



Platte River
Power Authority

Estes Park • Fort Collins • Longmont • Loveland

Board of directors

March 28, 2019



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Wholesale rate projections

March 28, 2019

Lower long-term rate pressure

- August 2018
 - 2.0 percent annual increases from 2020 through 2030
- March 2019
 - 1.7 percent annual increases from 2020 through 2030
 - Revised municipal loads
 - Higher surplus sales volumes
 - Revenue increases offset by higher purchased power and fuel costs
- 2020 revised rate structure implementation has varying impact on owner communities



2020 owner community impacts

	Estes Park	Fort Collins	Longmont	Loveland
Long-term smoothing	1.7%	1.7%	1.7%	1.7%
Rate structure impact ¹	0%	(1.0%)	1.0%	1.0%
Total impact	1.7%	0.7%	2.7%	2.7%

- The board's preference has been long-term rate smoothing
- The rate structure change in combination with long-term smoothing exceeds the previously communicated 2.0 percent increase
- 2020 alternatives analyzed to mitigate owner community impact

¹ Owner community load factors have most significant impact in the transition to the proposed rate structure. Impacts are based on preliminary cost of service model estimates



2020 recommendation

	Estes Park	Fort Collins	Longmont	Loveland
Recommendation	0.0%	0.0%	0.0%	0.0%
Rate structure impact ¹	0.0%	(1.0%)	1.0%	1.0%
Total impact	0.0%	(1.0%)	1.0%	1.0%

- Platte River staff recommends foregoing a 2020 rate increase
- Platte River, due to past board action, has the financial flexibility to mitigate the owner community impacts

¹ Owner community load factors have most significant impact in the transition to the proposed rate structure. Impacts are based on preliminary cost of service model estimates



Rate recommendation

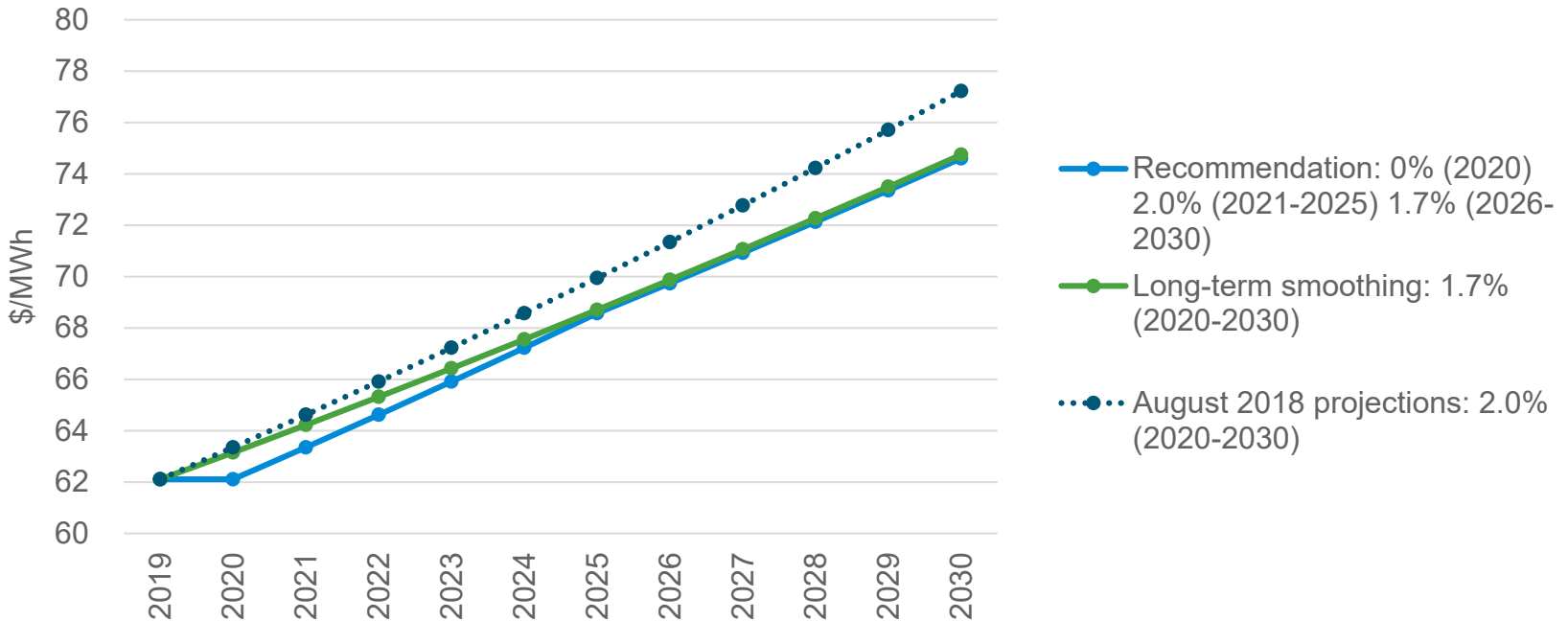
	Rate projections	2020	2020 – 2025	2020 – 2030
August 2018	2.0% (2020-2030)	2.0%	12.6%	24.3%
Long-term smoothing	1.7% (2020-2030)	1.7%	10.6%	20.3%
Recommendation	0.0% (2020) 2.0% (2021-2025) 1.7% (2026-2030)	0.0%	10.4%	20.1%

- Mitigates 2020 impacts to the owner communities
- Maintains Platte River’s long-term financial sustainability
- Higher increases (2021-2025) compared to long-term 1.7 percent smoothing to adjust for one less year of rate smoothing

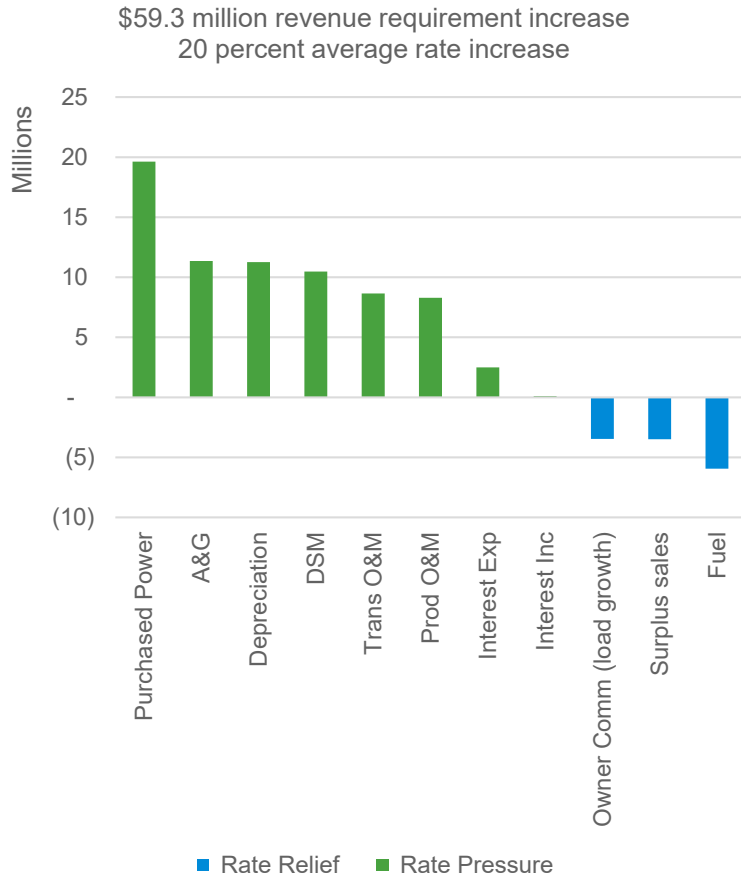


Rate recommendation

\$59.3 million revenue requirement increase
20 percent average rate increase



Rate drivers: 2019 to 2030



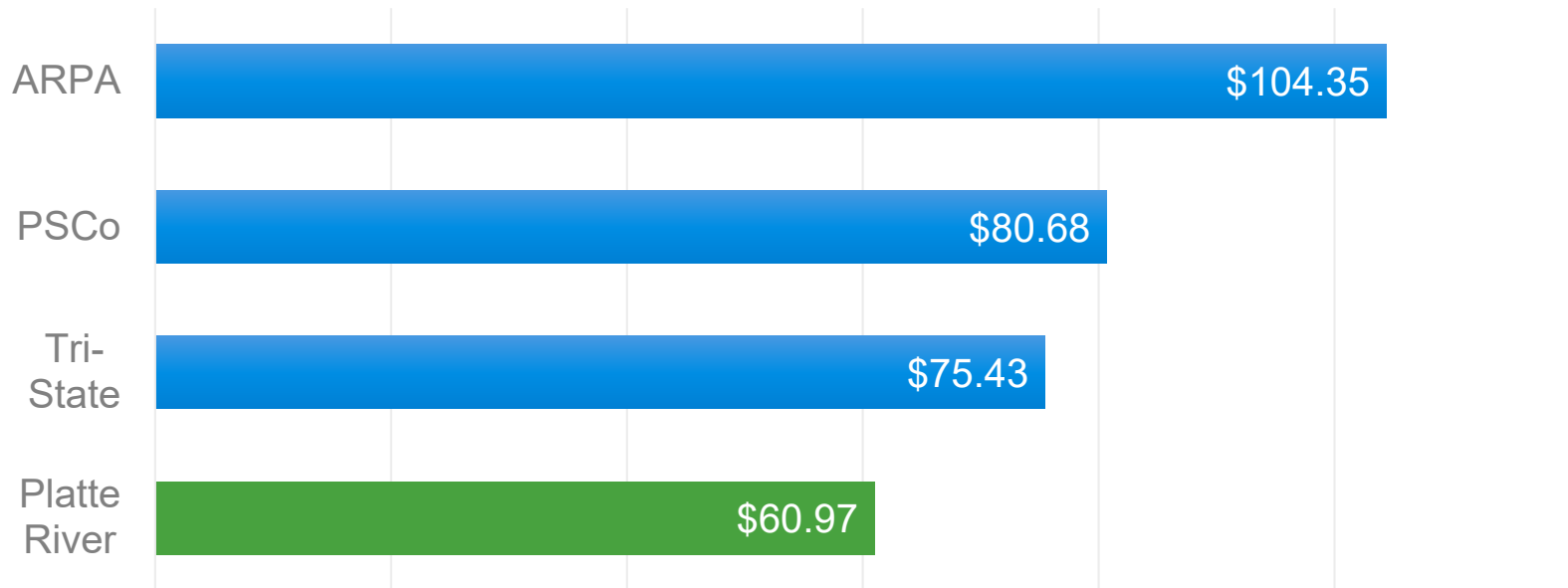
Category	Activity
Purchase Power	<ul style="list-style-type: none"> Increased non-firm to replace Craig Wind and solar PPA
A&G	<ul style="list-style-type: none"> Staffing and inflation
Depreciation	<ul style="list-style-type: none"> Windy Gap, HQ campus, capital plan
DSM	<ul style="list-style-type: none"> Increasing investment
Trans O&M	<ul style="list-style-type: none"> Ancillary services and inflation
Prod O&M	<ul style="list-style-type: none"> Inflation, new generation capacity (Craig retirements)
Surplus sales	<ul style="list-style-type: none"> Transmission sales, energy prices (Craig volumes)
Fuel	<ul style="list-style-type: none"> Craig retirements (CTs, inflation)





Rate competitiveness

2018 wholesale rate comparison



Platte River's average wholesale rate is 19 percent lower than the next lowest regional provider





Next steps

2020 proposed charges

2020 charges proposed in April, seeking approval in May

2020 proposed monthly charges	Recovery method	Period
Owner	Per percent owner community energy	Year-round
Demand: transmission	Per kW owner community system member demand (non-coincident peak) or minimum	Year-round
Demand: generation	Per kW System Coincident Peak or minimum	Summer Non-Summer
Energy: dispatchable fixed	Per kWh for all energy supplied	Year-round
Energy: dispatchable variable	Per kWh for dispatchable energy supplied	Year-round
Energy: intermittent variable	Per kWh for intermittent energy supplied	Year-round
Energy: Tariff 7 legacy	Per kWh for Tariff 7 energy supplied	Year-round



Rates schedule

		2019						2020
		Mar	Apr	May	Jun – Sep	Oct	Nov – Dec	Jan
Follow up and owner community support as needed	Councils, staff, customers							
2020 average rate increase and long-term rate projections	Board information							
2020 proposed rate structure and charges	Board information							
2020 tariffs approved by the BOD	Board action							
2020 tariffs effective								



Questions



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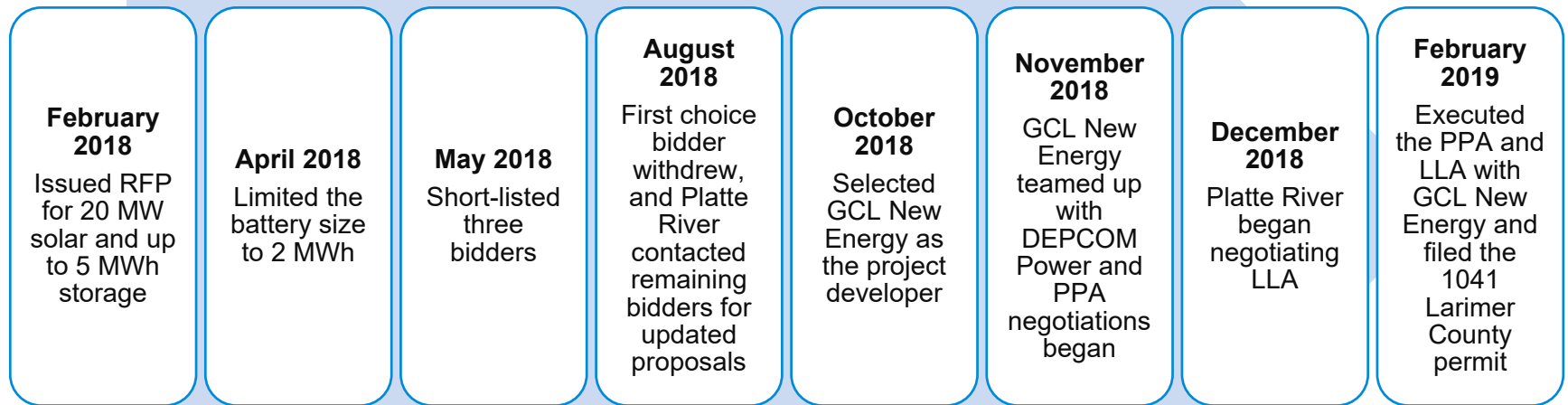
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20 MW solar/battery update

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Background

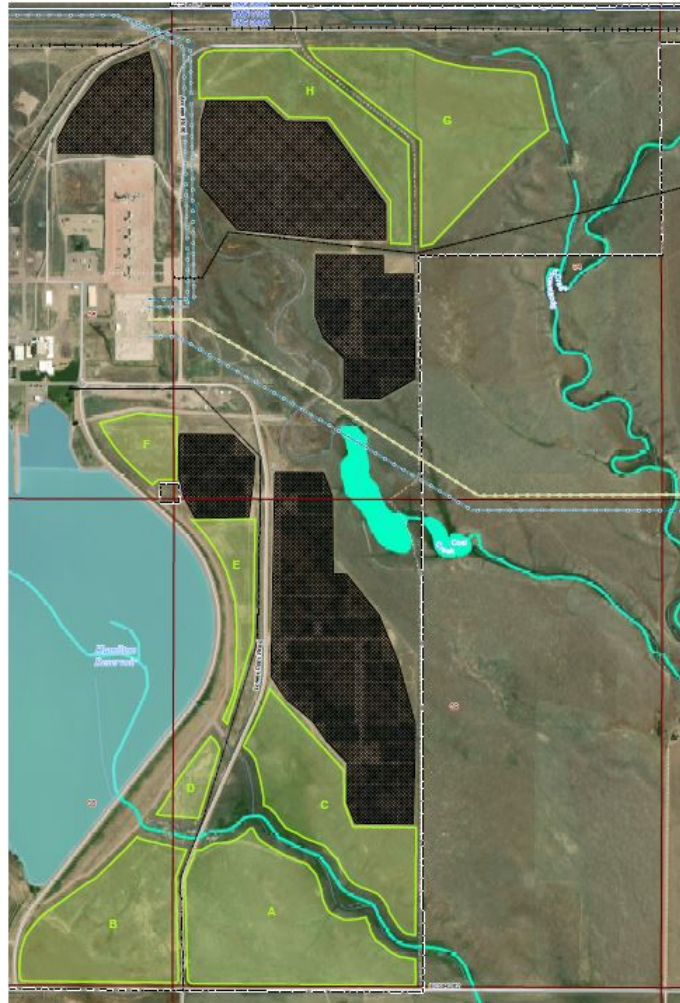


Solar project

- Nameplate capacity: 20 MW
- Year 1 annual generation estimate: 52,000 MWh
- PPA price: Approximately half the price of Rawhide Flats solar
- Estimated interconnection cost: \$2.00/MWh
- Single axis tracking (same as existing Rawhide solar)
- High capacity factor (30 percent) due to clipping of solar output during peak times



Proposed site – constraint map



Storage project

- Tier 1 battery vendor (e.g. LG Chem, Samsung)
- Battery size (year 1):
 - 2 MWh maximum discharge capability
 - 1 MW discharge capacity
- Battery degrades over two percent per year:
 - Maximum degradation of 20 percent
- Round-trip efficiency of 90 percent



Battery charging implications

- During initial five years, battery must be charged by 20 MW solar project
- After initial five years, battery may be charged by grid
- Unless Platte River owns battery, any charging from grid may be considered a retail purchase from Poudre Valley REA:
 - Retail purchases to charge battery would not be economical
 - Platte River could purchase battery after five years
 - If Platte River purchases battery, it must be purchased at market value, due to IRS requirements



Timeline

February 2019	Execute PPA and LLA
February 2019	File 1041 permit with Larimer County
May 2019	Larimer County Planning Commission public hearing
June 2019	Larimer County Commissioners public hearing on 1041 permit
June 2019	Finalize development plans
August 2019	Site prep and commence construction
March 2020	Commercial operation date



Takeaways

- The solar project will serve approximately 1.5 percent of Platte River's total member load, after the commercial operation date
- The battery project will give Platte River an opportunity to understand communication needs as well as the battery's limitations and will provide an opportunity to learn how to maximize the value of this resource



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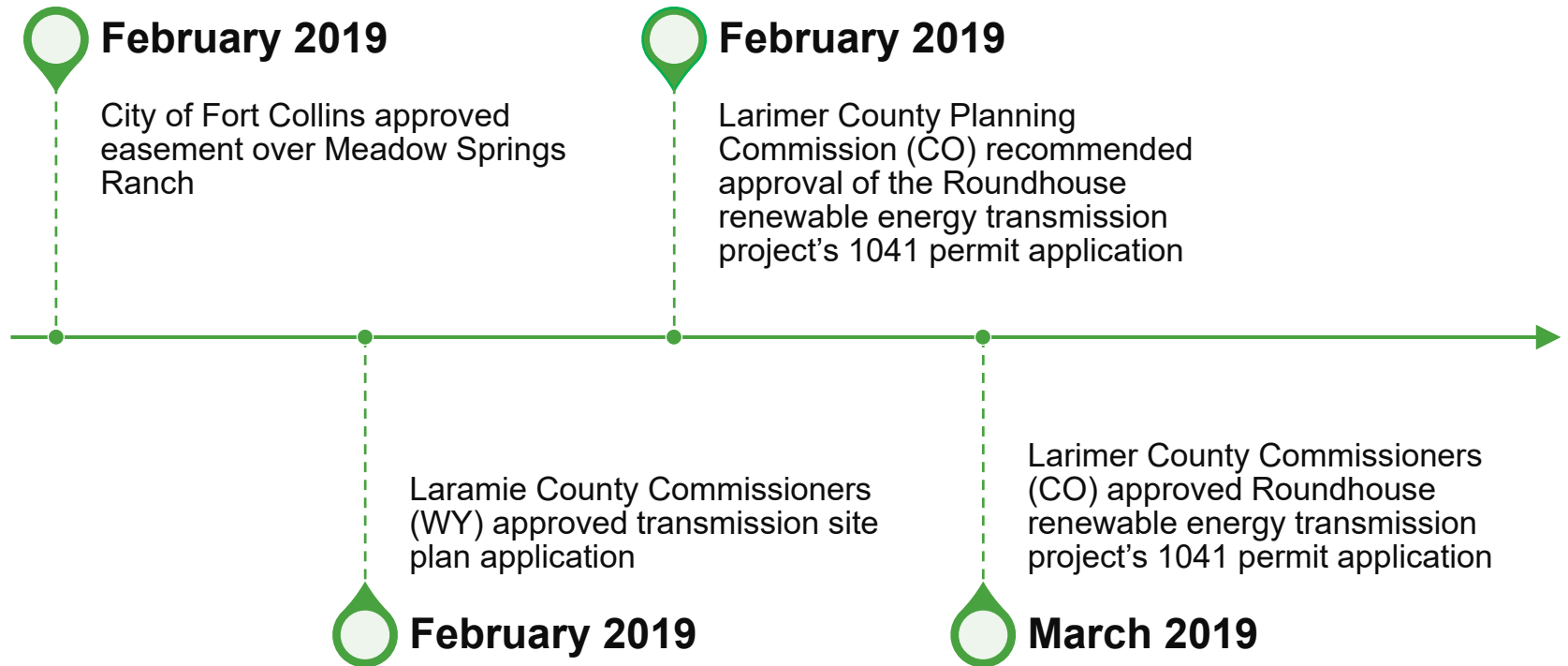
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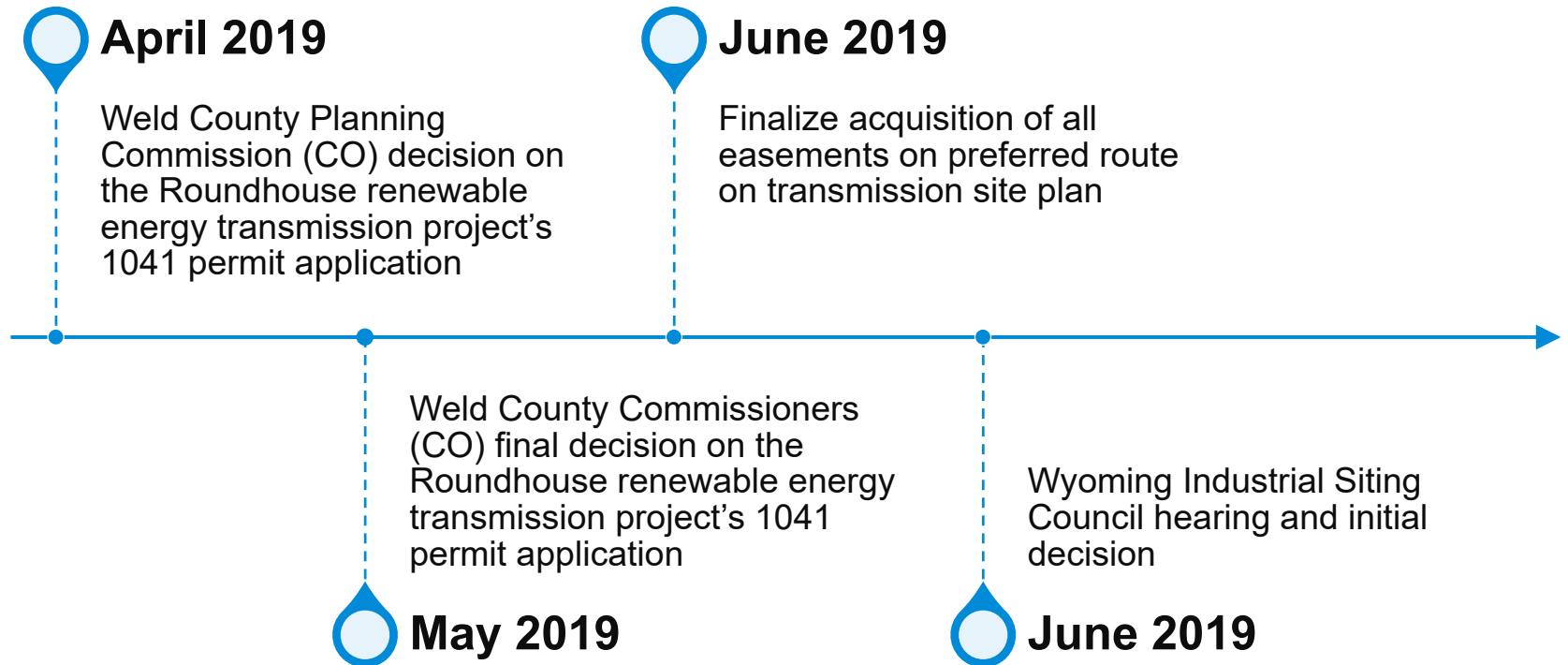
Wind interconnection update

March 28, 2019

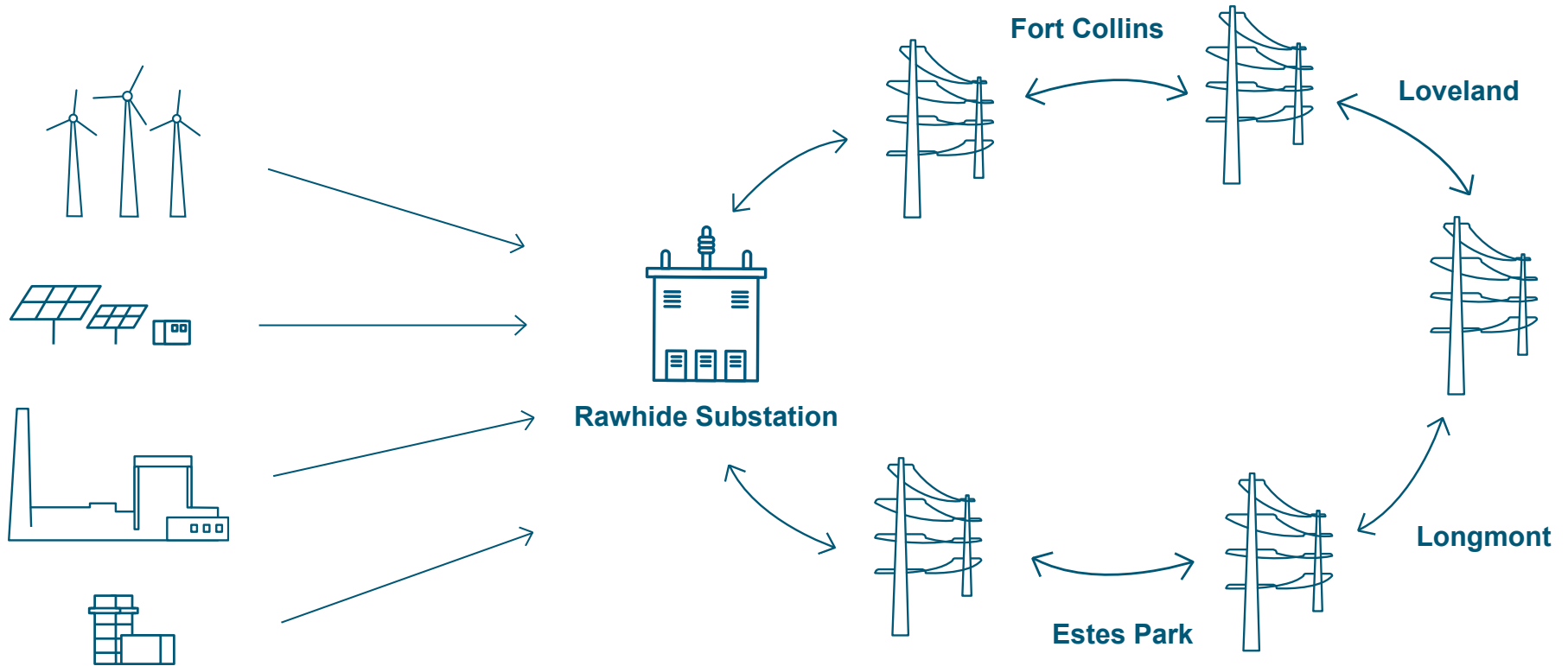
Timeline



Timeline



Generator outlet vs. transmission line



Terms of purchasing generator outlet

- Purchase generator outlet (transmission line and substation interconnection facilities) for an estimated cost of \$19.8 million on or close to the Dec. 1, 2020, commercial operation date
 - \$950,000 per mile (estimated 19 miles)
 - \$1.75 million in substation interconnection costs
 - Estimated net present value of -\$6.0 million
- Generator outlet constructed to Platte River's standards
 - Steel poles, cement foundations and no guy wires
 - 72 fiber strand OPWG
 - NextEra will provide light detection and radar (LIDAR) data for the entire generator outlet line

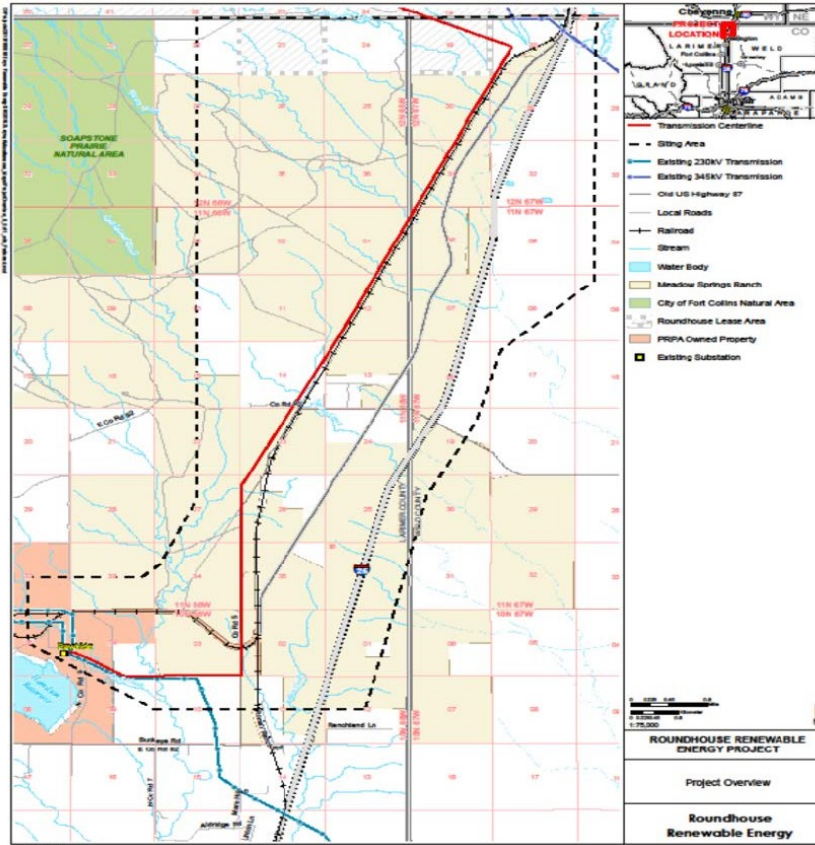


Terms of purchasing generator outlet

- Power purchase agreement (PPA) purchase price reduced \$2.00/MWh
- Platte River agrees to purchase an additional 15 MW of wind at the same discounted price of the initial 150 MW purchase, to replace 12 MW of wind sold to third party
- Option to purchase an additional 60 MW of wind extended until July 1, 2019
- Platte River is not responsible for wind that could not be generated during any planned or unplanned generator outlet transmission line outage that limits deliveries into the Rawhide Substation



Benefits of the generator outlet purchase



- Ensure line is built to Platte River's standards
- Retain greater control over future deliveries into the Rawhide Substation
- Access to future renewables in Wyoming with potential expansion capability, since Platte River owns line and easement (line capacity of at least 400 MW)
- Provides negotiating leverage to potentially obtain future renewables at a lower cost
- Third-party use of the transmission line or generator outlet facility will require them to pay Platte River



Key takeaways

- Roundhouse wind project is ahead of schedule which may allow construction to commence this fall
- Generator outlet ownership will provide greater opportunities to add additional renewables in the future at a lower cost
- Risk of being required to purchase wind during generator outlet outage or limitation is mitigated
- Extending the option to purchase additional wind until July 1, 2019, will provide an opportunity to pursue sales from Craig generation and test Rawhide Unit 1 at lower minimum levels



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February operational results

Category	February variance		YTD variance	
Municipal demand	(2.6%)	■	(5.2%)	■
Municipal energy	(3.9%)	■	(2.2%)	■
Baseload generation	(1.7%)	◆	(6.5%)	■
Wind generation	(18.9%)	■	(10.4%)	■
Solar generation	(4.9%)	■	1.4%	◆
Surplus sales volume	33.3%	●	27.1%	●
Surplus sales price	49.8%	●	40.1%	●
Dispatch cost	(2.5%)	●	(2.7%)	●

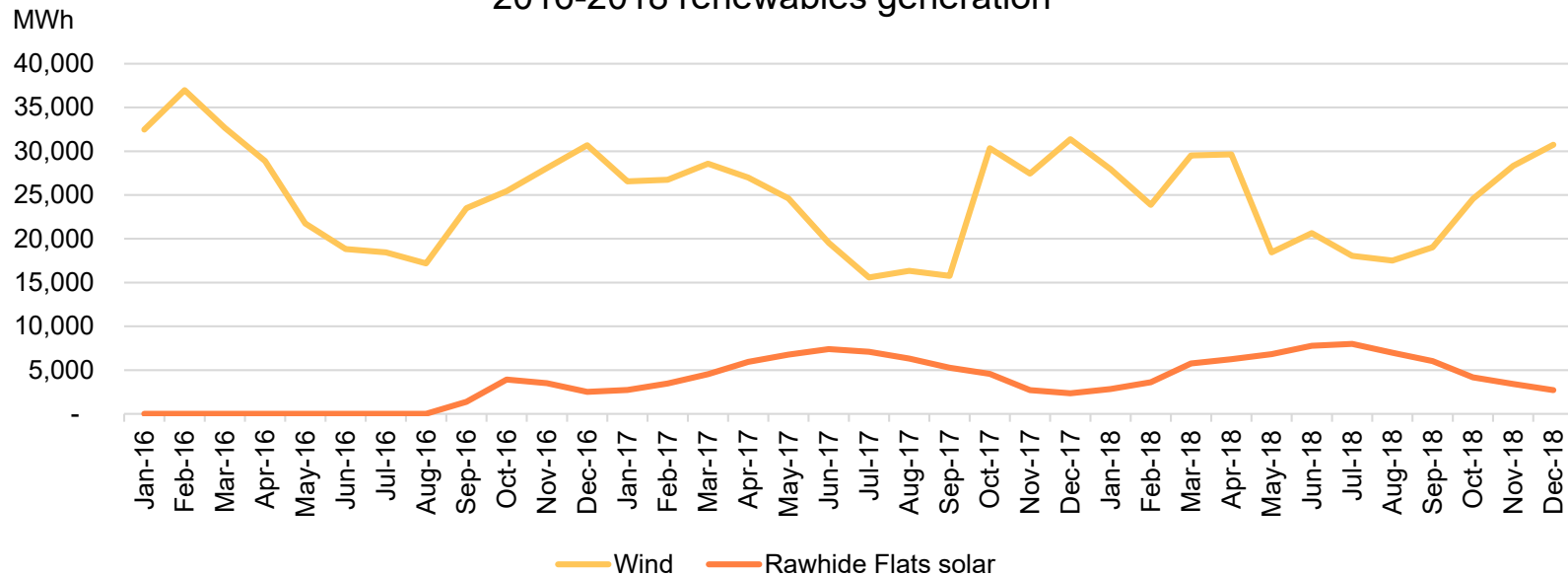
Variance key: Favorable: ● >2% | Near budget: ◆ +/- 2% | Unfavorable: ■ <-2%



36-month renewables performance

Renewable resources	36 month budget (MWh)	36 month actual (MWh)	36 month goal achievement	36 month variance
Spring Canyon Phase II	390,293	394,446	101.06%	1.06%
Spring Canyon Phase III	330,248	335,711	101.65%	1.65%
Silver Sage	111,972	107,994	96.45%	-3.55%
Medicine Bow	51,903	54,943	105.86%	5.86%
Total wind	884,415	893,094	100.98%	0.98%
Solar - Rawhide Flats	146,952	134,830	91.75%	-8.25%
Total solar	146,952	134,830	91.75%	-8.25%
Total renewables	1,031,368	1,027,924	99.67%	-0.33%

2016-2018 renewables generation





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Financial summary

Category	February variance from budget (\$ in millions)	Year to date variance from budget (\$ in millions)
Net income	\$1.5 ●	\$3.5 ●
Fixed obligation charge coverage	.95x ●	1.07x ●
Revenues	\$1.2 ●	\$2.2 ●
Operating expenses	\$0.3 ●	\$1.1 ●
Capital additions	\$1.6 ●	\$2.6 ●

> 2% ● Favorable | 2% to -2% ◆ At or near budget | < -2% ■ Unfavorable



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