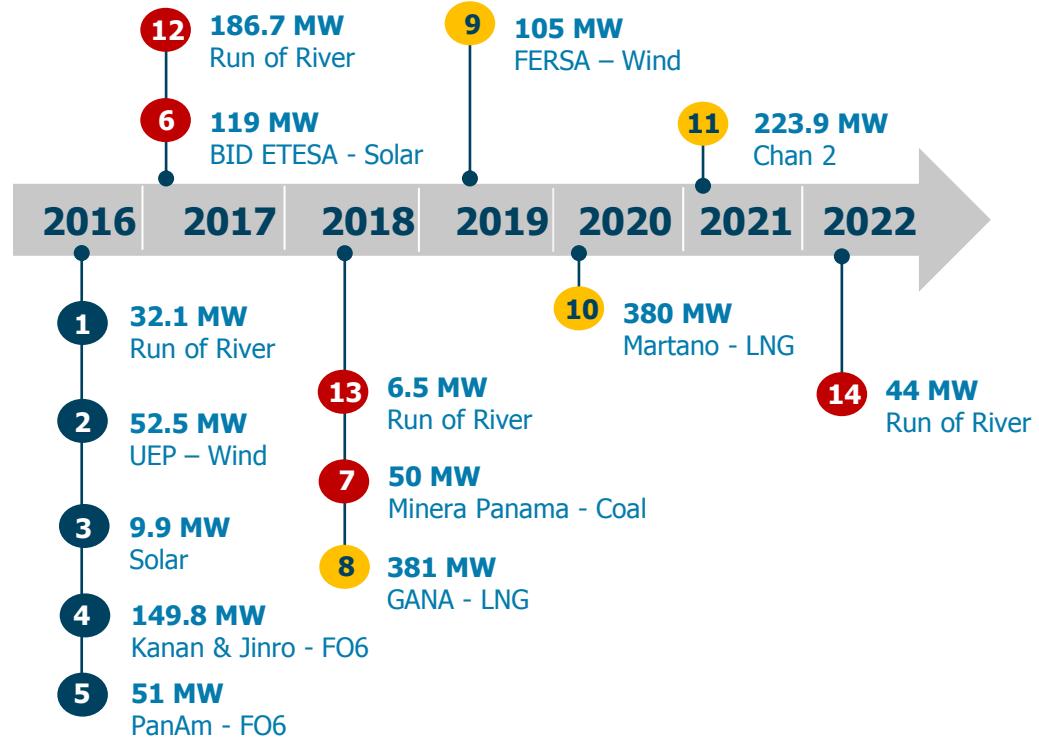
# Generation Expansion Plan

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

### Locations



### Timeline



### Legend:

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

# 2016-2025 AES Panama Financial Projections

**Values in Thousands**

Income Statements	2016	2017	2018	2019	2020	2021
Revenue	317	335	319	361	332	290
Variable Margin	160	178	189	234	210	195
EBITDA	121	133	142	186	161	145
Net Income (before Minority Interest)	108	56	61	87	70	63
Balance Sheet	2016	2017	2018	2019	2020	2021
Cash	34	21	32	78	28	62
Total Debt	378	377	377	377	377	377
<i>Current Debt</i>	0	-	-	-	-	-
<i>Long term Debt</i>	378	377	377	377	377	377
Cash Flow	2016	2017	2018	2019	2020	2021
Cash Flow from Operating Activities	63	85	103	131	101	95
Cash Flow from Investing Activities (CAPEX)	(11)	(8)	(12)	(7)	(89)	(5)
Cash Flow from Financing Activities	(68)	(74)	(80)	(78)	(62)	(55)
Covenants	2016	2017	2018	2019	2020	2021
Debt to Ebitda	3.1	2.8	2.7	2.0	2.3	2.6
DSCR	5.0	5.9	6.3	8.3	7.1	6.5
*Net Debt to Ebitda	2.8	2.7	2.4	1.6	2.2	2.2

(\* ) Not an actual covenant but a proxy on leverage considering liquidity position

# 2016-202 AES Changuinola Financial Projections

**Values in Thousands**

Income Statements	2016	2017	2018	2019	2020	2021
Revenue	93	105	110	108	105	82
Variable Margin	84	94	97	95	95	94
EBITDA	70	78	82	79	78	77
Net Income (before Minority Interest)	17	25	28	28	30	27
Balance Sheet	2016	2017	2018	2019	2020	2021
Cash	27	19	13	9	9	9
Total Debt	390	370	350	330	310	290
<i>Current Debt</i>	20	20	20	20	20	20
<i>Long term Debt</i>	370	350	330	310	290	270
Cash Flow	2016	2017	2018	2019	2020	2021
Cash Flow from Operating Activities	42	38	44	40	41	48
Cash Flow from Investing Activities (CAPEX)	(2)	(2)	(2)	(1)	(1)	(3)
Cash Flow from Financing Activities	(55)	(44)	(48)	(43)	(40)	(45)
Covenants	2016	2017	2018	2019	2020	2021
Debt to Ebitda	5.6	4.7	4.2	4.2	4.0	3.8
DSCR	1.9	1.7	1.9	1.8	1.9	1.9
*Net Debt to Ebitda	5.2	4.5	4.1	4.0	3.8	3.6

(\* ) Not an actual covenant but a proxy on leverage considering liquidity position