

DRAFT MINUTES

**TOWN OF APEX
TOWN COUNCIL WORK SESSION
TUESDAY, SEPTEMBER 19, 2023
3:30 P.M.**

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The Apex Town Council met for a work session on Tuesday, September 19, 2023 at 3:30 p.m. at the Apex Town Hall located at 73 Hunter Street in Apex North Carolina.

This meeting was open to the public. Members of the public were able to attend this meeting in-person or watch online via the livestream on the Town’s YouTube Channel: <https://www.youtube.com/watch?v=3W5fcSjWifI>

[ATTENDANCE]

- Elected Body
- Mayor Jacques K. Gilbert (presiding)
- Mayor Pro-Tempore Audra Killingsworth
- Councilmember Brett Gantt
- Councilmember Ed Gray
- Councilmember Terry Mahaffey
- Councilmember Arno Zegerman
- Absent: None

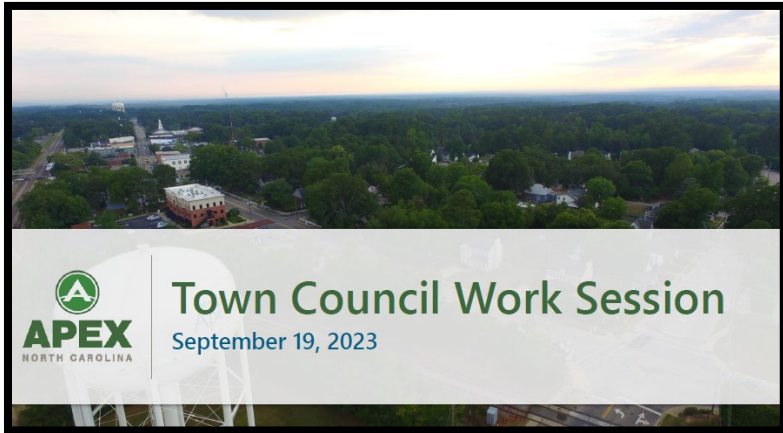
- Town Staff
- Interim Town Manager Shawn Purvis
- Assistant Town Manager Demetria John
- Assistant Town Manager Marty Stone
- Town Attorney Laurie Hohe
- Town Clerk Allen Coleman
- Deputy Town Clerk Ashley Gentry
- Electric Utilities Director Eric Neumann
- Budget and Performance Director Amanda Grogan
- Finance Director Antwan Morrison
- All other staff members will be identified appropriately below.

[COMMENCEMENT]

Mayor Gilbert called the meeting to order at 3:38 p.m. and led the Pledge of Allegiance.

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1 **[SLIDE-1]**



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4 **[AGENDA ITEM NO. 1 - NORTH CAROLINA DEPARTMENT OF**
5 **TRANSPORTATION (NCDOT) RECONNECTING COMMUNITIES AND**
6 **NEIGHBORHOODS GRANT - S-LINE RAIL CORRIDOR - MOBILITY HUB FUNDING**
7 **MATCH]**

8 **Shannon Cox**, Long-Range Planning Manager, gave an overview of the funding. She
9 added this was presented to Council at the September 12, 2023 Town Council meeting. She
10 said the requested motion before Council is to approve a Resolution of Support and Letter of
11 Commitment, that would authorize 20% match for the grant, totaling 460,000 thousand
12 dollars and to authorize the Interim Town Manager to execute on behalf of the Town.

13 **Councilmember Zegerman** asked if 460,000 thousand dollars came out of reserves.

14 **Ms. Cox** said NCDOT indicated that the town can spread the funding out over
15 multiple budget years.

16 **Interim Town Manager Purvis** said the town doesn't have plans for the funding this
17 year. He stated this commitment would include this project on the CIP moving forward.

18 **Mayor Gilbert** said the motion has been presented.

19 A **motion** was made by **Councilmember Gantt**, seconded by **Councilmember**
20 **Zegerman**, to approve a Resolution to Support Development of the S-Line Rail Corridor and
21 to Provide Local Funding to Match a Federal Grant Opportunity for Mobility Hub Design and
22 Project Development Activities, and to authorize the Interim Town Manager to sign the Letter
23 of Commitment.

24

25 **VOTE: UNANIMOUS (5-0)**

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1 **[ITEM NO. 2. ELECTRIC UTILITY PRESENTATION] (REF: RES-2023-061 and**
2 **OTHER-2023-092)**

3 **Interim Town Manager Shawn Purvis** stated it's important to be prepared for the
4 future and to make sure the town is planning for growth. He stated not just the physical
5 growth of the town but also how the demand on the electric system is growing. He stated
6 direction will be asked of Council and stated these items will be reflected in the next budget.

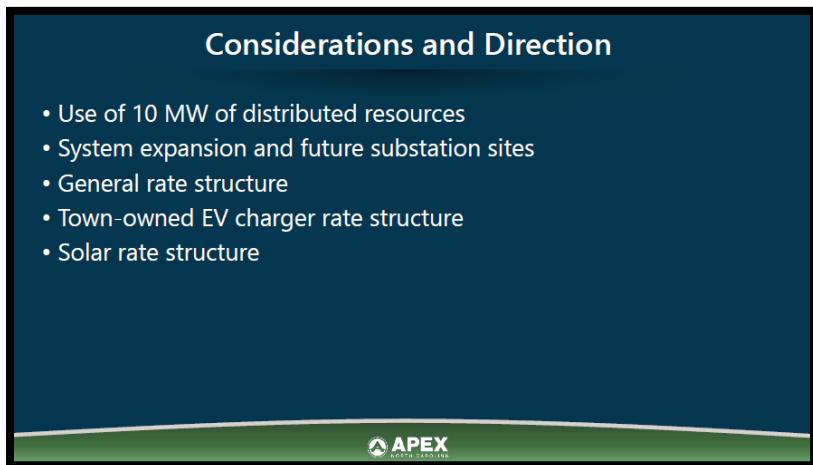
7 **Eric Neumann**, Electric Utilities Director, gave an overview presentation of electric
8 utilities bulk power, distribution system investments, load management issues & options, and
9 a discussion on EV Charger usage.

10 **[SLIDE-2]**



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12 **[SLIDE-3]**



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1 [SLIDE-4]

Bulk Purchase from Duke


- 2/3 of monthly bill is demand, 1/3 is energy
- Town recoups cost through our rates, which is generally based on energy usage profiles
- June 2023 bill

MEMBER	BILL DATE	DUE DATE	FOR SERVICE	TOTAL DUE
APEX	07/10/23	07/20/23	06/01/23 - 06/30/23	\$3,170,089.99

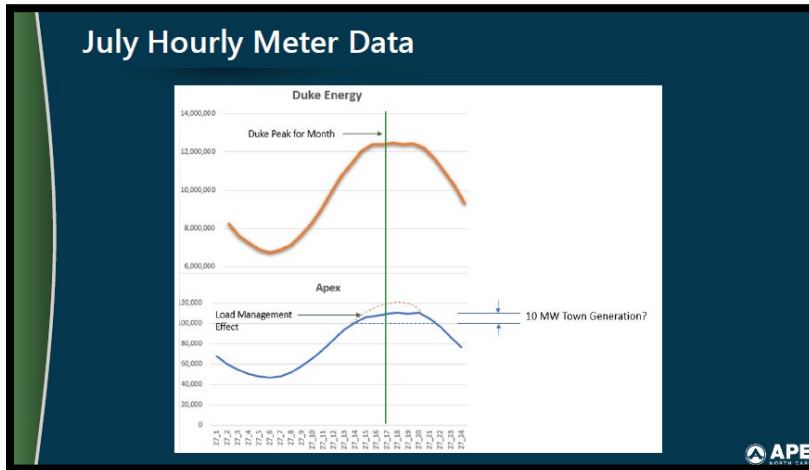
Wholesale Power Service Schedule FR-8

DESCRIPTION	RATE	QTY	AMOUNT
Demand Charges:			
All Demand	\$21.17/kW	96,782	2,048,874.94
Energy Charges:			
Monthly Energy Charge	\$.02673/kWh	37,672,000	1,006,972.56

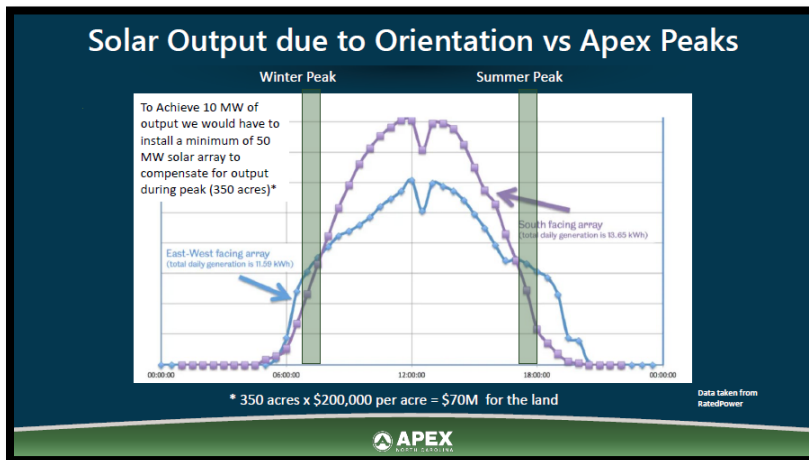
NCEMPA: DEP BILLING PEAK: 06/26/2023@18:00, 11,371 MW (09:19grd/mj)



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3 [SLIDE-5]



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5 [SLIDE-6]

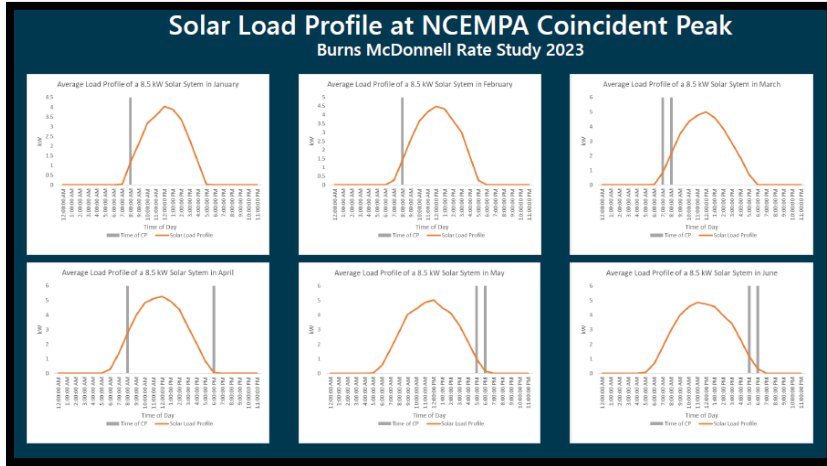


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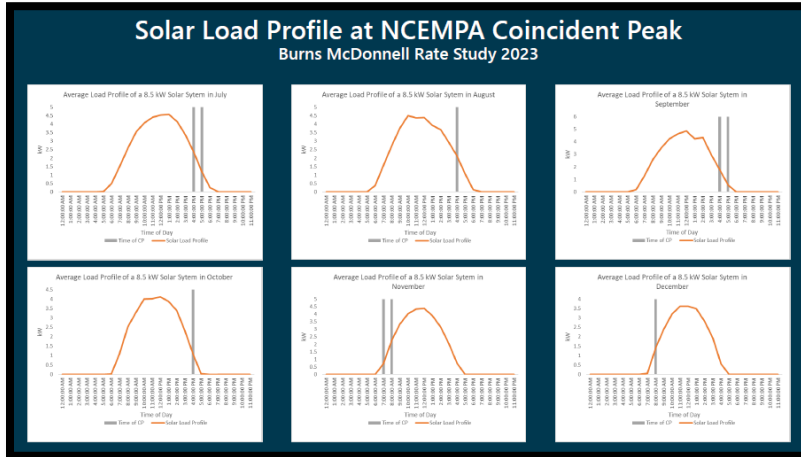
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1 [SLIDE-7]



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3 [SLIDE-8]




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5 [SLIDE-9]

Distributed Resources- Allocation of 10 MW

- Recent change with Full Requirements contract* allows Apex to install Approximately 10 MW of generation that can be used to offset peak demand. This number will be adjusted annually and will go up over time.
- How does Apex intend to use this allocation?
- Monthly savings = \$230,000 based on 10 MW @\$23/kW

*The Full Requirements contract with Duke guarantees supply of power at the agreed upon price. Apex is mostly shielded from any rolling blackouts to help with high energy demand periods.






6
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1 [SLIDE-10]


Generation Options*

- Battery Storage \$15M + fuel cost
- Natural Gas Generators \$10M + fuel cost
- Gas Turbine Generators \$7M + fuel cost
- Sell / Lease credits (not feasible at this time)



* Note: Solar is non-dispatchable and would not meet intent to reduce peak demand (a utility scale 10 MW of solar would occupy minimum 70 acres, @ 20% output you would need 350 acres minimum to hit 10 MW at peak)

<https://www.enr.com/resources/story/installed-natural-gas-generator-construction-cost-in-the-us-by-type/>




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3 [SLIDE-11]

Battery Storage

- Solution is dispatchable and reliable
- Could structure contract w/vendor to finance/maintain/operate (extends payback period)
- Could couple w/solar array to recharge (part or all) batteries (no payback possible)
 - Cost to recharge from Duke approx. \$600 each cycle
 - Cost to recharge from Solar
 - Partial charge 1 MW system (\$1.5M for solar array*, \$1.4M for 7 acre land purchase + cost to top off batteries from Duke < \$600)
 - Full charge (6 Hr recharge) est. 10 MW system (\$15M for solar array*, \$14M for 70 acre land purchase @\$200,000 per acre)

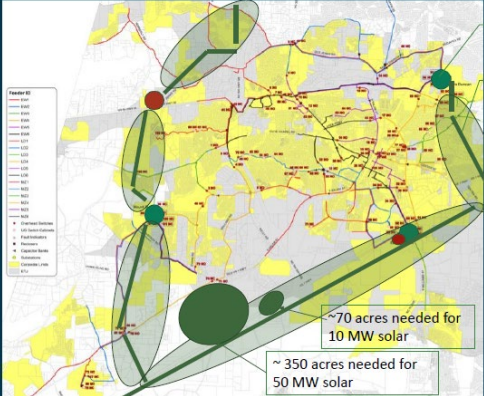
*Cost estimates from Colwell Solar and GTM (Greentech Media) Research



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5 [SLIDE-12]

Bulk Power Expansion Plan and Land Acquisition



- Existing Substation
- Existing Transmission

\$3M – East Williams Expansion – Necessary for expansion of Veridea Property



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1 [SLIDE-13]

Substation Maintenance


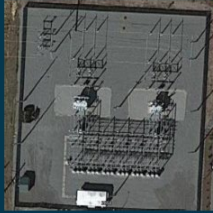
Laura Duncan (\$660K+)

- Replace Recloser HV Units 2023 (\$150K)
- Integrate Regulators into SCADA (\$10K)
- Replace High Voltage Breakers / Relays (\$500K)



Mt Zion (\$230K+)

- Replace Regulator Controls 2024 (\$100K)
- Overhaul 18 Regulators 2024 (\$120K)
- Integrate Regulators into SCADA (\$10k)




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3 [SLIDE-14]

General Construction / Maintenance Costs

- Current rates cannot support material price increases
- Material cost increases:
 - Transformers (200% or 3x)
 - Wire (300% or 4x)
 - Lighting fixtures (100% or 2x)
 - LED changeout program originally estimated in 2019 @\$1.5M is now estimated @ over \$3M
- Material delivery dates still excessive (over 1 year in some cases)




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5 [SLIDE-15]

Time Dependency of Usage

- TOU Rates
 - Not all kW-hours created equal
 - Pass savings on to customers for off peak usage
 - Accurately charge users on peak their share of bulk purchase
 - Drives usage behaviors that allow us to control costs and pass savings on appropriately
- Transition Plan
 - Requires AMI to implement (approx. 2 years out)
 - Consider displaying 2 bills for 1 year : standard rate (flat kWhr) and TOU rate (on/off peak)
 - Would allow customers to alter usage without any impact to bill for 1 year period
 - Develop interim rate and refine as AMI data becomes available
- Option - Move towards unbundled rate structure- 100% fixed costs recouped via fixed charge



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1 [SLIDE-16]

Potential Successful Behavioral Changes (TOU)

- Customers shift discretionary load off-peak reducing the largest component of our Duke Energy bill
- Revamp load management program to reduce peak demand charge and eliminate payments to residences signed up for load control (avoided costs for peak energy will provide compensation)
- TOU may eliminate issue with EV charging on peak without spending money and time to implement control mechanism

APEX ENERGY SOLUTIONS

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3 [SLIDE-17]

EV Charger Concerns

- Charging on peak impacts our cost
- System cannot support level 3 fast chargers
- Level 2 chargers need to be throttled during peak
- Commercial
 - Cost recovery for the required infrastructure to support
 - Chargers installed under general meter

APEX ENERGY SOLUTIONS

4

5 **Councilmember Mahaffey** asked if these would be town-owned EV chargers.

6 **Director Neumann** said yes, these would be town-owned chargers.

7 **Councilmember Zegerman** asked how an EV charger would be throttled without
8 load management.

9 **Director Neumann** said a lot of them were programmable, so the town could
10 program them to work that way.

11 **Interim Town Manager Purvis** said residential or commercial customers who
12 installed EV chargers would have to do that and pay for it on their own.

13 **Councilmember Zegerman** asked if it would only cover 1/3 of the power bill.

14 **Director Neumann** said yes, they just have to make sure they are able to cover their
15 rates.

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1 **[SLIDE-18]**

Impacts of Conversion to 100% EV's

- Assumptions:
 - 100% conversion to EV's- each residence will have 1 EV charger
 - EV demand on residential service will double load predictions for planning purposes
- Upgrades needed
 - 20% of installed cable system
 - 80% of installed transformer capacity
 - 2 additional substations to add to bulk capacity
- Rough costs:
 - Upgrade 450 miles of underground primary cable- @ 20% replacement due to load
 - 500,000ft x \$30/ft = \$15M
 - 5,500 service transformers- @80% needing upgrading
 - 4,400 units x \$6,800/unit = \$30M
 - Land for 2 substations \$2M
 - 2 substations - \$6M to \$10M

Potential Upgrade Cost of \$57M⁺

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3 **Councilmember Gantt** asked if transformers are stressed by the amount of power
 4 that's flowing through them. He said he assumes people are charging the EV's at night which
 5 is low peak, which would help to even things out more.

6 **Director Neumann** said with EV charging increasing and the work in promoting
 7 certain behavior, everyone is going to plug in at the same time, and the town has more
 8 diversity in times when vehicles are charged now.

9 **Councilmember Zegerman** asked if not every car will be plugged in at the same time
 10 because not every car will need to be charged.

11 **Assistant Town Manager Stone** said the issue is the town can't control when
 12 someone is going to plug it in, unless there is an Ordinance in place. He said it's a matter of
 13 being able to serve your customer whenever they plug their EV in, and ensure the maximum
 14 amount is available.

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16 **[SLIDE-19]**

EV Charging Rates Study

- Background
 - Developed modeling with Electricities
 - Based on number of factors
 - E.g. installation & maintenance costs
- Assumptions
 - 10 Level 2 Chargers

	Level 1	Level 2	Level 3
Type of Current	AC	AC	DC
Voltage	120V	240V	480V
Connector Type	J1772	J1772	CCS1
Average Charge Time (from empty)*	11-20 hours	3-8 hours	30-60 minutes
Average Miles Per Hour Charged*	5	12-80	75-1200
Use	Slow	Fast	Faster

*Average charge time and miles per hour charged is dependent on the individual car's occupancy rate and the power output of the charging station.

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1 **Paul Broussard**, Budget and Performance Analyst, gave an overview on the cost
 2 estimates for proposed EV chargers.

3 **[SLIDE-20]**

If we charge for EV Charger usage...

- We expect to need to generate \$700-\$800 a month per charger to break even over next 10 years (with no limits).

Variable Costs	
Expected kWh	2,519
Monthly Charges	63
Monthly kWh	2,569
Cost per kWh	\$ 0.20
Energy Cost	\$ 512.52
Network Premium	10%
Fixed Cost	
Charger Install	\$ 20,000
Monthly Capital Recovery	\$ 166.67
Total Monthly Cost	\$ 730.43




4
 5 **[SLIDE-21]**

If we charge for EV Charger usage...

- Low end: \$.327 per kWh
- High end: \$.555 per kWh
- This could be reduced to a little over \$.10 per kWh by restricting charging during peak hours (assuming high load factor).

Retail Energy Charge per kWh	Charger Replacement per kWh	Total Unit Charge Rate per kWh	Total Unit Charge Rate per kWh Including Network Premium
\$0.7177	\$0.9160	\$1.634	\$1.797
\$0.4184	\$0.4837	\$0.902	\$0.992
\$0.3112	\$0.3289	\$0.640	\$0.704
\$0.2659	\$0.2480	\$0.505	\$0.555
\$0.2222	\$0.2003	\$0.423	\$0.465
\$0.1995	\$0.1876	\$0.387	\$0.404
\$0.1832	\$0.1441	\$0.327	\$0.360
\$0.1709	\$0.1263	\$0.297	\$0.327
\$0.1536	\$0.1013	\$0.255	\$0.280
\$0.1421	\$0.0846	\$0.227	\$0.249
\$0.1338	\$0.0726	\$0.206	\$0.227
\$0.1275	\$0.0636	\$0.191	\$0.210
\$0.1227	\$0.0566	\$0.179	\$0.197
\$0.1188	\$0.0510	\$0.170	\$0.187




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1 [SLIDE-22]

Recommended

- We recommend setting initial rate of \$.139 per kWh and either not allowing or heavily throttling charging during peak hours.
- If we do not restrict charging during peak hours, we recommend setting an initial rate of \$.505 per kWh, and adjusting down when we have a better idea of load factor.



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3 [SLIDE-23]

No charge - EV Charging

- If Town provides EV Charging at no cost to the consumer:
 - \$95,000-\$105,000 expense over the 10 year life cycle per charger
 - Restricting charging during peak hours, we can reduce this cost to between \$25,000-\$35,000 per charger over 10 years.

Recommendation: throttle charge capacity or restrict charging to off peak times; with only 10 charging station to start, this could save hundreds of thousands of dollars over the next decade.

Variable Costs	
Expected kWh	2,519
Monthly Charges	63
Monthly kWh	2,569
Cost per kWh	\$ 0.05
Energy Cost	\$ 128.13
Network Premium	0%
Fixed Cost	
Charger Install	\$ 20,000
Monthly Capital Recovery	\$ 166.67
Total Monthly Cost	\$ 294.80



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5 **Councilmember Zegerman** asked if the cost would be one hundred thousand dollars
6 per year per charger.

7 **Mayor Pro-Tempore Killingsworth** said it's over a lifetime.

8 **Councilmember Zegerman** confirmed that it's a hundred thousand dollars per
9 charger over 10 years, which potentially would be a hundred-thousand-dollar subsidy a year.

10 **Councilmember Mahaffey** said he was glad it was coming from charging during the
11 peak window.

12 **Councilmember Gantt** asked if the length of that was an hour per day.

13 **Interim Town Manager Purvis** said it depends on when the peak time is set, but they
14 don't know when that will be. He said there is a window of about 4-6 hours where the peak
15 could be.

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1 **Mayor Pro-Tempore Killingworth** asked if the town trying to restrict four to six hours
2 of use randomly to address the problem.

3 **Director Neumann** said it's predictable by season. He said if the town had a control
4 mechanism, they could potentially use it to dynamically identify when those periods would
5 be.

6 **Director Grogan** said the town can typically narrow it down to a specific window.

7 **Councilmember Mahaffey** said he thinks its important to keep consistency so the
8 users know. He said it would be good if they understood that Apex chargers wouldn't work
9 between 5 and 6 PM, or whatever the window may be.

10 **Director Neumann** said most of the EV chargers are programmable to throttle, so
11 someone can connect during the highest hours and still get a limited charging rate if that's
12 what they chose to do instead of cutoff.

13 **Councilmember Gray** asked if the town is incorporating the price of who would be
14 managing the program, and whether it's high-end or low-end.

15 **Director Grogan** said that's part of the analysis and the cost is captured.

16 **Mayor Pro-Tempore Killingsworth** said she would prefer to adjust the rates, since
17 the times would be inconsistent across the year, to minimize confusion.

18 **Councilmember Gray** said the time of day will reflect how much the charge will be.
19 He said it would show what the price was when somebody would be wanting to plug in.

20 **Interim Town Manager Purvis** said that would be time of use, and the town does
21 have the technology to be able to implement that.

22 **Councilmember Zegerman** asked if the town still needed to manage the time
23 depending on conditions, or if it would be able to be programmed up front.

24 **Director Neumann** said the companies he has talked to, that's part of the contract
25 where they build the programing and it's highly flexible. He said the structure can be
26 changed throughout the day or seasonally.

27 **Mr. Broussard** said one thing they would need to look out for if they offered it for free
28 at point of service to the consumer would be expected demand. He said the model built in an
29 assumed 15% demand increase for that scenario. He said this would need to be monitored
30 and adjusted over time.

31 **Interim Town Manager Purvis** said the town is more likely to be installing more EV's
32 than other municipalities, based on their own UDO requirements. He said he has seen
33 citizens come and try to charge at Town Hall or other town facilities. He said his
34 recommendation would be if the Town moves towards a time to charge, he said there's a
35 system mechanism for capturing that charge. He said this would help with not having to put
36 up signs or having to deter the public from charging. He said it would actually open up to the
37 public, where if a citizen wants to charge their EV and they're willing to pay, then the Town

DRAFT MINUTES

1 would not be fighting back and forth. He said this might increase the number of charges and
2 EV chargers available.

3 **Assistant Town Manager Stone** said could create issues for certain departments as
4 more town cars transition to electric, if the public was using up a town vehicle charger that an
5 employee would plug the car into to have it ready for the next morning. He said it's important
6 to ensure town services can still be consistently provided.

7 **Mayor Pro-Tempore Killingsworth** said her preference is not to offer for free but to
8 use time of use.

9 **Councilmember Mahaffey** said he was concerned about the time of use, because it
10 was a variable rate, and he wasn't sure if that would accomplish their goal.

11 **Councilmember Zegerman** said he liked the idea of throttling during peak hours, so
12 the town wouldn't see a big bill on the back end.

13 **Councilman Mahaffey** said it seems unavoidable to throttle during that time because
14 the costs are so high. He said he prefers to be consistent so people don't have to guess if the
15 charge would be throttled at varying times. He said it would be good to be able to narrow it
16 down to a smaller window of time, such as 15 or 30 minutes. He said the town's contract with
17 ElectriCities dictates a lot of the policy choices they can make.

18 **Councilmember Zegerman** said Director Neumann mentioned the 23 dollar raise
19 with Duke, and asked how long that price was locked in for.

20 **Director Neumann** said he has five-year projections.

21 **Interim Town Manager Purvis** said the town has two more years on the current
22 contract. He said renegotiations will be starting very soon as it's a long process. He said the
23 town just got a 53 million dollar true-up.

24 **Councilmember Mahaffey** asked if that charge was because the town did not use
25 enough energy.

26 **Assistant Town Manager Stone** said it was fuel adjustment.

27 **Interim Town Manager Purvis** said the true-up was an additional month for the town.

28 **Councilmember Mahaffey** asked when the contracts are renegotiated, if more costs
29 would be passed onto the town, such as 30 percent from Duke Energy.

30 **Interim Town Manager Purvis** said it's likely. He said what would likely get better
31 would be the resources that the town is allowed to have. He said they may can expand the
32 capacity,

33 **Councilmember Mahaffey** asked if Duke is wanting to incentivize the town to have
34 that capacity.

35 **Interim Town Manager Purvis** said they did not want the town to have that capacity.
36 He said that is money out of their pocket.

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1 **Councilmember Zegerman** asked to what extent town solar capacity can offset or
2 generate additional the 10 mW that is needed.

3 **Interim Town Manager Purvis** said commercial or residential solar only goes back to
4 that building and doesn't contribute to the system.

5 **Councilmember Zegerman** asked if that was giving back to the grid.

6 **Councilmember Mahaffey** said only if there is more generated than is used.

7 **Interim Town Manager Purvis** said a large amount is needed to make an impact.

8 **Councilmember Mahaffey** said time is the issue as well, such as where the peak
9 comes in.

10 **Councilmember Zegerman** asked if the results of the study are in regarding terms of
11 division of solar revenue.

12 **Assistant Town Manager Stone** said he should have something in a couple weeks to
13 share.

14 **Mayor Gilbert** asked about the EV police vehicles being taken home and what is the
15 plan for that.

16 **Interim Town Manager Purvis** said that's next on the list, but public safety and other
17 large vehicles present complications, and the technology isn't fully there yet for an overall
18 electric transition.

19 **Mayor Gilbert** said the town could offer compensation to staff who charge vehicles at
20 home.

21 **Interim Town Manager Purvis** said those are the things they know will have to tackle.

22 **Director Grogan** said one of the priorities is to map out what a time-frame looks like
23 for where infrastructure needs to be, then look at if there is infrastructure that needs to be
24 upgraded in order to support a long-term plan.

25 **Interim Town Manager Purvis** said the staff needs to know what kind of billing
26 model. He said it's not happening right now, at least two years out, but there needs to plan to
27 know how to set up a system and set up communications plans to encourage behaviors.

28 **Mayor Pro-Tempore Killingsworth** asked if there any other energy that could
29 generate some sort of electricity other than solar energy.

30 **Interim Town Manager Purvis** said wind and hydro are not an option here. He said
31 there is a difference between renewable and clean energy, and most of the town's energy
32 comes from the nuclear plant, which is considered clean energy.

33 **Councilmember Zegerman** asked why wind was not an option.

34 **Councilmember Gantt** said Apex is in the least windy part of the state.

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1 **Mayor Pro-Tempore Killingsworth** said there is always technologies that are coming
2 out.

3 **Interim Town Manager Purvis** said the town would be open to new technologies. He
4 said battery storage is another clean option since the energy comes from clean energy.

5 **Assistant Town Manager Stone** said the town is working to drive down the peak. He
6 said on a really hot week, they may do load management on several days a week because
7 they don't know what Duke would select as the peak.

8 **Mayor Pro-Tempore Killingsworth** said there is technology out there, such as
9 something that can be put in a road and when someone drives over it, it produces electricity.
10 She said there are things out there that can be explored.

11 **Interim Town Manager Purvis** said they are open to exploring any options, but the
12 cost-effectiveness of things is also important to consider.

13 **[SLIDE-24]**

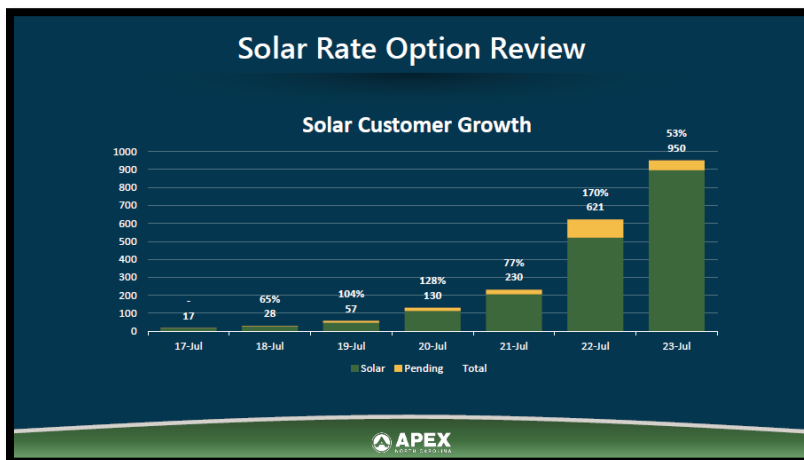
Duke Solar
N.C. Residential Net Metering

	Net Metering Rider NM	Net Metering Bridge Rider NMB	Residential Solar Choice Rider RSC
Dates	<ul style="list-style-type: none">Closed to new participants on 10/1/23Grandfathering for 15 years on Riders NM/NMB	<ul style="list-style-type: none">Available 10/1/23, subject to annual capacity limits	<ul style="list-style-type: none">Available 10/1/23
Description	<ul style="list-style-type: none">Fuel retail net meteringExcess energy carried over month to monthUnpaid excess energy reset annually	<ul style="list-style-type: none">Full retail net meteringExcess energy credited at avoided cost each monthNon-bypassable charge and minimum bill, with exception for certain low-income customers	<ul style="list-style-type: none">Requires service under time-of-use (TOU) rate with critical peak pricingFull retail net metering within each TOU periodExcess energy credited at avoided cost each monthNon-bypassable charge, grid access fee above 15 kW/50¢ and minimum bill

APEX

14

15 **[SLIDE-25]**

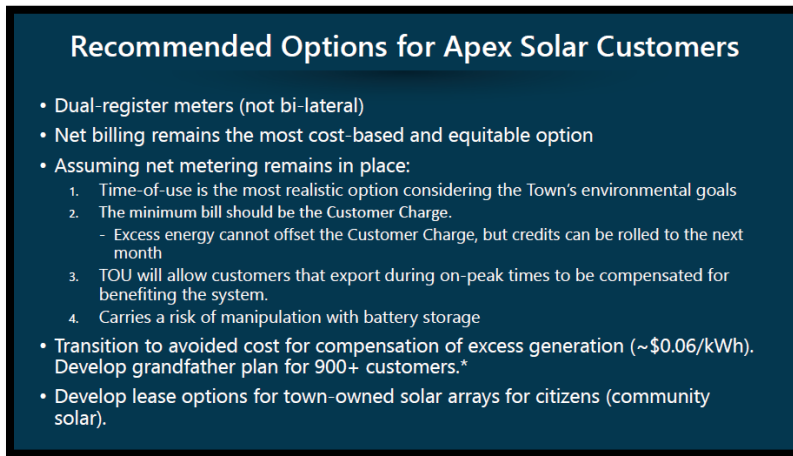


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1 **Director Grogan** said this includes solar and pending, and that as of July the town has
2 975 solar customers.

3 **[SLIDE-26]**

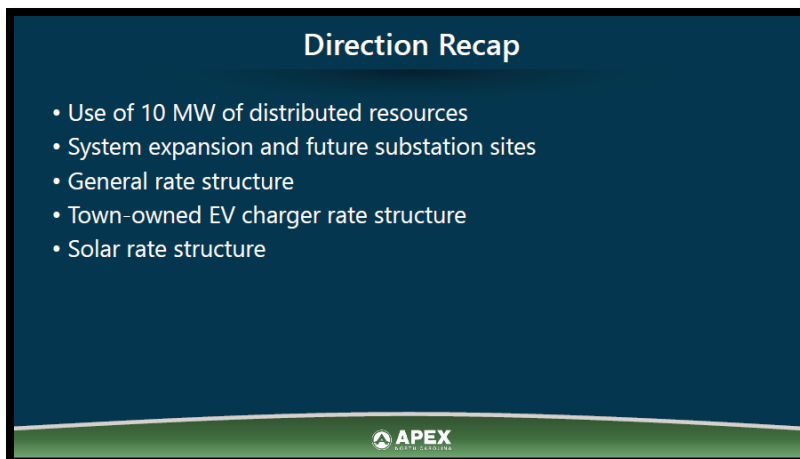


Recommended Options for Apex Solar Customers

- Dual-register meters (not bi-lateral)
- Net billing remains the most cost-based and equitable option
- Assuming net metering remains in place:
 1. Time-of-use is the most realistic option considering the Town's environmental goals
 2. The minimum bill should be the Customer Charge.
 - Excess energy cannot offset the Customer Charge, but credits can be rolled to the next month
 3. TOU will allow customers that export during on-peak times to be compensated for benefiting the system.
 4. Carries a risk of manipulation with battery storage
- Transition to avoided cost for compensation of excess generation (~\$0.06/kWh). Develop grandfather plan for 900+ customers.*
- Develop lease options for town-owned solar arrays for citizens (community solar).


4

5 **[SLIDE-27]**



Direction Recap

- Use of 10 MW of distributed resources
- System expansion and future substation sites
- General rate structure
- Town-owned EV charger rate structure
- Solar rate structure



6

7 **Councilmember Gantt** asked if we could decide today about the battery, and said he
8 thinks there's at least three votes to get it passed. He asked if Council agreed.

9 **Councilmember Zegerman** asked what is the useful life on the battery.

10 **Director Neumann** said upwards to 20 years. He said there are guarantees and full
11 maintenance on the battery, and that there would be several options.

12 **Assistant Town Manager Stone** said staff is looking for direction to pursue one of the
13 options.

14 **Councilmember Gray** asked if the town needs to have additional land purchases for
15 the placement.

DRAFT MINUTES

1 **Director Neumann** said he does not know, and that it is still in discussion. He said he
2 would like to try and put them next to one of the town's substations, particularly the Mt. Zion
3 substation. He said the reason for that is that's where staff is housed so they can monitor it
4 easily. He said there is storage area in the back, but they are unsure of the size of the
5 footprint.

6 **Interim Town Manager Purvis** said even batteries with a 10-year life could have a
7 payback within 6 years.

8

9 A **motion** was made by **Mayor Pro-Tempore Killingsworth**, seconded by
10 **Councilmember Gantt**, to pursue battery storage options.

11

12 **VOTE: UNANIMOUS (5-0)**

13

14 **Director Neumann** said that will help him, and he will come back to them with plenty
15 of options. He discussed system expansion and possible future substation sites. He said the
16 town needs to get some land for the fourth subsite as soon as possible, and it needs to be
17 close to a transmission line. He also discussed that if the town is going to more EV's, then the
18 town needs more land. He said Perry Road could be one site. He said another sub site could
19 be purchased and have land be turned back over to the town for other purposes.

20 **Councilmember Zegerman** asked about the pump station on Perry Road that is
21 meant to be removed.

22 **Assistant Town Manager Stone** said if the town has almost 50 acres of land and put a
23 substation in which puts a line across US-1.

24 **Councilmember Zegerman** said there is a sewer pump station there that needs to be
25 moved.

26 **Assistant Town Manager Stone** said it's not being moved. He said they have enough
27 land at Perry Road, and that it's the most logical place to split the transmission. He also said
28 the facility is doing a plan study looking at how the town could use the road site over the next
29 20 years.

30 **Mayor Pro-Tempore Killingsworth** asked if a decision is being asked of Council to
31 decide to expand or not to expand.

32 **Interim Town Manager Purvis** said any actual decision would come from Council. He
33 said if Council doesn't want to expand the system and instead look for other options that can
34 be explored.

DRAFT MINUTES

1 **Mayor Pro-Tempore Killingsworth** said its more reasonable to look for property for
2 this purpose, because it would severely limit the town if they don't. She said she doesn't see
3 why it wouldn't be a good idea.

4 **Mayor Gilbert** said he understands strategically staff is looking at areas for expansion
5 and making sure they don't have to travel long distances, he said there are other priorities in
6 place for land acquisition, such as for affordable housing. He asked is this being looked at as
7 well in order to make sure things are not being overlooked.

8 **Interim Town Manager Purvis** said that those would be looked at separately.

9 **Councilmember Zegerman** asked if there were any worries about having enough
10 funds for both.

11 **Interim Town Manager Purvis** said they are financially in two separate buckets, but if
12 they found land that would be suitable for either, they could come back and evaluate the
13 options with Council.

14 **Councilmember Mahaffey** said he really liked the slide about the EV's and the cost.
15 He said land is not getting cheaper, the demand is up, and he fully supports this.

16 **Mayor Pro Tempore Killingsworth** said she liked the idea of the transition over to
17 the time of use model.

18 **Councilmember Zegerman** said he thought the town had a time of use option today.

19 **Director Neumann** said they do, but nobody wants it.

20 **Councilmember Zegerman** asked why that was the case.

21 **Director Neumann** said people don't like change, and the system is very punitive
22 right now, and people are scared of the on-peak rate. He said lots of people don't want to
23 think that much about when they are using energy.

24 **Councilmember Zegerman** said instead of waiting two years for an AMI to come in
25 and then beginning to educate, maybe they should review the rate structure and bring them
26 closer together so that the on-peak rate isn't so scary. He said the education and
27 communication process could be started now.

28 **Director Neumann** said the problem was that they system that is currently in place
29 has problems which make it more difficult to work with time of use. He said there is a high risk
30 right now, because they don't have extra collectors and they would have to do some manual
31 readings if one of them went down.

32 **Mayor Pro-Tempore Killingsworth** asked if he wanted a vote on this or needed
33 direction.

34 **Interim Town Manager Purvis** said a general direction would be good, and he said
35 staff would be going to come back to Council with the structures and then a vote. He said the
36 town does want to start the communication and education piece.

DRAFT MINUTES

1 **Director Neumann** said there would be a heavy education component, and staff is
2 going to be communicating to customers about the whole thing. He said it would be a win-
3 win, and most people would get on it once they learn about it.

4 **Councilmember Zegerman** said he would agree to explore it.

5 **Mayor Pro-Tempore Killingsworth** said that she agreed.

6 **Interim Town Manager Purvis** said that would give the ability to start looking at what
7 the town's rate structures are now, in order to potentially help soften what the transition
8 would be like so it wouldn't be as scary to customers.

9 **Councilmember Zegerman** said they could also have rate changes over time. He said
10 the rates could potentially be closer initially, and then expanded once people got used to it.

11 **Director Neumann** said Fayetteville Electric mandated time of use all at once 5-6
12 years ago. He said it didn't drive any behavior change, but it took several years for the rates
13 to drive behaviors. He said the town will be counting on this more from the beginning to help
14 offset the effects from residential.

15 **Councilmember Zegerman** said the town may need to recover all of the costs on the
16 front end of this.

17 **Director Neumann** said he wasn't saying the rates aren't going to be super high, but
18 a time of use rate would be lower than a flat rate.

19 **Councilmember Zegerman** said he doesn't want to set that expectation. He said the
20 bill on either may not be lower because rates could be set higher to help offset costs from
21 additional infrastructure. He said he wants to be careful about how things like that are
22 messaged to residents.

23 **Mayor Pro-Tempore Killingsworth** asked what to do in regards to giving direction
24 on EV chargers.

25 **Interim Town Manager Purvis** said it would be good to know, because the town will
26 need to replace the chargers at town hall, and there will be new chargers installed at the
27 Mason Street building and at the cemetery. He said it would be good to know what they
28 would want billing to look like to help inform what chargers they get. He said they don't need
29 an exact number, just an idea of what structure they want to do.

30 **Councilmember Mahaffey** said all of the above.

31 **Councilmember Zegerman** said they needed the options. He said a system needs to
32 be set up for billing.

33 **Councilmember Mahaffey** recommended time of use with a throttle, because even
34 the high rates at-peak wouldn't recover the costs. He said he wants to ensure that it's
35 consistent so that EV users are able to know when it is not a good hour to plug into town
36 chargers.

DRAFT MINUTES

1 **Mayor Gilbert** asked for a motion.

2

3 A **motion** was made by **Councilmember Mahaffey**, seconded by **Mayor Pro**
4 **Tempore Killingsworth**, to direct staff to pursue the time-of-use with on-peak throttling
5 model for town-owned EV chargers, and to ensure that there is consistency regarding when
6 people would know the best hours not to charge.

7

8 **VOTE: UNANIMOUS (5-0)**

9

10 **Interim Town Manager Purvis** said that staff is looking to get direction around these
11 topics, since they will be setting up the new ERP and they know what AMI can do. He said
12 they don't want to do education after everything is set up. He said almost 4% of the town's
13 customers were solar, and Dukes is only around one percent. He said the town has more
14 solar customers than all of the Eastern Electricities combined. He said there other ways to
15 incentivize, such as rebate programs, to help push toward the benefit. He said there is a base
16 charge in order to make sure the lines are functional and power can get to someone's house
17 if their solar is not working.

18 **Councilmember Mahaffey** said he views the time of use as a sort of compromise
19 solution there. He's not opposed to smaller changes to the pricing model which might
20 recover some of the costs. He added that he views going from retail costs to avoided costs as
21 a pretty big change. He said he would like a continuous update on the actual costs once they
22 come in.

23 **Councilmember Zegerman** said he agrees, but thinks that there should be a
24 minimum system charge to offset the infrastructure. He said there is a cost, and he thinks this
25 is fair, but the system also needs to allow for a buyback rate.

26 **Mayor Pro-Tempore Killingsworth** said it would be like a monthly fee.

27 **Councilmember Mahaffey** asked if everyone agreed to offset usage and still pay the
28 monthly rate or rollover indefinitely.

29 **Director Grogan** said eventually it would have to stop.

30 **Director Neumann** said the thing about rollovers is that is zero's it out and doesn't
31 get transferred to the new owner. He said managing and keeping track of that would be an
32 administrative burden. He said the system should not be designed to sell it back to the town.
33 He said it has viewed that if people produce additional energy, they would be able to store it
34 with the town for their own use if needed. He said he wants to ensure people know that the
35 town wants them to use everything that they generate, but if not, that issue has been
36 alleviated with battery storage.

DRAFT MINUTES

1 **Director Grogan** said Apex’s system is much larger than the state or national average,
2 which is because the system can be oversized to get a return on investment much quicker.

3 **Mayor Gilbert** asked what is the recommendation.

4 **Director Neumann** said he would zero it out at whatever period it is, rather than
5 adding on keeping track of rollover credit and keeping track of it.

6 **Councilmember Zegerman** asked if there is a system in place where the town does
7 an annual estimate of electric usage and smooth that out over a 12-month period so
8 customers don’t get hit with a bill.

9 **Director Grogan** said there is a budget billing component for utility customers, but
10 it’s not something that’s done for every customer, but customers can sign up.

11 **Councilmember Zegerman** said the town already has that mechanism in place.

12 **Mayor Gilbert** asked where Council is at in this discussion.

13 **Councilmember Zegerman** said the town should buy back at retail rates.

14 **Councilmember Mahaffey** said time of use would then make that more efficient for
15 everybody.

16 **Interim Town Manager Purvis** said any credit would go towards the base charge.

17 **Councilmember Zegerman** said he was okay with buying back at retail rates, and
18 they could see over time how time of use changes things. He said to keep the price attractive
19 and to put solar on a roof, he said a twenty-five-dollar contribution for infrastructure is
20 reasonable.

21 **Director Grogan** said the base charge would be \$26.38.

22 **Councilmember Gray** said he’s unsure if the town is dis-incentivizing solar by
23 requiring some of the costs of the infrastructure to be paid. He said psychologically, he
24 doesn’t believe that is the case.

25 **Councilmember Zegerman** asked out of the 900 plus solar customers that the town
26 has, how many are actually getting money back because of over production.

27 **Assistant Town Manager Stone** said that report hasn’t been run in a while, but a
28 rough estimate would be twenty-percent. He said they could run it again for a current
29 number.

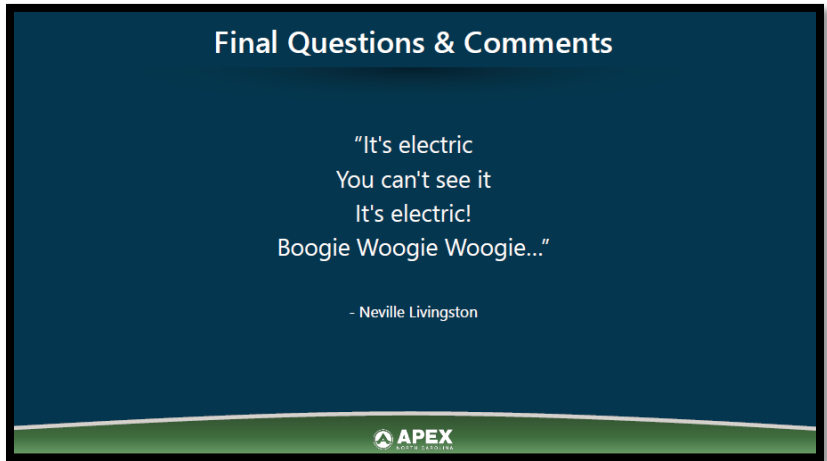
30 **Mayor Pro-Tempore Killingsworth** said she agrees with the base charge, and then
31 they could adjust rates as they AMI comes in.

32 **Director Grogan** said to be clear, base charge doesn’t go negative and a fixed rate
33 that’s designed to carry distribution and buy back at retail.

34 **Interim Town Manager Purvis** said the credit would be held for a year and it would
35 zero out.

DRAFT MINUTES

1 **[SLIDE-28]**



2

3

4 **[ADJOURNMENT]**

5

6

Mayor Gilbert adjourned the meeting at **5.41p.m.**

7

8

9

Jacques K. Gilbert
Apex, Mayor

10

11

12 Allen Coleman, CMC, NCCCC

13 Apex, Town Clerk

14

15 Submitted for approval by Apex Town Clerk Allen Coleman.

16

17 Minutes approved on _____ of _____, 2023.