City Water Light and Power

FY2019

CWLP Financial Presentation

Financial Update

Data Through July 31, 2018

September 17, 2018

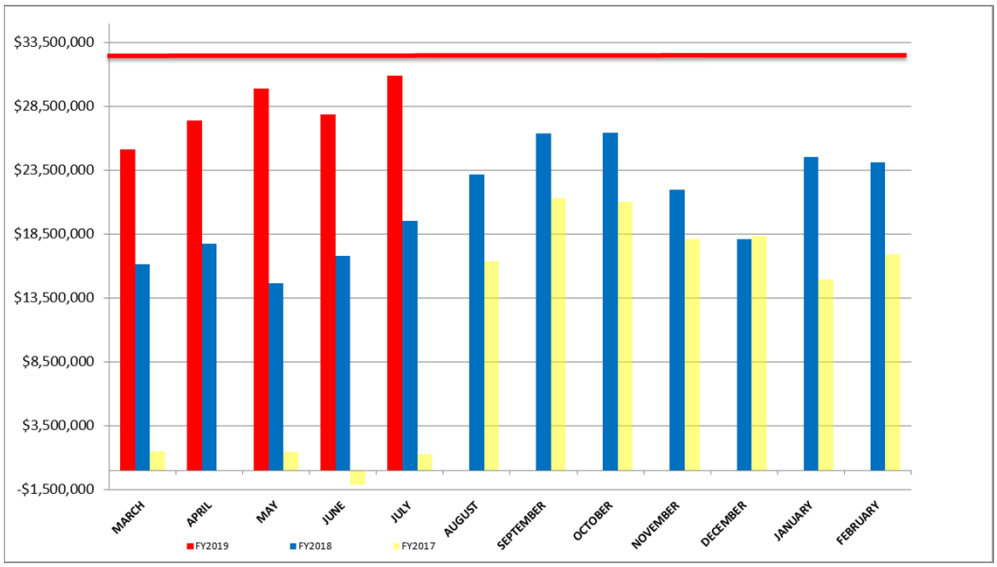
Electric Fund - Finances

JULY FY2019 CASH POSITION

- **Electric Fund Working Cash: $ 30.9 million**
  - Electric Light Revenue : $ 17.5 million
  - Renewal : $ 13.4 million
  - Days of Cash : 57 days
    - Moody's days of cash is 76 – Includes restricted ERIRF of $15.5M.

Electric Fund Cash By Month

60 Days Cash = $32.5 Million



Electric Fund Revenue Budget

REVENUES THROUGH JULY FY2019

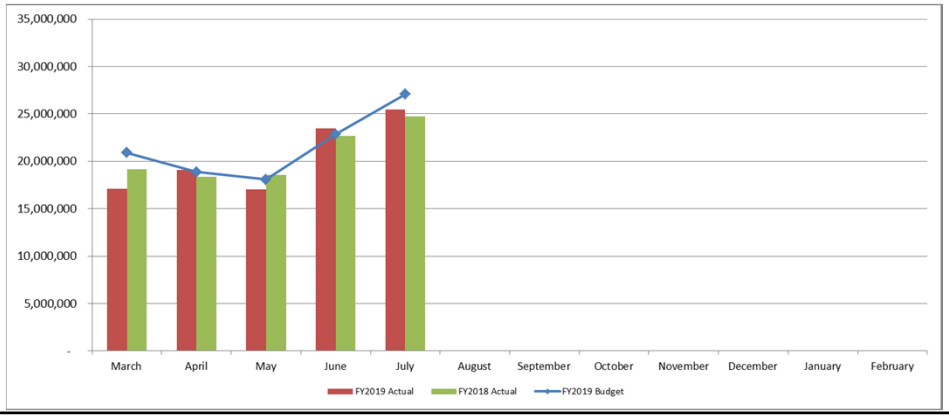
(COMPARED TO BUDGET TO DATE)

- **Retail Electric Revenues**
  - **Budget To Date** **$ 93.6 million**
  - **Actual To Date** **$ 90.3 million**
  - **Variance** **($ 3.2 million) ~ (3.5)%**
- **Wholesale Electric Revenues**
  - **Budget To Date** **$ 11.7 million**
  - **Actual To Date** **$ 9.1 million**
  - **Variance** **($ 2.6 million) ~ (21.9)%**
- **TOTAL ELECTRIC REVENUES ARE $5.6 MILLION or 5.2% UNDER BUDGET**

Electric Fund Revenue Comparison

ELECTRIC REVENUE ACTIVITY SUMMARY

$$	March	April	May	June	July	August	September	October	November	December	January	February	Total
FY2019 Budget	20,893,927	18,872,691	18,089,889	22,857,007	27,052,761								107,766,274
FY2019 Actual	17,104,523	19,082,223	17,022,256	23,452,482	25,461,249								102,122,734
FY2018 Actual	19,141,026	18,367,319	18,533,287	22,645,509	24,751,355								103,438,496
Variance to FY2019 Budget	(3,789,404)	209,532	(1,067,632)	595,476	(1,591,512)	0	0	0	0	0	0	0	(5,643,540)
Variance to FY2018 Actual	(2,036,503)	714,903	(1,511,031)	806,973	709,895	0	0	0	0	0	0	0	(1,315,762)



Electric Fund Expense Budget

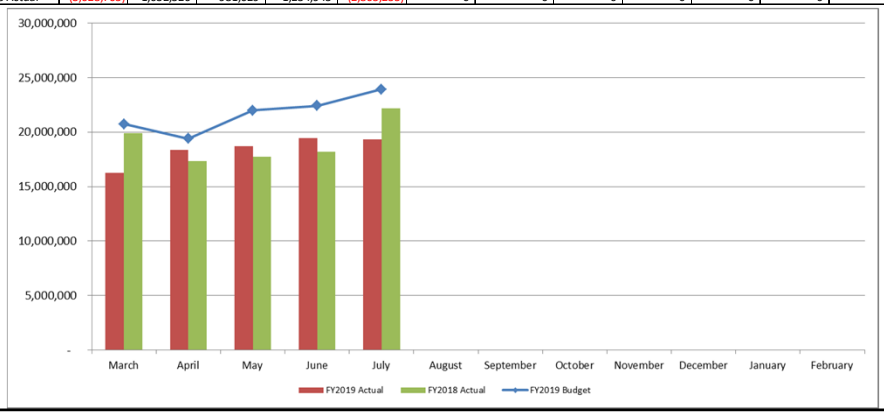
NON-BOND EXPENSES THROUGH JULY FY2019

- **Budget To Date** **$108.4 million**
- **Expense To Date** **$ 92.1 million**
- **Variance** **$ 16.3 million ~ 15.1%**

Electric Fund Expense Comparison

ELECTRIC NON-BOND EXPENSE ACTIVITY SUMMARY

$$													
	March	April	May	June	July	August	September	October	November	December	January	February	Total
FY2019 Budget	20,741,766	19,392,987	21,976,246	22,417,955	23,902,262								108,431,218
FY2019 Actual	16,268,083	18,357,110	18,723,414	19,433,621	19,309,905								92,092,134
FY2018 Actual	19,896,788	17,324,584	17,741,785	18,178,676	22,175,160								95,316,993
Variance to FY2019 Budget	(4,473,683)	(1,035,877)	(3,252,832)	(2,984,334)	(4,592,357)	0	0	0	0	0	0	0	(16,339,083)
Variance to FY2018 Actual	(3,628,705)	1,032,526	981,629	1,254,945	(2,865,255)	0	0	0	0	0	0	0	(3,224,859)

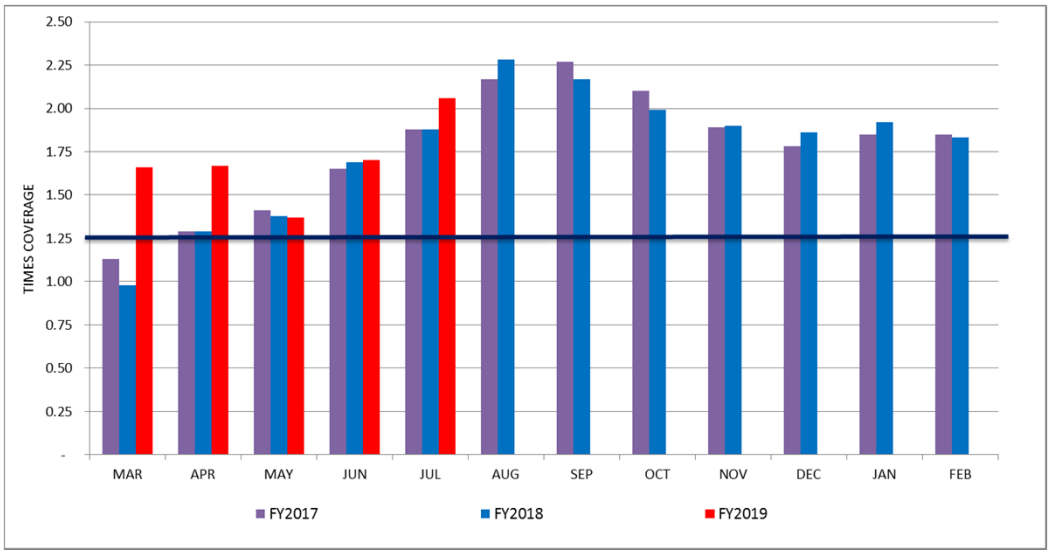


Electric Fund Debt Coverage Ratio

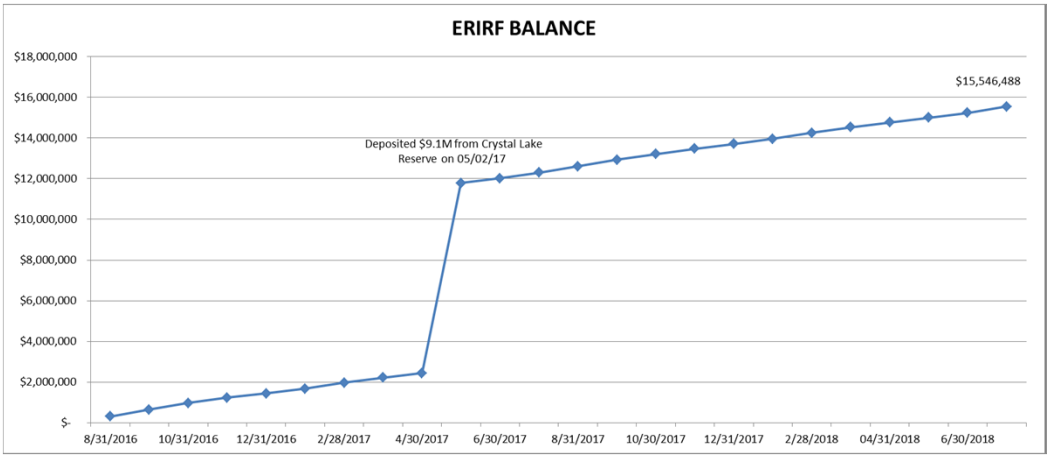
AS OF JULY, FY2019

FUNDS AVAILABLE FOR DEBT SERVICE	**$ 33,647,889**
DEBT SERVICE	**14,687,615**
DEBT SERVICE COVERAGE (YEAR END 1.25x)	**2.29x**
(SHORTFALL) EXCESS IN COVERAGE	**1.04x**
DEBT SERVICE COVERAGE (INCLUDING CORPORATE PAYMENT)	**2.06x**

Electric Fund
Debt Coverage Ratio By Month
With PILOT Included



Environmental and Regulatory Initiatives
and Rebate Fund



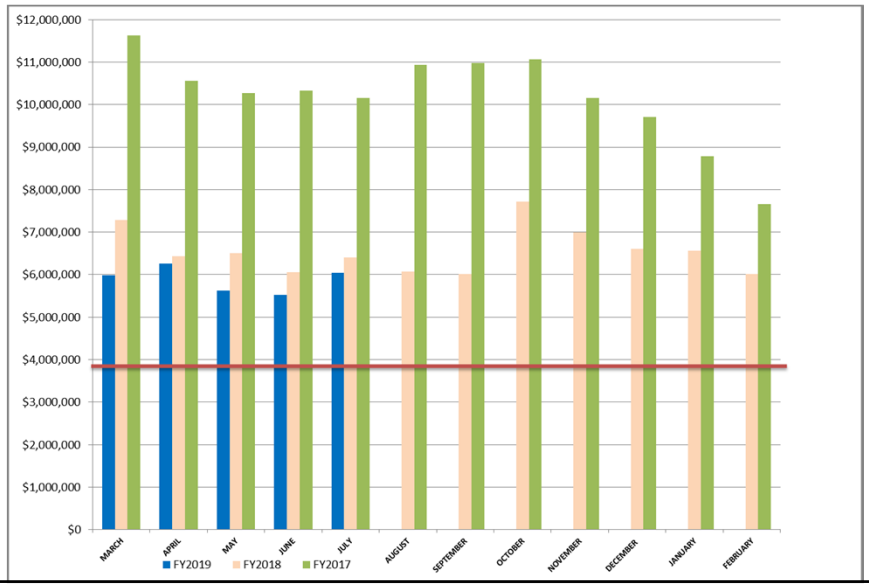
Water Fund - Finances

JULY FY2019 CASH POSITION

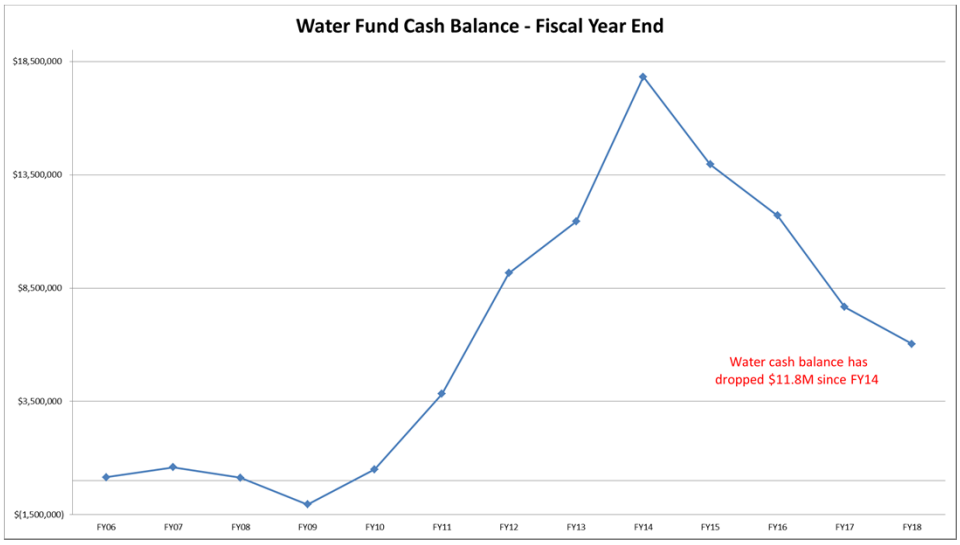
- Water Fund Working Cash: **$6.0M**
- Days of cash: 94
  - Of the $6.0M cash balance
  - $5.0M is Renewal and $1.0M is Electric Light Revenue

Water Fund Cash By Month

60 Days Cash = $3.9 Million



Water Fund Cash History



Water Fund Revenues and Expenses

THROUGH JULY FY2019

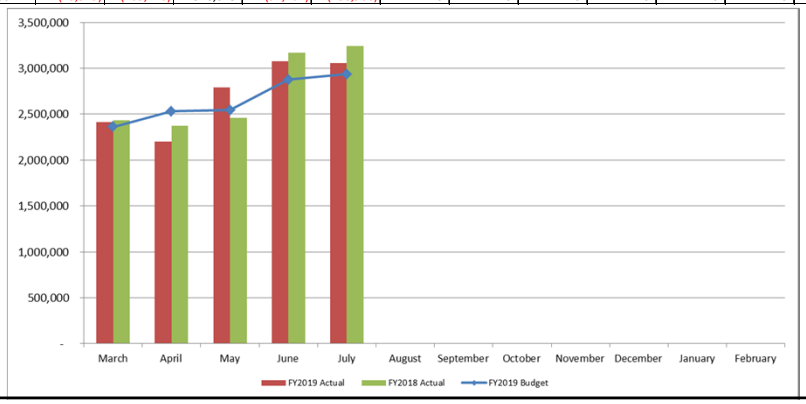
- **Water Revenues**
  - **Budget To Date** **$ 13.2 million**
  - **Actual Revenue To Date** **$ 13.5 million**
  - **Revenue Variance** **$ 0.3 million ~ 2.2%**

- **Water Non-Bond Expenses**
  - **Budget To Date** **$ 14.5 million**
  - **Actual Expense To Date** **$ 12.3 million**
  - **Expense Variance** **$ 2.2 million ~ 15.0%**

Water Fund
Revenue Comparison

WATER REVENUE ACTIVITY SUMMARY

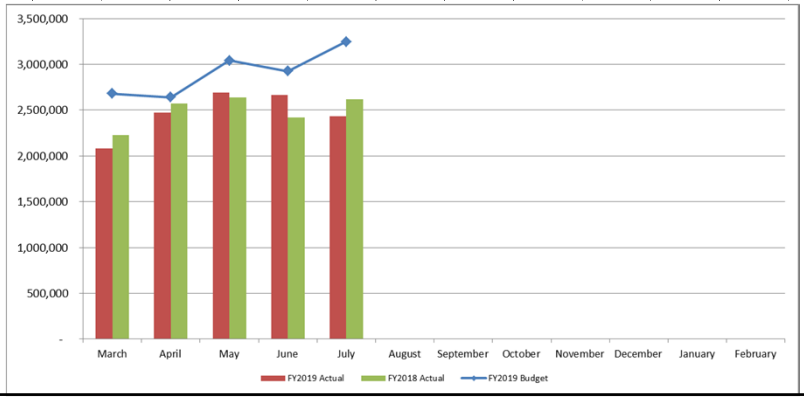
$$													
	March	April	May	June	July	August	September	October	November	December	January	February	Total
FY2019 Budget	2,360,808	2,530,848	2,542,763	2,877,391	2,935,856								13,247,666
FY2019 Actual	2,410,014	2,201,167	2,788,525	3,074,538	3,058,247								13,532,492
FY2018 Actual	2,433,533	2,370,643	2,461,882	3,166,646	3,239,213								13,671,917
Variance to FY2019 Budget	49,206	(329,681)	245,763	197,147	122,391	0	0	0	0	0	0	0	284,826
Variance to FY2018 Actual	(23,519)	(169,476)	326,643	(92,107)	(180,966)	0	0	0	0	0	0	0	(139,425)



Water Fund
Expense Comparison

WATER NON-BOND EXPENSE ACTIVITY SUMMARY

$$													
	March	April	May	June	July	August	September	October	November	December	January	February	Total
FY2019 Budget	2,680,653	2,641,859	3,041,106	2,924,287	3,246,721								14,534,626
FY2019 Actual	2,081,274	2,474,978	2,693,484	2,664,292	2,434,541								12,348,570
FY2018 Actual	2,228,563	2,575,613	2,637,175	2,419,351	2,617,586								12,478,289
Variance to FY2019 Budget	(599,379)	(166,881)	(347,621)	(259,995)	(812,180)	0	0	0	0	0	0	0	(2,186,056)
Variance to FY2018 Actual	(147,289)	(100,635)	56,309	244,942	(183,045)	0	0	0	0	0	0	0	(129,719)

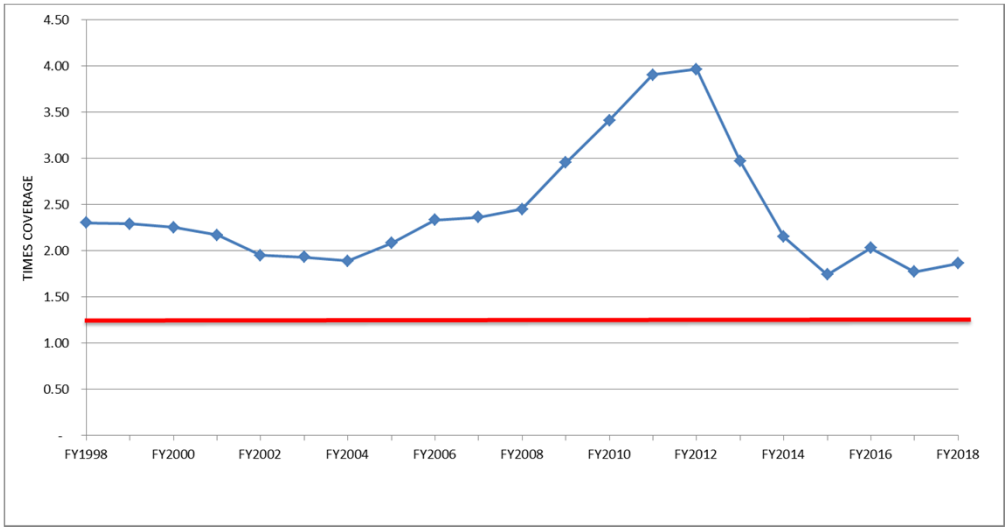


Water Fund
Debt Coverage Ratio

AS OF JULY, FY2019

FUNDS AVAILABLE FOR DEBT SERVICE	**$6,060,148**
DEBT SERVICE	**2,864,020**
DEBT SERVICE COVERAGE (YEAR END 1.25x)	**2.12x**
DEBT SERVICE COVERAGE (After Auxiliary Services)	**1.89x**

Water Fund
Debt Coverage Ratio History
Before Auxiliary Services



CWLP FY2019 Labor Budget

LABOR COSTS THROUGH JULY FY2019

(INCLUDING IMRF and FICA)

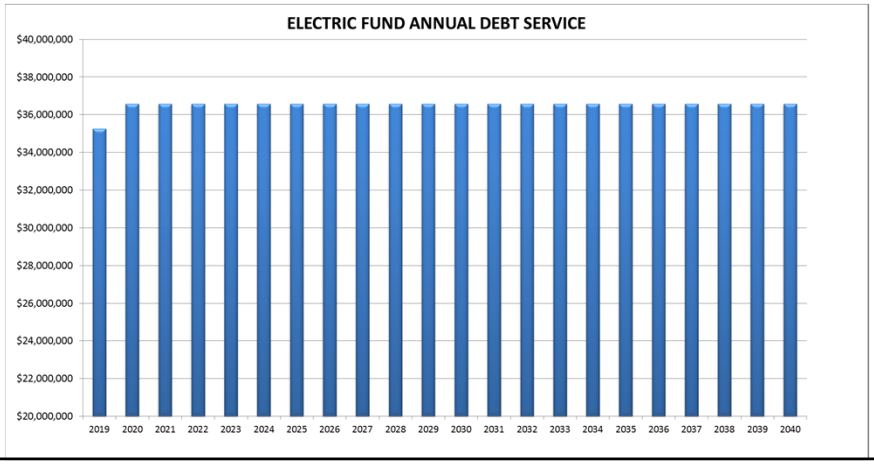
- **Water Fund**
  - **Budget To Date** **$ 4.9 million**
  - **Expense To Date** **$ 4.8 million**
  - **Variance** **$ 0.1 million ~ 3.0%**
- **Electric Fund**
  - **Budget To Date** **$ 20.5 million**
  - **Expense To Date** **$ 19.7 million**
  - **Variance** **$ 0.8 million ~ 3.9%**
- **CWLP TOTAL LABOR COSTS ARE $0.9 million or 3.7% UNDER BUDGET**

City Water Light and Power

Questions

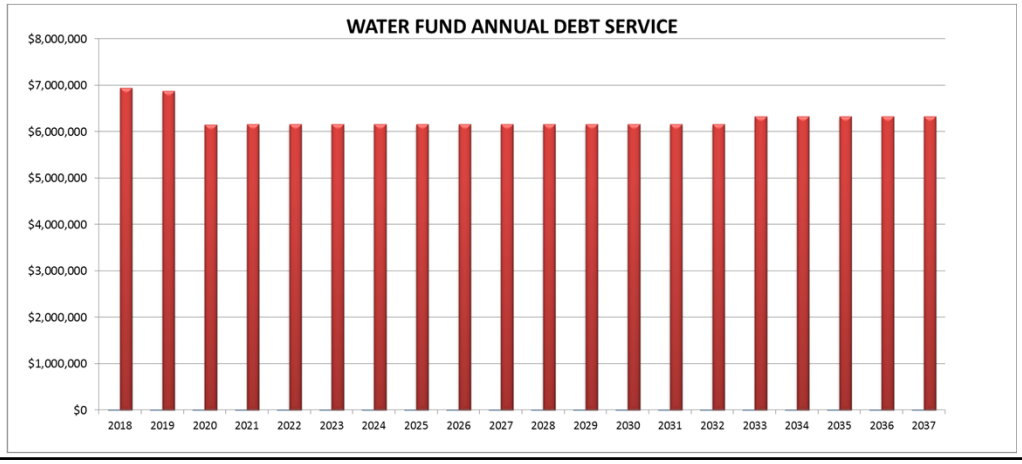
Electric Fund – Debt

- **Bonds Outstanding : $496,435,000**
- **Moody's Rating: A3 (stable outlook) ~ Standard & Poor's Rating: A (stable outlook)**
- **Annual Principal and Interest Payments +/- $35.2 million… +/- $36.5 million in 2020**



Water Fund - Debt

- **Bonds and IEPA Loans Outstanding : $77,949,776**
- **Moody's Rating: A1(negative outlook) ~ Standard's & Poor's Rating: AA-**
- **Annual Principal and Interest Payments +/- $6.9 million ... +/- $6.2 million in 2020**



PILOT Performance FY2019

JULY FY2019 TO DATE

Water Fund

Budgeted to Date	**$ 177,401**
Actual Total	**$ 182,905**
Difference	**$ (5,504)**
Difference %	**(3.1%)**

Electric Fund

Budgeted to Pay	**$ 8,162,904**
Calculated Max*	**$ 8,107,406**

*(Prior year's audited operating revenues x 3.35%)

City Water Light & Power

Quarterly Presentation

September 17, 2018

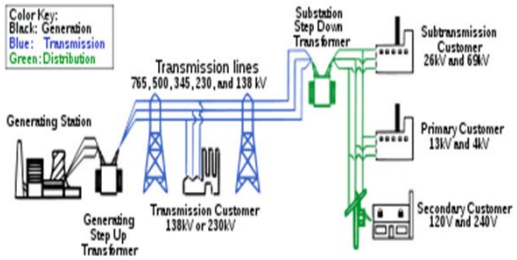
Greg Yakle, Director of T&D

Outline of Presentation

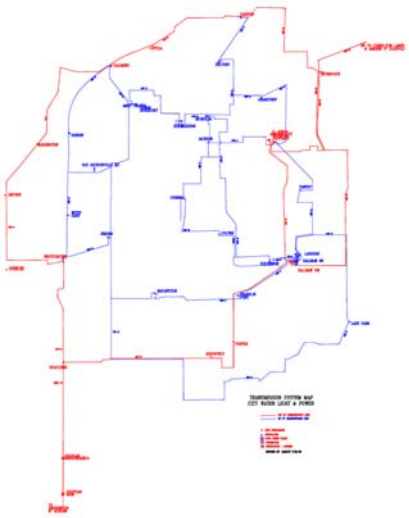
- About the Transmission & Distribution System
  - Fundamentals
  - Transmission System
  - Distribution System & Stats
- CWLP as a Reliability Company
  - Stats
  - Underground rebuilds
  - Line clearance

Fundamentals of an Electrical Transmission & Distribution

- Transmission System
  - High voltage system
  - Bulk Power System
- Distribution Systems
  - Medium voltage system
  - Serves neighborhoods



Transmission System



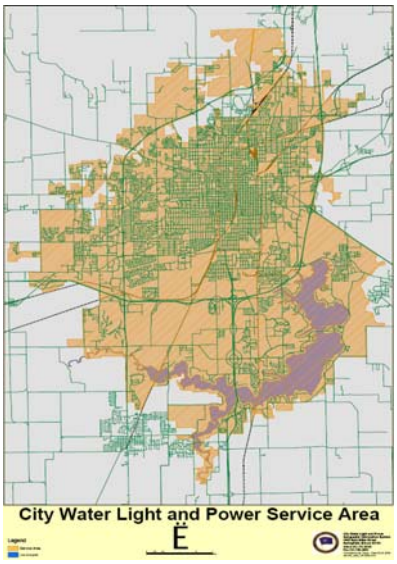
126 Miles of Transmission

9 - 138 kV Substations

24 -69 kV Substations

Distribution System & Stats

- Service area of 80 square miles
- Distribution System (12,470v)
  - 504 miles of overhead
  - 455 miles of underground
- 41,000 poles
- 71,551 Customers
- 17,600 street lights
- 4,100 security lights



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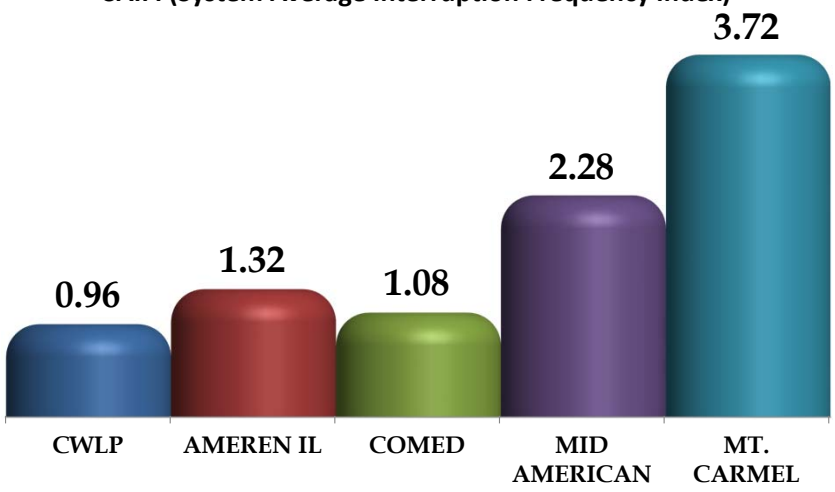
Annual Outages per Customer

SAIFI (System Average Interruption Frequency Index)



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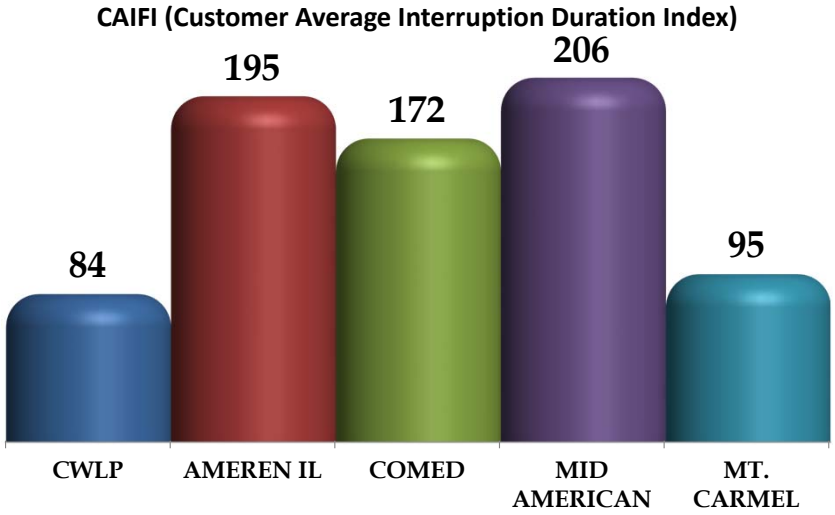
Reference: https://www.icc.illinois.gov/electricity/electricreliability.aspx

Minutes per Outage



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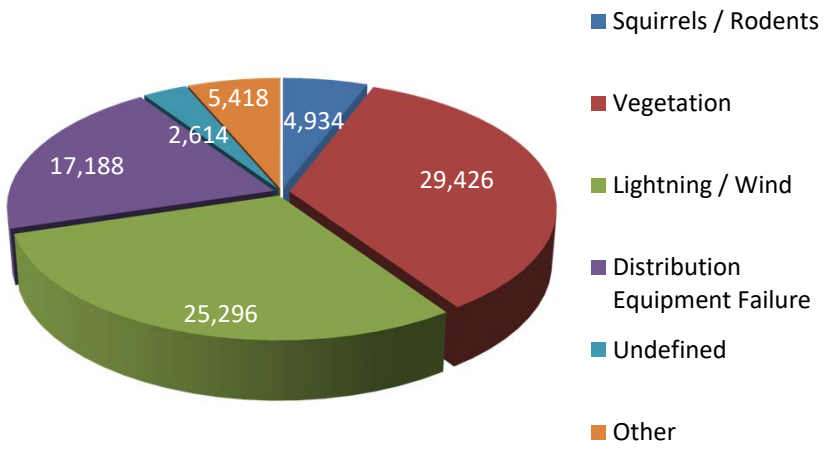
Reference: https://www.icc.illinois.gov/electricity/electricreliability.aspx

Outage Classifications

Customer hours 2018 YTD



7

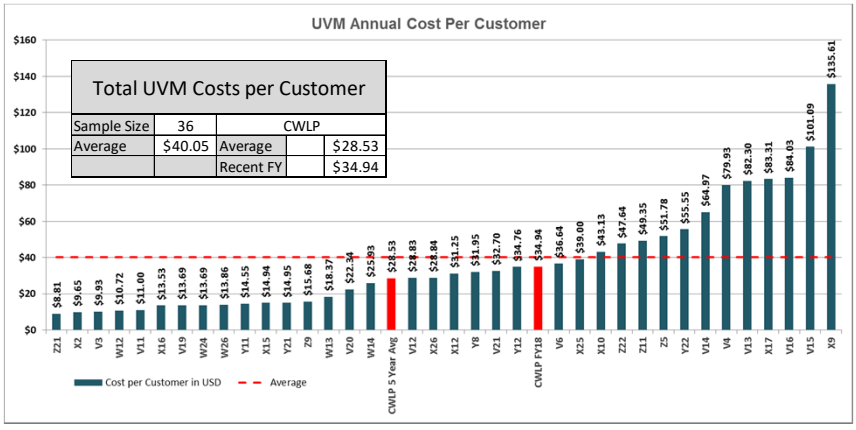
Underground Cable Failures

Area	Approx. # of LF Xfmrs	Year	Age	Cable Outages (2001 - Present)	Transformer Outages (2001 - Present)	Total Outages	Bad Cable Outages Oct. 2016 to July 2018	Rank change from 2016
Pinebrook (Candletree, Seven Pines, Westbro	?	1972	47	85	3	**88**	6	
Westchester	55	1972	47	63	1	**64**	2	
Grand Valley Village	30	1975	44	42	2	**44**	1	
Indian Hills	30	1967	52	21		**21**		
Northbrook/Hidden Valley Trailer Park	23	1973	46	20		**20**	3	
Falling Brook	18	1978	41	15	3	**18**	5	↑
Westroads	4	1977	42	16	1	**17**	1	
Timberlane/ Lake Forest Estates	18	1975	44	16	1	**17**	1	↓
Pasfield Park West	19	1972	47	11	3	**14**	1	↓
Northgate 13th Addition	13	1972	47	13	1	**14**	3	↓
Hanover Hills/West Woods	24	1977	42	12	1	**13**	4	↑
Monroe Park West	60	1974	45	11	2	**13**	3	↑
Country Club Estates	30	1977	42	11		**11**	1	↓
Northgate 12th Addition	13	1977	42	7	2	**9**		↑
Johnson Park	6	1976	43	9		**9**	2	↑

Tracking and trending 35 subdivisions that were built in the 1970s. On average these subdivisions are 45 years old.

8

- **Line Clearance**
  - 636 miles, equivalent to driving from Springfield, IL to Atlanta, GA.
  - CWLP spends $2.3m to $2.6m a year
  - Current spending levels we are at a 6.5 year cycle (~100 miles/year)



9

Line Clearance

- Pruning Rules and Regulations:
  - International Society of Arborists
  - National Arborists Assn.
  - Utility Arborist Assn.
- Coordination with local contractors
  - 55 clear backs a year

10

Line Clearance

Tracking and Monitoring

#	Circuit	EST MHs	Time (days)	Crews	MH this CYC	Act Time (days)	BB Miles	Total Miles	2012	2013	2017	2018	2019	2020
91	WA-5	1456	13	7	626		2.75	2.73	9/14/2012			8/17/2018		
90	G-2	1344	12	7	1262		0.00	2.64	10/25/2012			8/31/2018		
92	WA-1	1456	13	7	304		1.98	10.70		4/3/2013		9/24/2018		
93	G-3	2016	18	7			2.48	3.49	7/5/2012			10/18/2018		
94	SD-1	2016	18	7			2.12	3.07	9/14/2012			11/13/2018		
95	MD-2	960	12	5			0.00	2.78	11/29/2012			11/29/2018		
96	PR-6	1568	14	7			3.62	5.79	1/10/2012			12/19/2018		
97	CU-7	640	8	5			0.00	2.90	11/20/2012			12/31/2018		
98	PR-2	2576	23	7			2.05	4.96	2/1/2012				1/31/2019	
99	CU-4	2912	26	7			4.87	9.29	3/1/2012				3/8/2019	
100	D-2	1680	15	7			0.46	2.23	9/14/2012				3/29/2019	
101	D-4	3136	28	7			2.18	2.47		1/1/2013			5/8/2019	
102	SP-2	4704	42	7			0.00	2.56		3/3/2013			7/5/2019	
103	LP-2	6832	61	7			0.00	5.29		4/7/2013			9/30/2019	
													6.48	Cycle time

11

ELECTRICITY AND OUR FUTURE

CWLP'S INTEGRATED RESOURCE PLAN

Micah Bushnell, PE
Director of Planning & Markets

1

Agenda

- Public Comments Received
- Review IRP Process
- Progress So Far
- Future Progress
- IRP Considerations
- Other Public Reports

2

PUBLIC COMMENTS

3

Public Comments Commenters Profile

	Springfield Address	Other Address	Unspecified Address	Total
Sierra Club	12	2		14
Chamber of Commerce	1			1
University of Illinois		1		1
Non-Specified Affiliation	18		5	23
Other	2			2
Total	33	3	5	41

4

Public Comments Categorized

- STUDY CONSIDERATIONS
- STUDY PROCESS
- RESOURCE PREFERENCES
- PUBLIC ENGAGEMENT/INPUT
- INFORMATIVE
- CRITICAL
- OUT OF SCOPE
- OTHER COMMENTS/QUESTIONS

5

Comment (Considerations)

"Please, consider

- global warming."
- the health impacts."
- environmental impacts."
- jobs from coal resources."
- clean energy job creation."
- electric vehicles."

6

Comment (Study Process)

"Please, consider

- a comprehensive study."
- compliance with environmental regulations."
- resource diversification."
- low cost solutions."
- plant costs and revenues."
- a 6 month deadline."
- performing the IRP in-house."

7

Public (Resource Preferences)

"Please, change our resource mix to

- include more wind & solar renewables."
- phase out coal."
- reduce our reliance on fossil fuels"
- reduce our local demand and energy needs."
- reduce costs to the customer."
- include battery storage, if feasible."
- include low cost market purchases."

8

Public (Resource Preferences)

"Please, change our resource mix to

- include natural gas."
- require new homes/buildings & parking lots install solar panels."
- include no costly wind."

9

Comments (Public Engagement)

Give the public a voice by

- holding meetings with the council
- holding meetings outside council
- going into the community
- stakeholder advisory group
- IRP website

10

Comments (Informative)

"Please, understand

- all types of resource options."
- how modern IRPs are performed."
- fracking has problems, too."

11

Comments (Critical)

- The IRP process/model is flawed
- The EPA standards are flawed
- "Projections are farcical"

12

Comments (Out of Scope)

- Time of Use Rates
- Solar Farm Project Updates
- Ash Ponds
- Lake Springfield & Lake 2
- Health impacts studied/quantified
- EmberClear (Pawnee) plant impact
- Selling CWLP assets
- Comparing/considering “other reports”

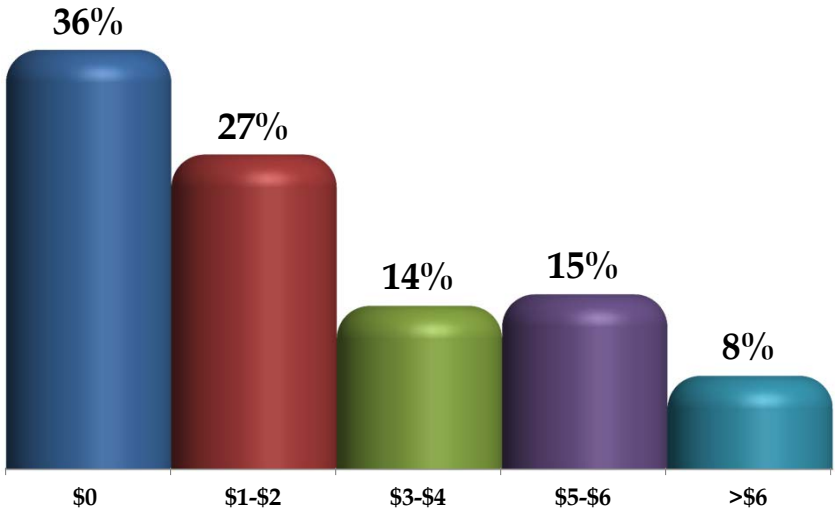
13

Comments (Other/Questions)

- Go beyond least-cost.
- Account for extreme volatility.
- Be open minded.
- Will FEJA be considered?
- Will our comments be influential?
- How is plant debt considered?
- Convert Dallman 4 to gas?
- Have we surveyed customer preferences?

14

Survey (Pay for Renewables)



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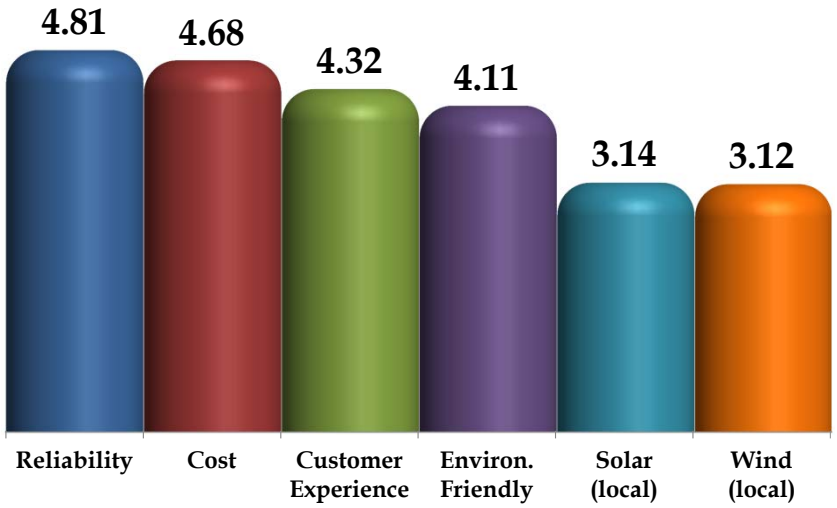
15

Survey (Customer Priorities)



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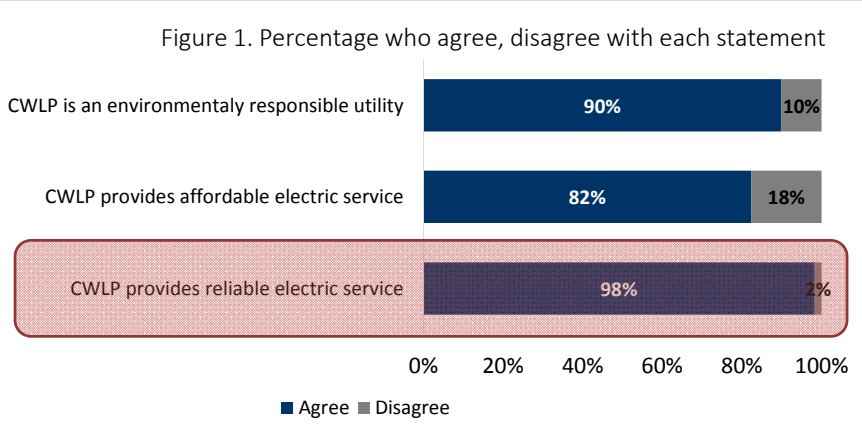
16

Survey (Reliability)

- Two Comments Received



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17

IRP PROCESS & PROGRESS

18

Why Does CWLP Need an IRP?

- Unprecedented Load Decline
- CAPEX for Environmental Regulations
- Low Energy & Capacity Prices
- Decreasing Costs of Gas, Wind & Solar

19

IRP Defined

An Integrated Resource Plan (IRP) is the result of a **comprehensive** planning study, which provides a recommended mix of supply- and demand-side resources a utility may use to meet its customers' **future** electricity needs.

20

What's Included

- A forecast over a 20-year time horizon.
- An assessment of supply-side generation resources.
- An economic appraisal of renewable and non-renewable resources.
- An assessment of feasible conservation and efficiency resources.
- **A *least-cost* plan for meeting the utility's requirements.**
- **An action plan.**

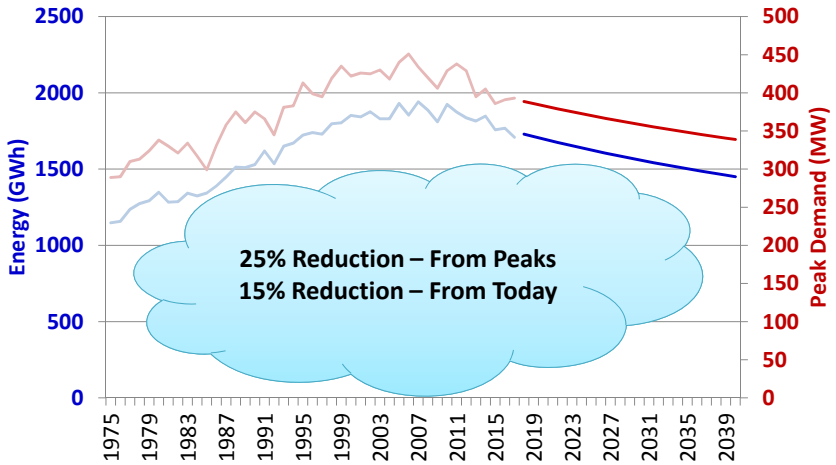
21

IRP Process Step 1
Load Forecast

- Econometric Load Forecast
- 20 Years
- Energy & Demand

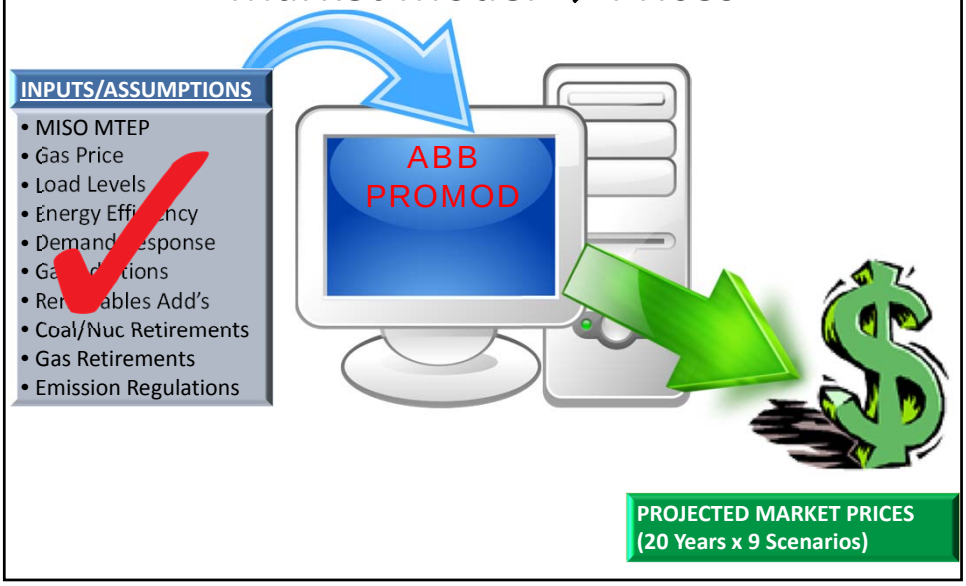
22

IRP Process Step 1
Load Forecast

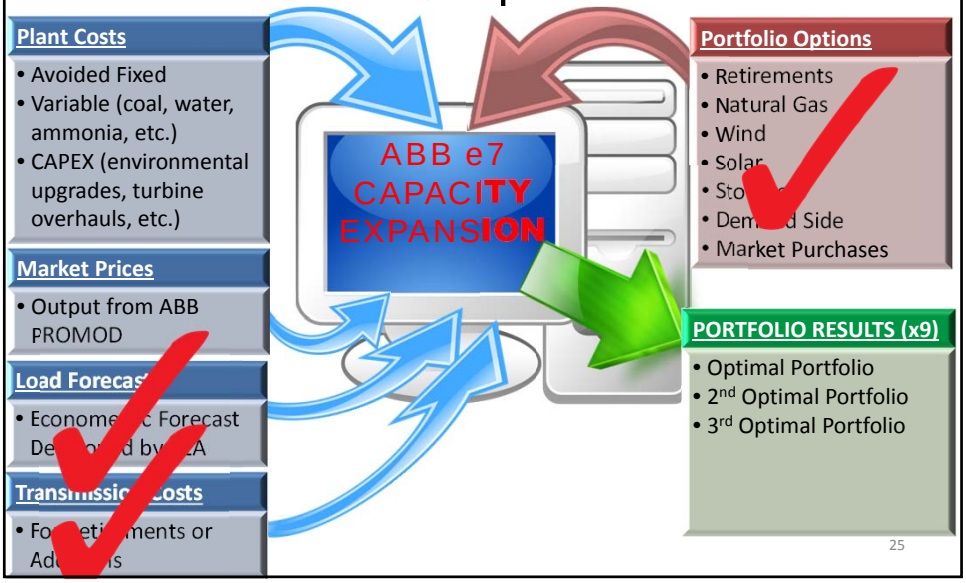


23

IRP Process Step 2
Market Model → Prices



IRP Process Step 3
CWLP Model → Optimal Portfolios



25

IRP Process (Step 4)

- TEA Presents Results
- Open House
- Create the Action Plan
- Execute the Action Plan

2019

26

IRP Input Decisions

- What are the nine Market Scenarios to give the model?
- What Portfolio Options should the model be allowed to make?

27

Scenarios

1.-4. MISO MTEMP Cases
(https://cdn.misoenergy.org/MTEP18%20Futures%20Summary111488.pdf)

5. High Coal Price
6. High Carbon Regulation
7. High Renewable Penetration
8. NYMEX Gas
9. Seasonal Extremes

28

Portfolio Options

- Retirement of up to all 4 Coal Units
- Add Wind/Solar
- Add Natural Gas Combustion Turbine
- Add Natural Gas Combined Cycle
- Demand Side / Energy Efficiency
- Battery Storage
- Capacity & Energy Purchases

29

IRP Schedule

Milestone	Milestone Dates - Effective 9/4/2018
CWLP Public Feedback Period	6/28/2018
Data Delivery from CWLP	9/6/2018
Final Review of Model Assumptions with CWLP	9/11/2018
Quarterly Committee Meeting	9/17/2018
Quarterly Committee Meeting	January (TBD)
Review Final IRP Document with CWLP	3/15/2019
Presentation at CWLP City Council	3/22/2019
Open House	April (TBD)

30

IRP CONSIDERATIONS
vs.
OTHER REPORTS

31

IRP Considerations

- Economics
- High Reliability
- Risk Reduction
- Alternative Investments (Transmission & Gen.)
- Forward Looking (future load & prices)
- Cost of Capacity, Energy and Ancillary Services
- Avoided Costs
- Environmental & Reliability Compliance
- Access to fuels (pipelines, coal, wind, solar)

32

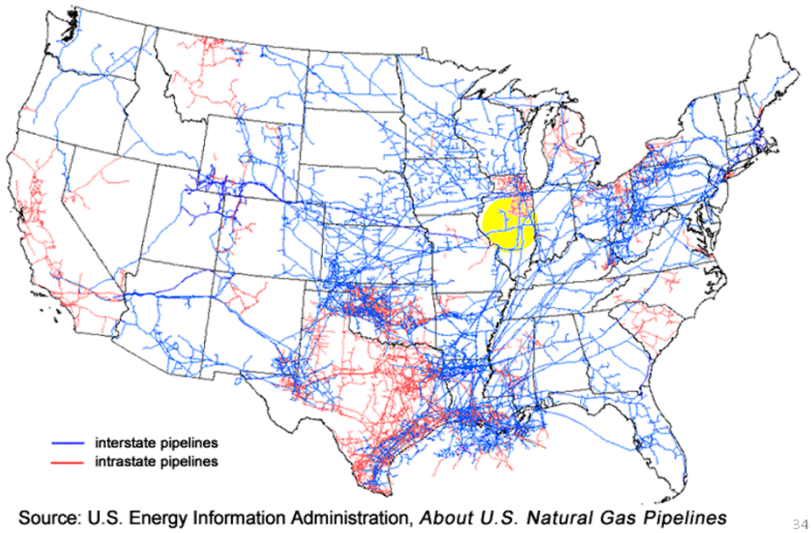
Coal Access

NREL: Fossil Fuel Reserves

33

Pipeline Access

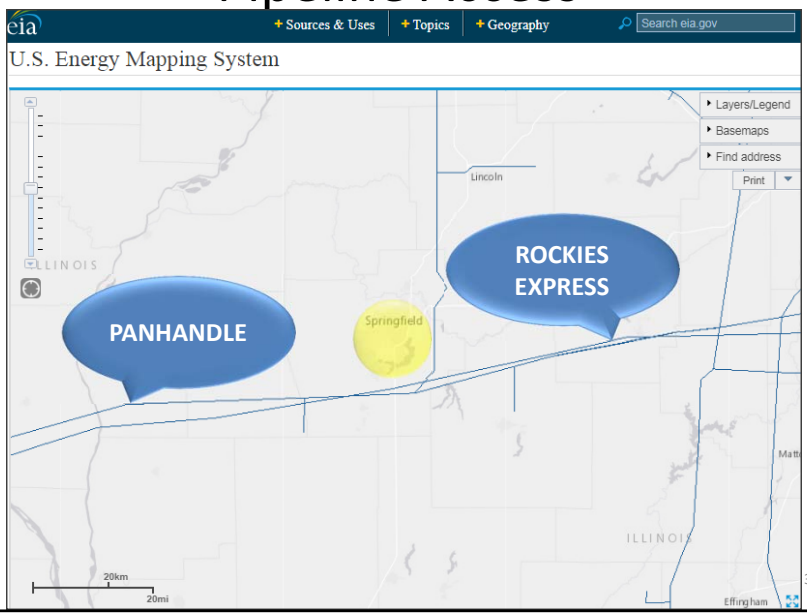
Map of U.S. interstate and intrastate natural gas pipelines



Source: U.S. Energy Information Administration, *About U.S. Natural Gas Pipelines*

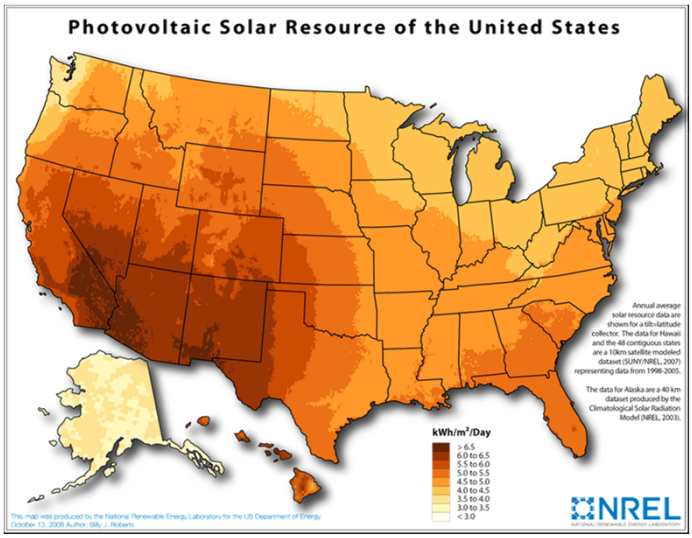
34

Pipeline Access



35

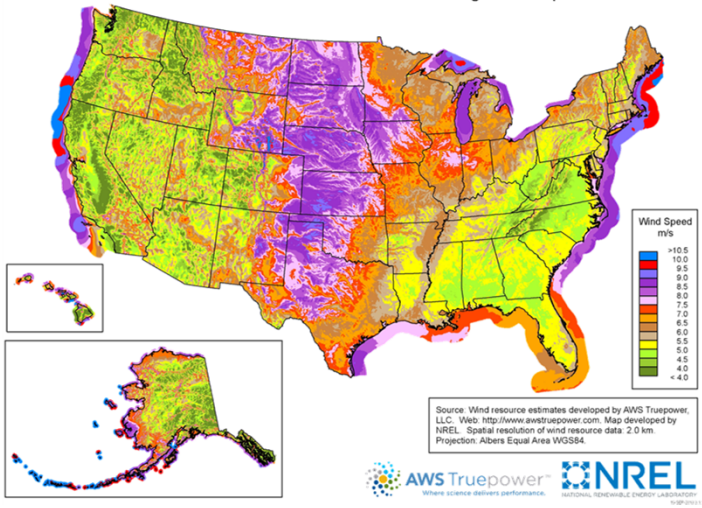
Solar Access



36

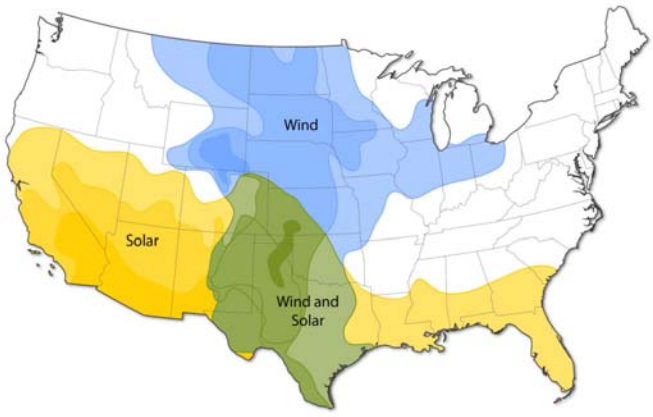
Wind Access

United States - Land-Based and Offshore Annual Average Wind Speed at 100 m



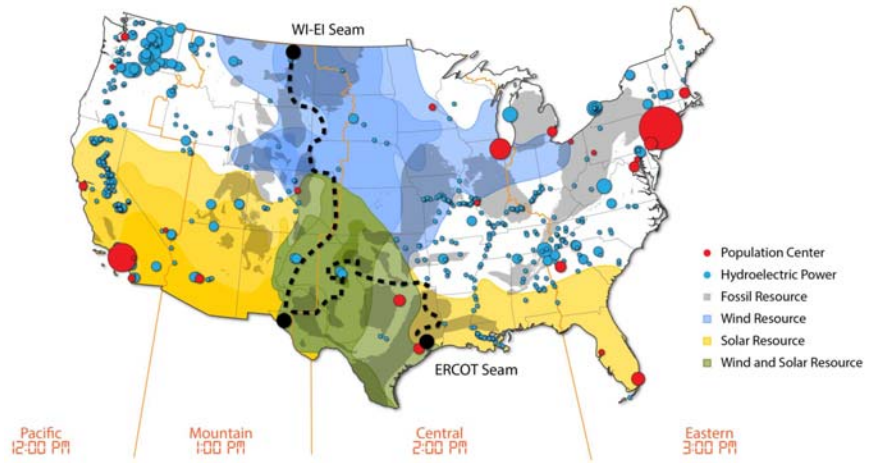
37

NREL: Wind & Solar Resource



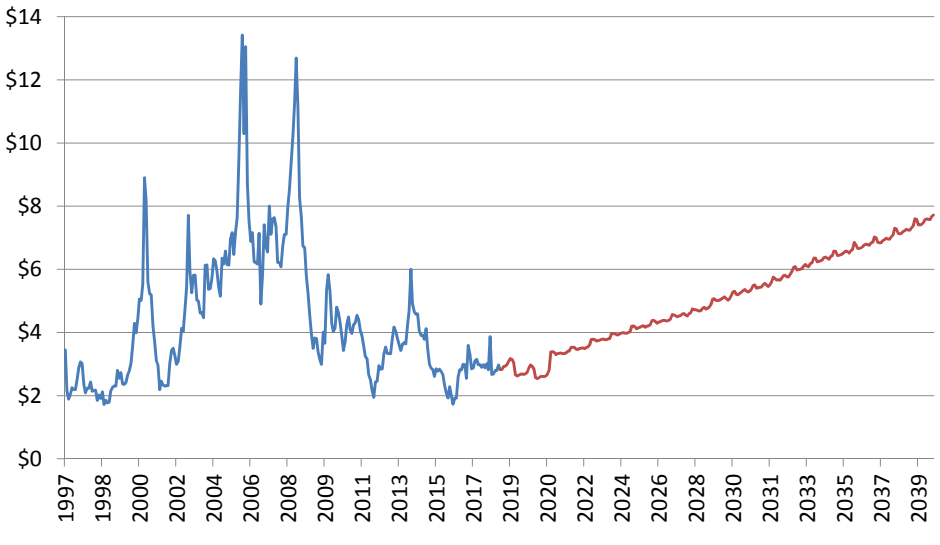
38

NREL: All Resources



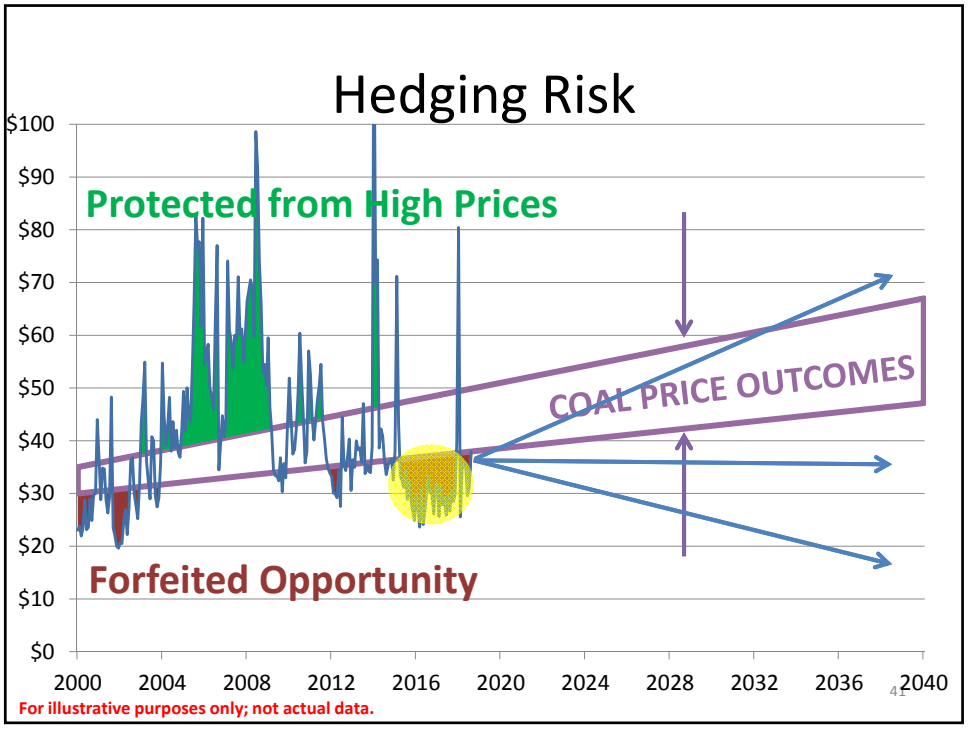
39

Natural Gas Prices



40

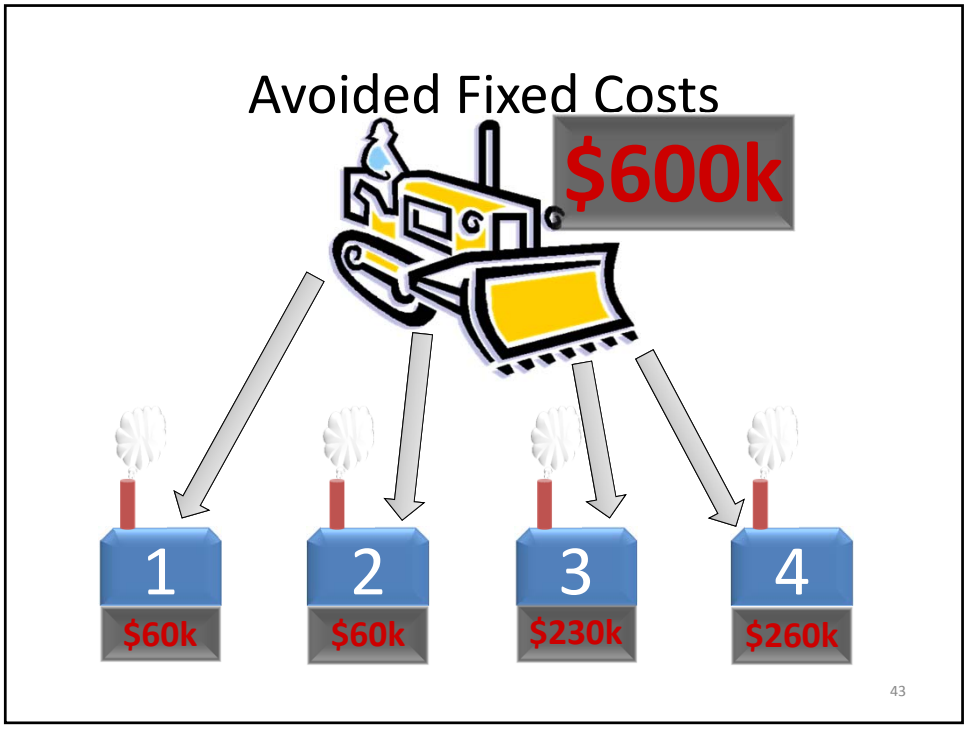
Reference: https://www.eia.gov/dnav/ng/ng_pri_fut_s1_m.htm

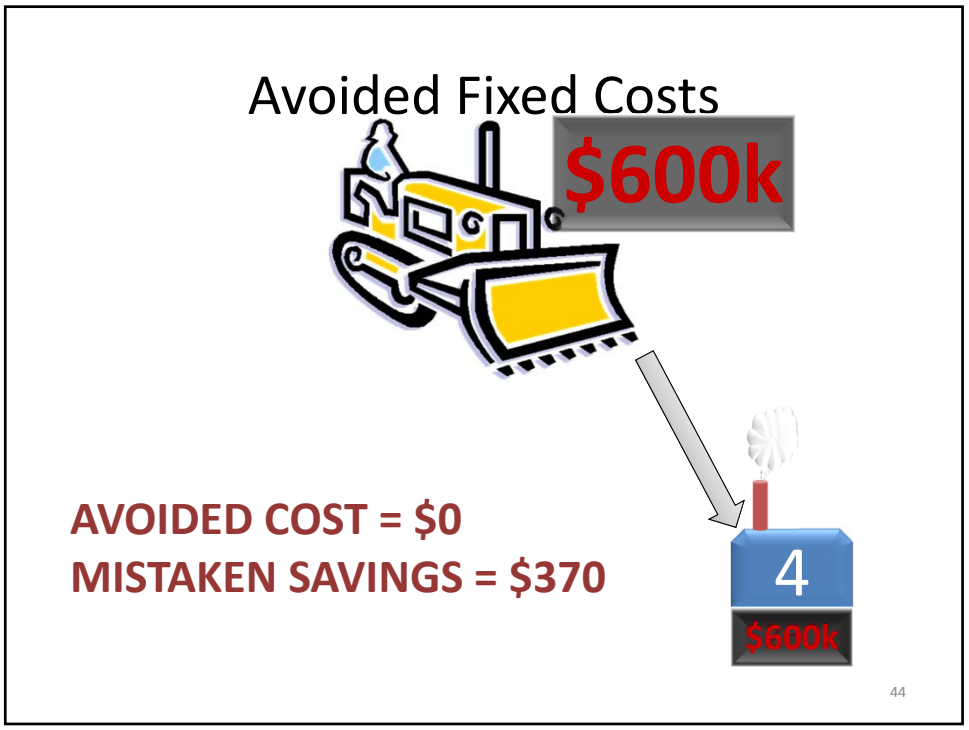


Plant Costs

- 769,498 line items
- Fixed costs don't matter
- Avoided costs matter

42


Avoided Fixed Costs
$600k
1
$60k
2
$60k
3
$230k
4
$260k
43


Avoided Fixed Costs
$600k
AVOIDED COST = $0
MISTAKEN SAVINGS = $370
4
$600k
44

Retiring Coal Units

	0 Dallman Units	Dallman 1+2	Dallman 1+2+3	Dallman 1+2+3+4
REALISTIC	✓	✓	✓	✓
TRANSMISSION UPGRADES		✓	✓	✗
REPLACEMENT GENERATION REQUIRED				✓

45

Other Reports

- Is access to market power considered?
- Are transmission investments considered?
- Is reliability considered?
- Are access to other fuels considered?
- Is the future considered?
- Is risk considered?
- Are only avoided costs considered?
- Are additional costs, such as capacity and ancillary services, included?
- Are lost wholesale revenues considered?

46