

**READING MUNICIPAL  
LIGHT DEPARTMENT**

**BOARD OF COMMISSIONERS**

**REGULAR SESSION**

**WEDNESDAY SEPTEMBER 16, 2020**

APPROVAL OF BOARD MINUTES  
APRIL 21, 2020, APRIL 30, 2020,  
MAY 23, 2020 & JUNE 18, 2020  
ATTACHMENT 1

# INTEGRATED RESOURCES ATTACHMENT 2

Board of  
Commissioners  
Meeting  
September 16, 2020

***Charles Underhill,  
Director of Integrated  
Resources***

***Reporting for July  
2020.***



# RMLD 4<sup>th</sup> Grade Art Contest

- ▶ Voluntary participation
- ▶ Students watch on-line electric educational video
- ▶ Students complete artists' rendition of one or more video lessons
- ▶ Upload a scan or photo of the completed artwork
- ▶ 5 winners selected from each school
  - ▶ Winners announced 11/13/20
  - ▶ Winners receive \$10 Amazon Books gift card



# National Drive Electric Week

- ▶ September 26<sup>th</sup> – October 4<sup>th</sup>, 2020
- ▶ Virtual Test Drives
  - ▶ Create a video showing what it is like to drive EV
    - ▶ Showcase different models
    - ▶ RMLD staff in Bolt
    - ▶ Coordinate with local EV owners and dealerships
  - ▶ Coordinate with other MLPs to create video library



# Public Power Week

- ▶ October 4<sup>th</sup> – October 10<sup>th</sup>, 2020
- ▶ Virtual events
  - ▶ Storytime
  - ▶ Pumpkin decorating
  - ▶ Kids' experiment activity
  - ▶ Photo scavenger hunt
  - ▶ A day in the life of a lineman video

# Air-Source Heat Pump Program

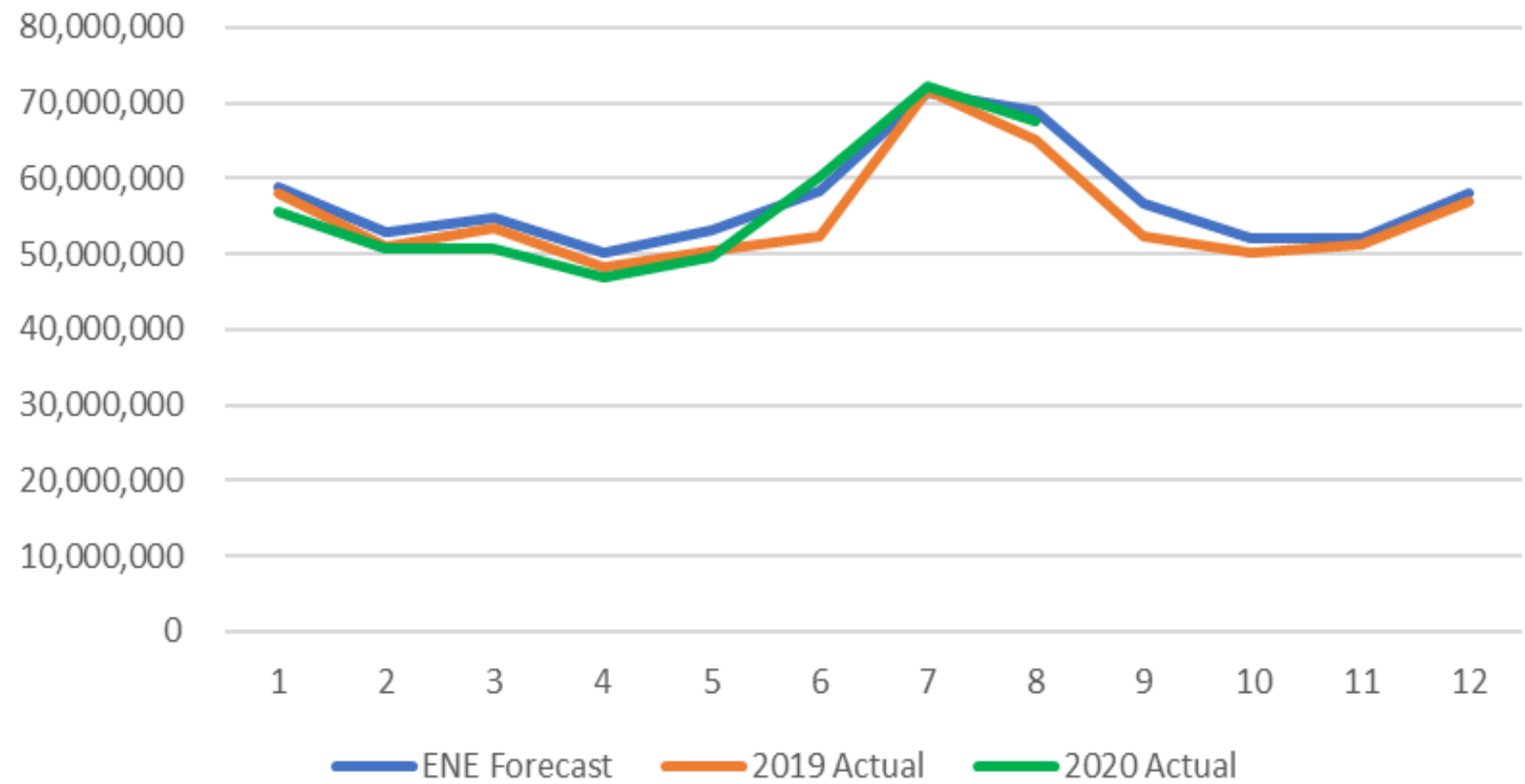
- RMLD is expanding its technical/educational services offered under the Program
- Contracted with Abode Energy Management
  - Provide training and education to contractors
  - Provide technical review of all heat pump proposals to ensure proper design and equipment sizing
  - Help customers understand the merits of different proposals
  - Review post-installation documentation
- GOAL: Enhance RMLD's technical capabilities and increase the adoption of high-efficiency air-source heat pumps.



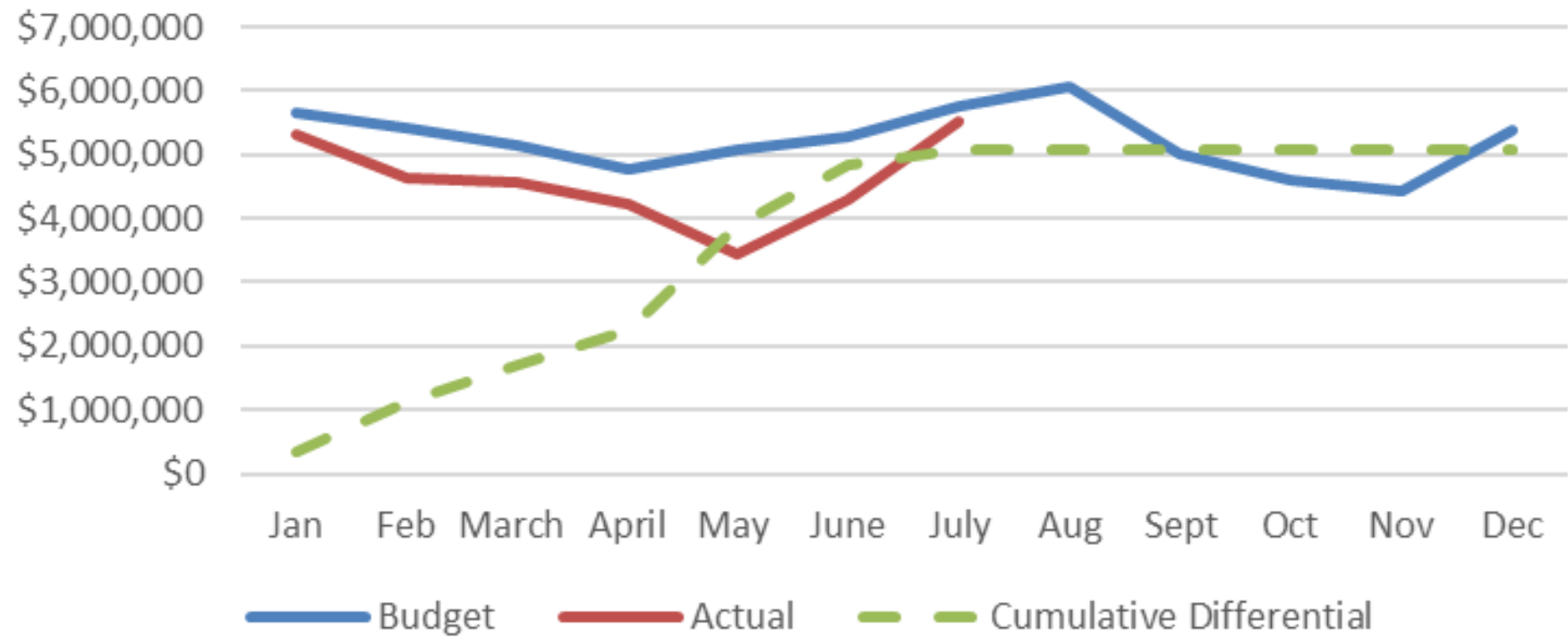
*Photo courtesy of MassCEC*



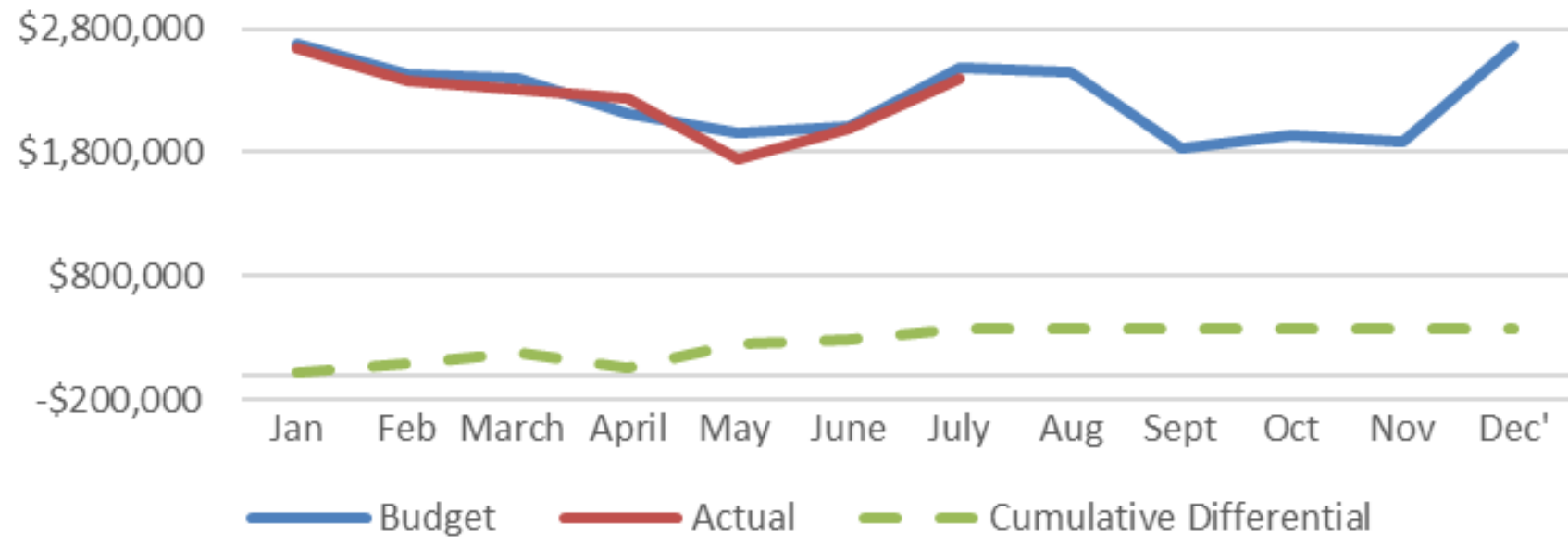
## 2020 RMLD Total System Loads



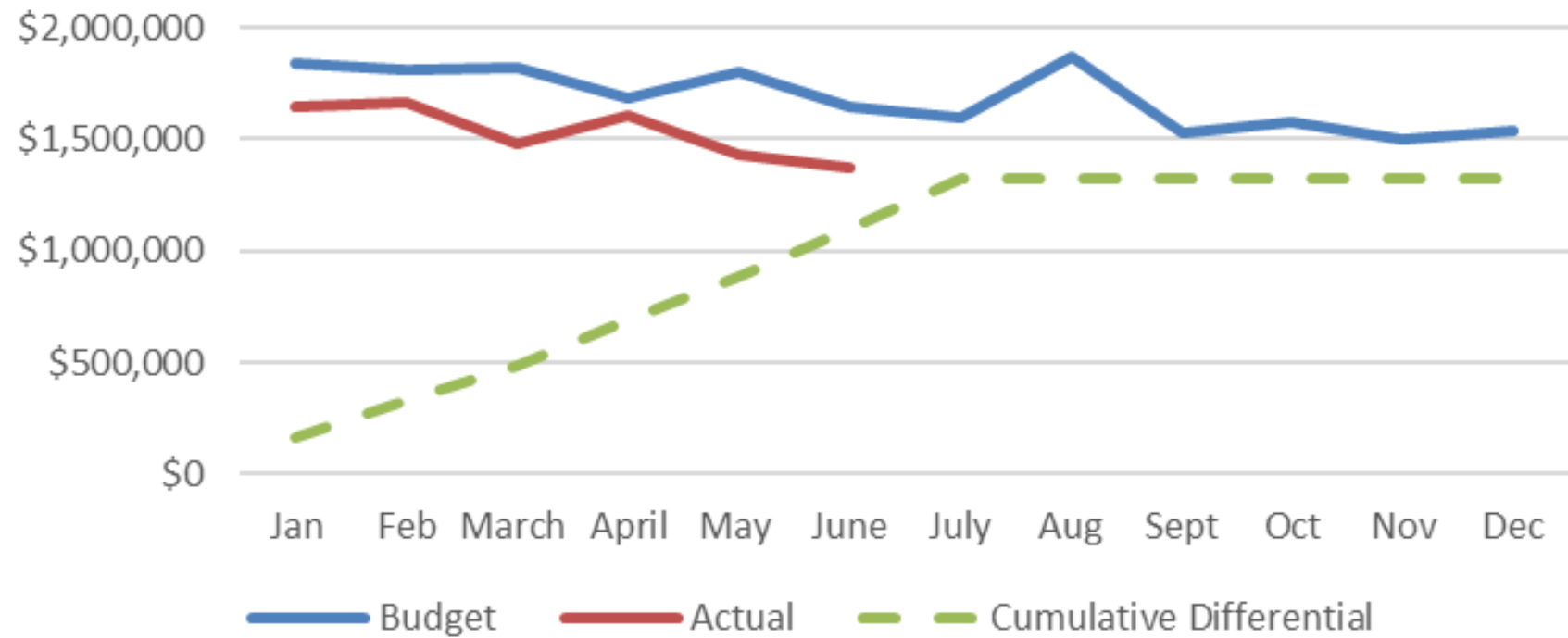
## Purchase Power Expense Actual through July 2020



# Energy Costs Actual vs. Budget Actuals through July 2020

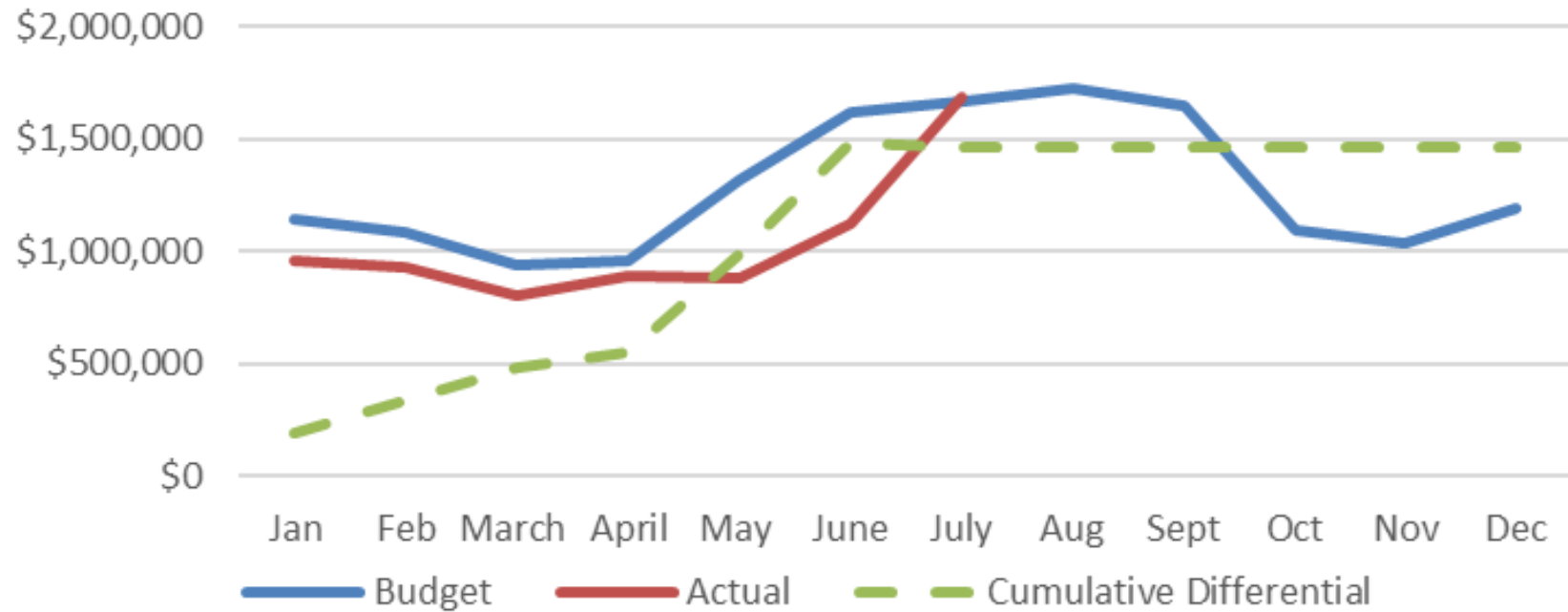


# Capacity Costs Budget Vs. Actual Actual through July 2020

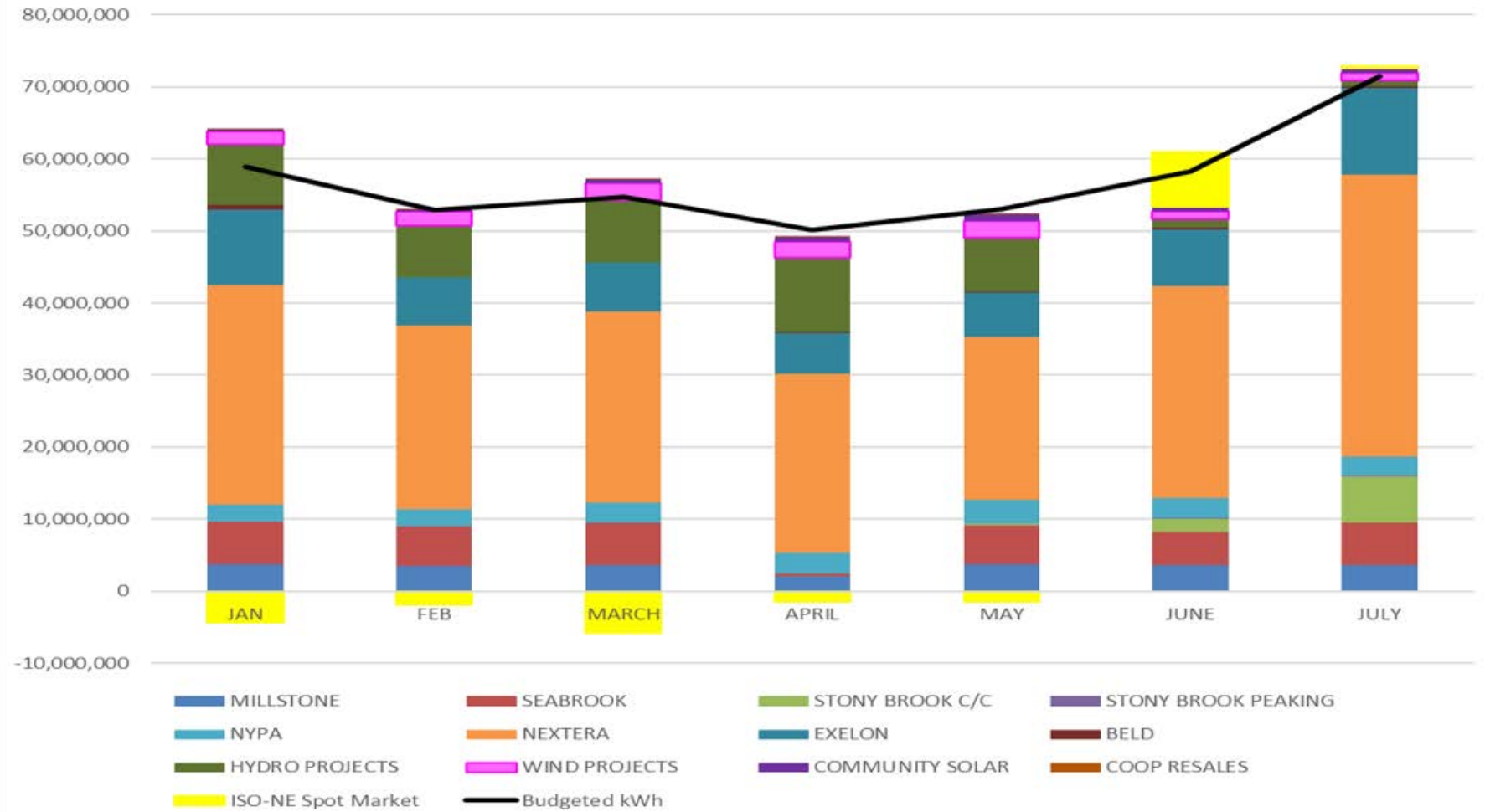


## Transmission Cost; Budget vs. Actual

Actual through July  
2020



## Actual Kwh Purchases by Resources 2020



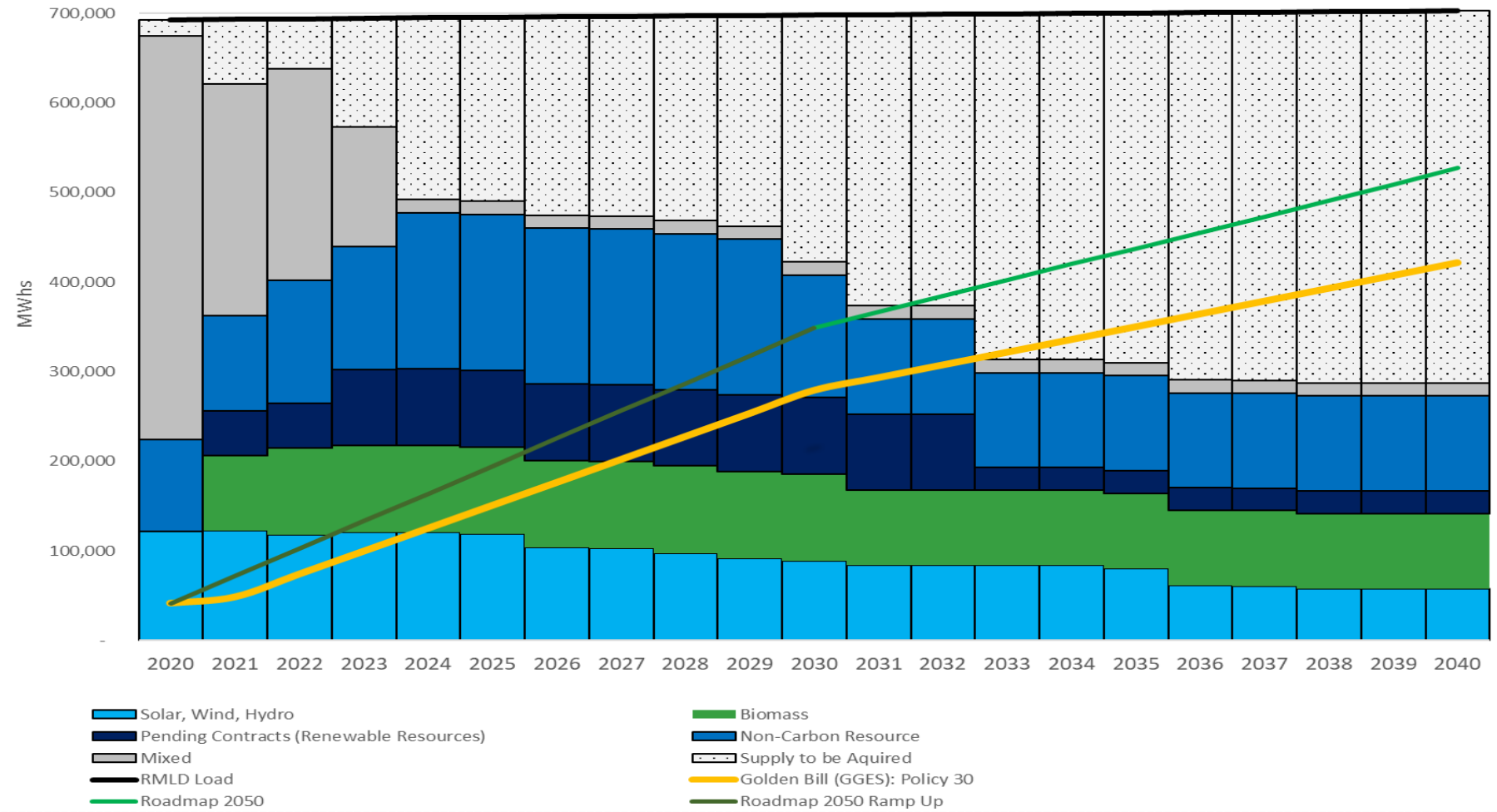


# Clean Energy Standard Update

## ➡ Roadmap 2050

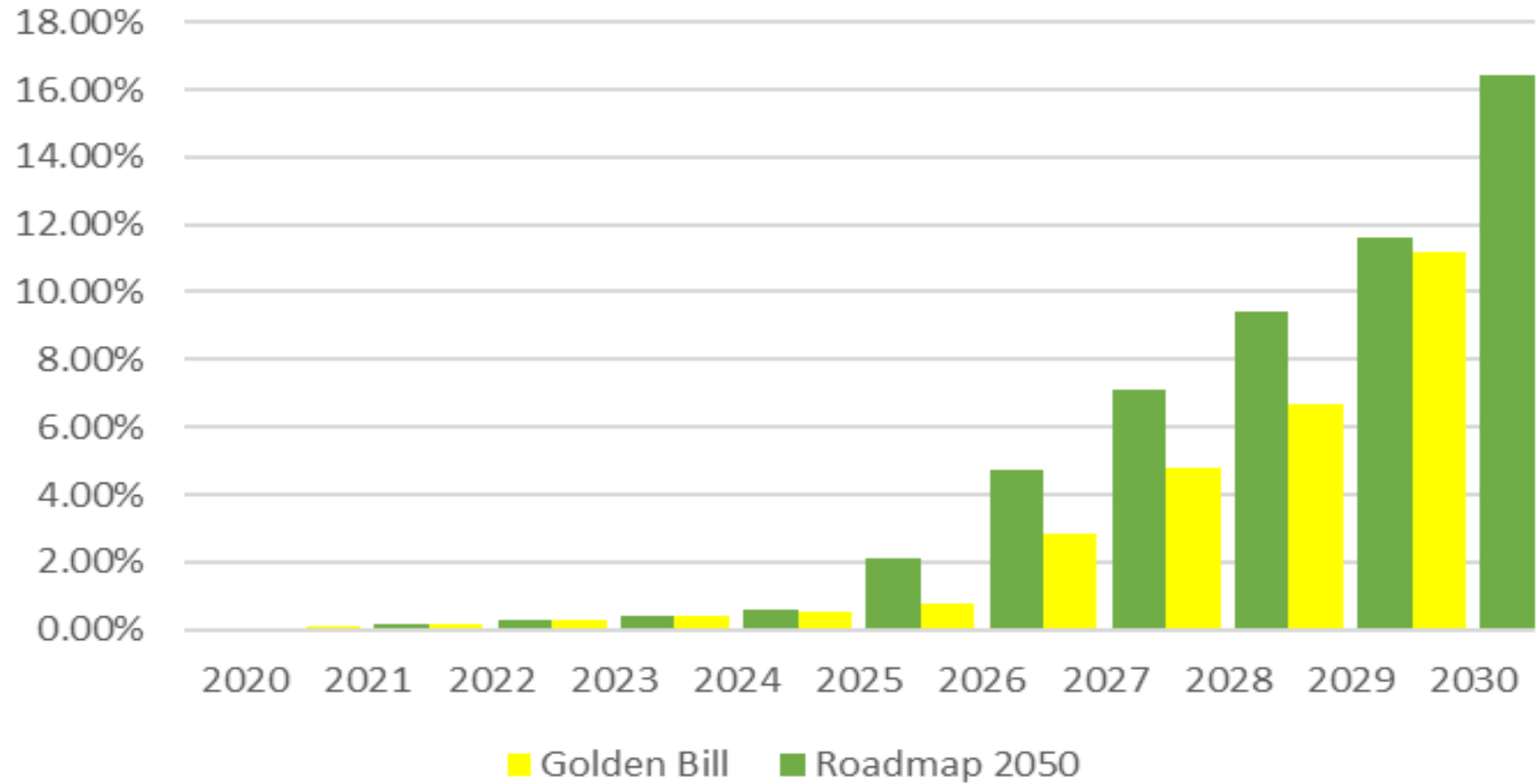
- ➡ Part of H4933
- ➡ Establishes horizon targets for clean energy
  - ➡ 2030 – 50%
  - ➡ 2040 – 75%
  - ➡ 2050 – 100%
  - ➡ Undefined for intervening periods
- ➡ Becomes effective upon signature of governor

## RMLD Power Supply: Outlook Through 2040





## RMLD RECs Estimated Impacts on Retail Rates





# Clean Energy Standard Next Steps

## ■ Upon signature by the governor:

- Identify conformance issues with RMLD's Sustainability Policy #30
- Develop recommendations for RMLD Compliance Plan and action items
  - Identify alternatives and associated financial impacts
  - Identify Strategic Plan objectives and IRD Road Map to integrate existing program activity

# CLEAN ENERGY POLICY ATTACHMENT 3

**Clean Energy Policy**\_\_\_\_\_  
General Manager\_\_\_\_\_  
Per Board Vote  
Chairman/Date**I. PURPOSE**

- A. To develop a practical approach to addressing the need for clean (non-carbon) energy alternatives that are energy efficient while simultaneously balancing power supply costs and coordinating with electrification efforts.
- B. To establish general guidelines that promote practical, cost effective energy alternatives.
- C. To comply with the statutory requirements of Roadmap 2050 as they pertain to Massachusetts MLPs.

**II. RESPONSIBILITIES**

- A. RMLD Board of Commissioners
  - 1. Responsible for approving this policy.
  - 2. Review all recommended clean energy alternatives and ensure that they meet the policy guidelines and legislative definitions.
- B. General Manager
  - 1. Responsible for implementing this policy.

**III. POLICY ELEMENTS**

- A. The RMLD is striving to develop a practical approach to addressing the need for energy alternatives while simultaneously balancing power supply costs and electrification efforts. Clean energy meets the needs of the present without compromising future generations. For purposes of this policy, clean energy shall be defined as energy produced by a Non-emitting Electricity Generator, as that term is defined in 310 Mass. Reg. 7.75 (hydro, nuclear, ocean, solar, or wind), or a "renewable energy generating source", as that term is defined in G.L. c. 25A, §11F, with or without associated Renewable Energy Certificates (RECs). G.L. c. 25A §11F(b) states that a "renewable energy generating source is one which generates electricity using any of the following: (1) solar photovoltaic or solar thermal electric energy; (2) wind energy; (3) ocean thermal, wave or tidal energy; (4) fuel cells utilizing renewable fuels; (5) landfill gas; (6) waste-to-energy which is a component of conventional municipal solid waste plant technology in commercial use; (7) naturally flowing water and hydroelectric; (8) low emission advanced biomass power conversion technologies using fuels such as wood, by-products or waste from agricultural crops, food or animals, energy crops, biogas, liquid biofuel including but

not limited to biodiesel, organic refuse-derived fuel, or algae; or (9) geothermal energy.”

- B. RMLD will review the power supply portfolio from time to time with the intention of meeting specific clean energy target percentages from a combination of Non-emitting Electricity Generators and renewable energy generating sources. Specifically, RMLD will strive to reach 50 percent clean energy goals by 2030, 75 percent clean energy goals by 2040, and 100 percent clean energy goals by 2050. These target percentages and dates were established by the legislature under Roadmap 2050 and will be reviewed by the RMLD Board of Commissioners annually as needed.
- C. The RMLD will analyze power supply projects with a competitive average power supply cost and positive environmental/stewardship impacts. Only projects that meet this criterion will initially be brought to the General Manager for further review.
- D. Massachusetts law requires the RMLD to participate in a Clean Energy Standard (CES) Program, currently designated as Roadmap 2050. In the event the compliance standard changes over time, RMLD will review and make appropriate adjustments to this Policy and the RMLD’s power supply portfolio.
- E. In the interest of providing RMLD ratepayers with a cost-effective clean energy portfolio, RMLD shall have the ability to market all or a portion of the RECs from any existing contract or potential project until the target date deadline. At such time as a Program becomes applicable to RMLD, RMLD will purchase Emissions Free Energy Certificates (EFECs) or retire RECs associated with resources in RMLD’s power supply portfolio up to the target amount in the most cost-effective manner possible, while remaining in compliance with the statutory requirements.
- F. The General Manager will report quarterly on the composition and estimated value of any Renewable Energy Certificates and Emissions Free Energy Certificates in its power supply portfolio, whether optioned, sold, or retired.

Revision No. 29 RMLD Policy No. 30 Effective Date: 11/01/2012 Review Date:

### CleanSustainable Energy Policy

11/01/12  
General Manager

Per Board Vote

Chairman/Date

#### I. PURPOSE

- A. To develop a practical approach to addressing the need for clean (non-carbon) sustainable energy alternatives that are energy efficient while simultaneously balancing power supply costs and coordinating with electrification efforts.
- B. To establish general guidelines that promote practical, cost effective ~~efficient~~ sustainable energy alternatives.
- C. To comply with the statutory requirements of Roadmap 2050 as they pertain to Massachusetts MLPs.

#### II. RESPONSIBILITIES

- A. RMLD Board of Commissioners
  - 1. Responsible for approving this policy.
  - 2. Review all recommended sustainable-clean energy alternatives and ensure that they meet the policy guidelines and legislative definitions.
- B. General Manager
  - 1. Responsible for implementing this policy.

#### III. POLICY ELEMENTS

- A. The RMLD is striving to develop a practical approach to addressing the need for sustainable energy alternatives while simultaneously balancing power supply costs and electrification efforts. Sustainable-Clean energy meets the needs of the present without compromising future generations. For purposes of this policy, clean energy shall be defined as energy produced by a Non-emitting Electricity Generator, as that term is defined in 310 Mass. Reg. 7.75 (hydro, nuclear, ocean, solar, or wind), or a "renewable energy generating source", as that term is defined in G.L. c. 25A, §11F, with or without associated Renewable Energy Certificates (RECs). RMLD shall use G.L. c. 25A to define qualifying sustainable generating sources. G.L. c. 25A §11F(b) states that a "renewable energy generating source is one which generates electricity using any of the following: (1) solar photovoltaic or solar thermal electric energy; (2) wind energy; (3) ocean thermal, wave or tidal energy; (4) fuel cells utilizing renewable fuels; (5) landfill gas; (6) waste-to-energy which is a component of conventional municipal solid waste plant technology in commercial use; (7) naturally

flowing water and hydroelectric; (8) low emission advanced biomass power conversion technologies using fuels such as wood, by-products or waste from agricultural crops, food or animals, energy crops, biogas, liquid biofuel including but not limited to biodiesel, organic refuse-derived fuel, or algae; or (9) geothermal energy." ~~A facility that converts one of the foregoing fuel or energy resources to energy is referred to as a "Renewable Generation Unit."~~

- B. ~~The~~ RMLD will review the power supply portfolio from time to time with the intention of meeting specific clean energy sustainability target percentages from a combination of Non-emitting Electricity Generators and renewable energy generating sources. Specifically, RMLD will strive to reach 50/45 percent sustainability by 2015, 20 percent sustainability by 2020 and 25 percent clean energy goals sustainability by 2030/25, 75 percent clean energy goals by 2040, and 100 percent clean energy goals by 2050. These target percentages and dates were established by the legislature under Roadmap 2050 and will be reviewed by the RMLD Board of Commissioners annually as needed. ~~Add two tiers; non-carbon and renewables; true renewables.~~
- C. The RMLD will analyze sustainable power supply projects with a competitive average power supply cost and positive environmental/stewardship impacts. Only projects that meet this criterion will initially be brought to the General Manager for further review.
- D. ~~\_\_\_\_\_ In Massachusetts law requires the RMLD to participate in a Clean Energy Standard (CES) Program, currently designated as Roadmap 2050. In the event the compliance standard changes over time, RMLD will review and make appropriate adjustments to this Policy and the RMLD's power supply portfolio, the interest of providing RMLD ratepayers with sustainable energy that is cost \_\_\_\_\_ effective the RMLD shall have the ability to market all or a portion of the RECs from any given potential project until the target date deadline or an RPS becomes applicable to the RMLD. At such time, the RECs will be retired up to the target amount.~~
- E. In the interest of providing RMLD ratepayers with a cost-effective clean energy portfolio, RMLD shall have the ability to market all or a portion of the RECs from any existing contract or potential project until the target date deadline. At such time as a Program becomes applicable to RMLD, RMLD will purchase Emissions Free Energy Certificates (EFECs) or retire RECs associated with resources in RMLD's power supply portfolio up to the target amount in the most cost-effective manner possible, while remaining in compliance with the statutory requirements.  
~~If Massachusetts law requires the RMLD to participate in either a clean energy or renewable energy portfolio standard program, the RMLD will review and make required adjustments to this policy and the RMLD's power supply portfolio.~~
- F. The General Manager will report monthly quarterly on the composition and estimated value of any Renewable Energy Certificates and Emissions Free Energy Certificates in its power supply portfolio, whether optioned, sold, or retired ~~banked and projected Renewable Energy Certificates.~~

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# ENGINEERING & OPERATIONS REPORT ATTACHMENT 4



# **ENGINEERING & OPERATIONS REPORT**

Hamid Jaffari, Director of Engineering & Operations

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**RMLD Board of Commissioners Meeting**

**September 16, 2020**



## 4W4 EMERGENCY REPAIRS

On August 19th, circuit 4W4 faulted in the underground just outside Station 4. This required the RMLD to replace 1,400 circuit feet (4,200 linear feet) of 1000 kcmil AL with 750 CU UG cable.

4W4 Splices



4W4 Cable





## Construction Projects

### Continued Progress ...

➤ **North Main Street/Lowell Street (Lynnfield) – Area Upgrade/Step-down Conversion**

Pulled in the three-phase spacer cable on Lowell Street. Currently, working on pulling in the single-phase primary cable on Lowell Street. **Status:** ~25% complete.

➤ **Westover Drive (Lynnfield) – Underground Facilities Upgrade**

One transformer remaining to be replaced, and then crews will replace remaining 1,800' of primary conductor. Crews were redirected from this project to the 4W4 repair project. **Status:** ~80% complete

➤ **Kenwood Road (Wilmington) – Area Upgrade**

Completed the installation of the primary cable and the new transformers. Currently working on the secondary cable installation and service upgrades. **Status:** ~ 60% complete

➤ **Switchgear Replacement - Haven Street (Reading Square), Reading**

Outage scheduled for September 20th to replace cable and install new switchgear. Project will improve reliability in the area.



➤ **Marion Street (Wilmington) Line Extension – Phase II**

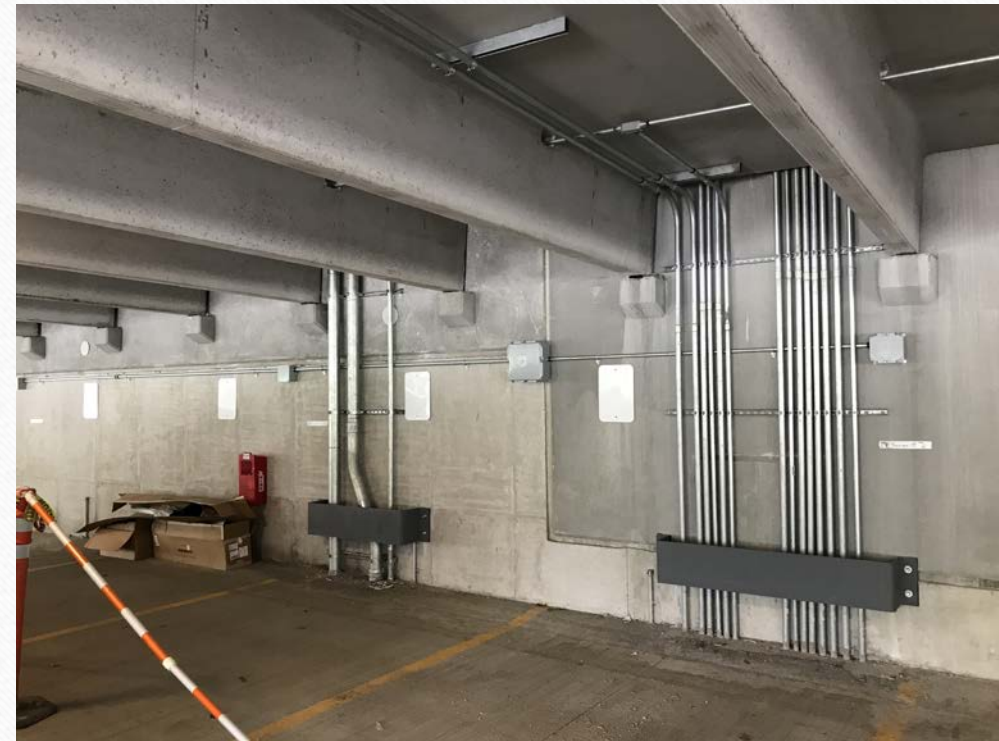
RMLD has completed the underground portion of this project and is currently working on pulling in the new primary overhead conductors; all the poles have been set by Verizon. **Status:** ~60% complete





➤ ***Analog Electric Vehicle Charging Stations***

RMLD has delivered the transformer and installed approximately 1,500 feet of primary cable for the charger installations. The electrical contractor should complete installation of the units by mid-October.





## OTHER PROJECTS

- **Power Factor Optimization Software Implementation**

*Implementation delayed due to Covid-19 Travel Restrictions – Completion by December 2020*

- **Solar Capacity Study - Complete**

*Operating Procedure for Solar Installations in Draft Format*

- **Meter Replacement Project**

*Lemmerhirt Consulting hired to conduct study and evaluate meter purchase options and integration of Meter Data Management*

# Maintenance Programs

- ❖ Tree Trimming – July: 60 spans      YTD: 273 spans
- ❖ Inspection of Feeders –  
*All Feeder Inspections Have Been Completed for 2020 as of March 19, 2020*
- ❖ Pole Inspection/Replacement Program  
282 of 518 failed poles have been set      263 of 282 transfers completed
- ❖ Infrared Scans – Completed through August - No Hot Spots Found
- ❖ Primary Metering Testing – delayed due to COVID-19 travel restrictions
- ❖ Manhole Inspection – on-going
- ❖ Porcelain Cutout Replacement – on-going



# Aged Transformer Replacement Program (Maintenance Program)

## Replaced YTD

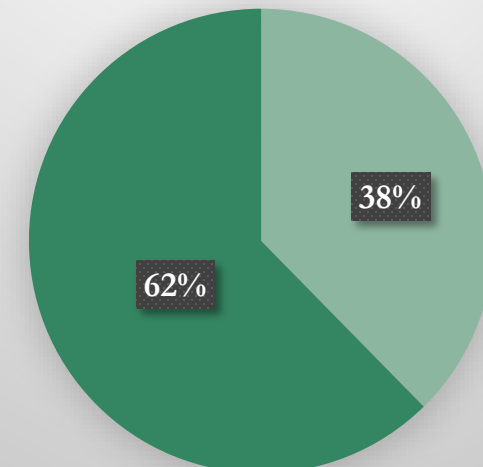
	Underground (Pad-mount)		Overhead (Pole-mount)	
	single-phase	three-phase	single-phase	three-phase
JANUARY	0	0	2	1
FEBRUARY	0	0	7	2
MARCH	2	0	10	0
APRIL	1	0	1	0
MAY	0	2	4	0
JUNE	1	0	8	1
JULY	3	0	16	0
AUGUST	0	0	10	0
<b>TOTAL:</b>	<b>7</b>	<b>2</b>	<b>58</b>	<b>4</b>

**GRAND TOTAL:**

**71**

## Transformers System Wide

As of September 11, 2020



- Transformers 25 Years or Older
- Transformers Less than 25 Years Old



## 2020 CAPITAL SPENDING By Division YTD through July

DIVISION	YTD	BUDGET	REMAINING BALANCE
Engineering and Operations	3,641,781	9,645,381	6,003,600
Facilities	434,833	1,260,000	825,167
Integrated Resources Division	57,317	199,101	141,784
Information Technology	<u>140,331</u>	<u>409,000</u>	<u>268,669</u>
<b>TOTAL</b>	<b>\$ <u>4,274,261</u></b>	<b>\$ <u>11,513,482</u></b>	<b>\$ <u>7,239,221</u></b>

# DOUBLE POLES

## Per NJUNS

(as of 9/11/2020)

### LYNNFIELD

"Next to Go"	# of Tickets
<b>RMLD</b>	<b>65</b>
Transfer 65	
Pull Pole	
<b>VZNESA - Verizon</b>	<b>0</b>
Transfer	
Pull Pole	
<b>CMCTNR - Comcast</b>	<b>2</b>
Transfer 2	
<b>LFLDFD - Lynnfield Fire Dept.</b>	<b>1</b>
Transfer 1	
<b>GRAND TOTAL</b>	<b>68</b>

### NORTH READING

"Next to Go"	# of Tickets
<b>VZNEDR - Verizon</b>	<b>0</b>
Transfer	
<b>RMLD</b>	<b>10</b>
Transfer 10	
Pull Pole	
Dispute	
<b>CMCTNR - Comcast</b>	<b>0</b>
Transfer	
<b>NRDGFD - North Reading Fire Dept.</b>	<b>2</b>
Transfer 2	
<b>LTFMA - Lighttower Fiber</b>	<b>0</b>
Transfer	
<b>GRAND TOTAL</b>	<b>12</b>

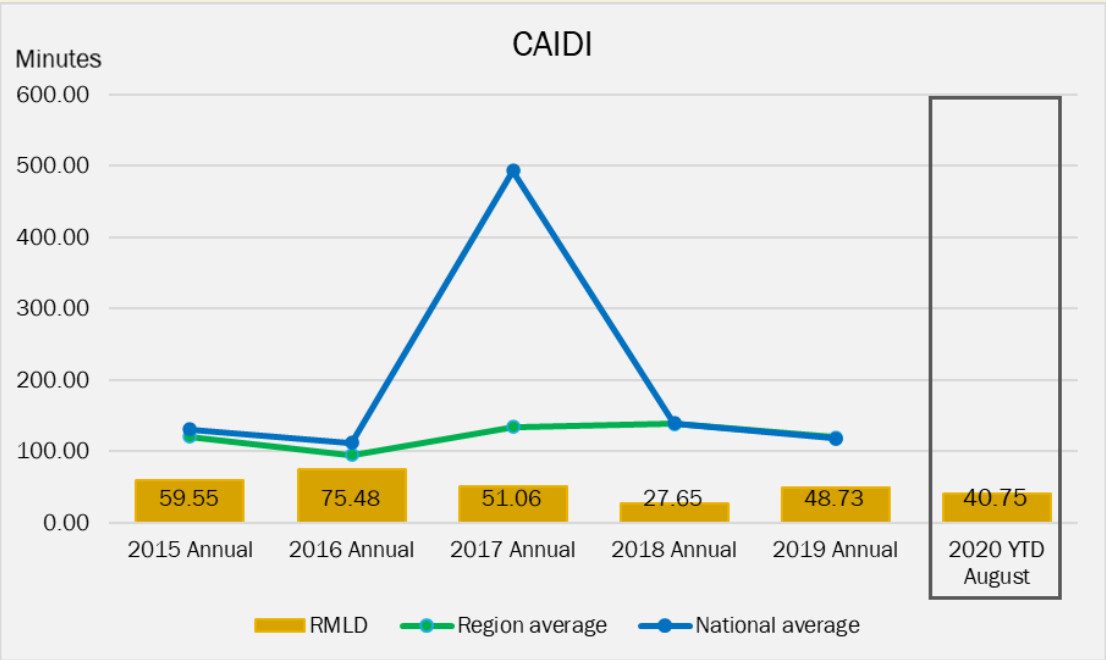
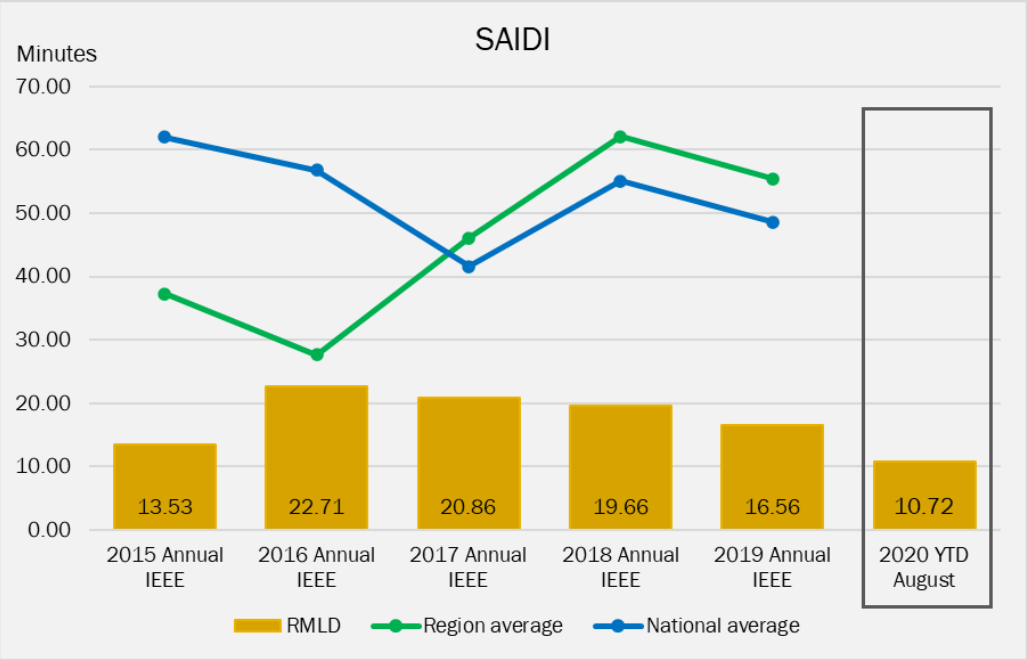
### READING

"Next to Go"	# of Tickets
<b>VZNESA - Verizon</b>	<b>0</b>
Transfer	
Pull Pole	
<b>RMLD</b>	<b>25</b>
Transfer 23	
Pull Pole 2	
Dispute	
<b>CMCTNR - Comcast</b>	<b>1</b>
Transfer 1	
<b>RDNGFD - Reading Fire Dept.</b>	<b>13</b>
Transfer 13	
<b>LTFMA - Lighttower Fiber</b>	<b>0</b>
Transfer	
<b>NP3PMA - Non-Participating 3rd Party Attachee</b>	<b>4</b>
Transfer 4	
<b>GRAND TOTAL</b>	<b>43</b>

### WILMINGTON

"Next to Go"	# of Tickets
<b>VZNEDR - Verizon</b>	<b>3</b>
Transfer 2	
Pull Pole 1	
Dispute	
<b>RMLD</b>	<b>98</b>
Transfer 97	
Pull Pole 1	
<b>CMCTNR - Comcast</b>	<b>0</b>
Transfer	
<b>WMGNFD - Wilmington Fire Dept.</b>	<b>32</b>
Transfer 32	
<b>WLMFIG - Wilmington Fiber</b>	<b>1</b>
Transfer 1	
<b>NP3PMA - Non-Participating 3rd Party Attachee</b>	<b>5</b>
Transfer 5	
<b>LTFMA - Lighttower Fiber</b>	<b>0</b>
Transfer	
<b>VZBMA - Verizon Business</b>	<b>0</b>
Transfer	
<b>GRAND TOTAL</b>	<b>139</b>

# RMLD Reliability Indices

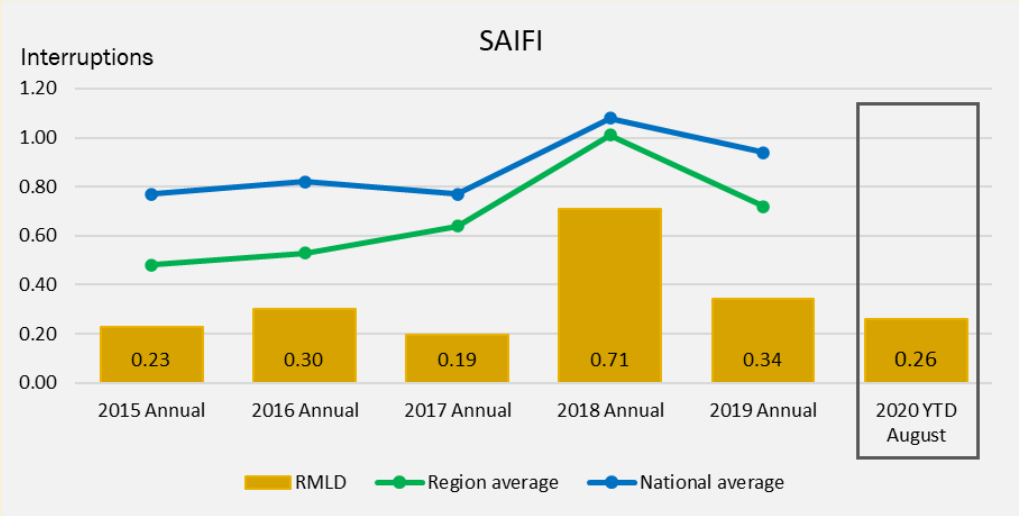


$$SAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

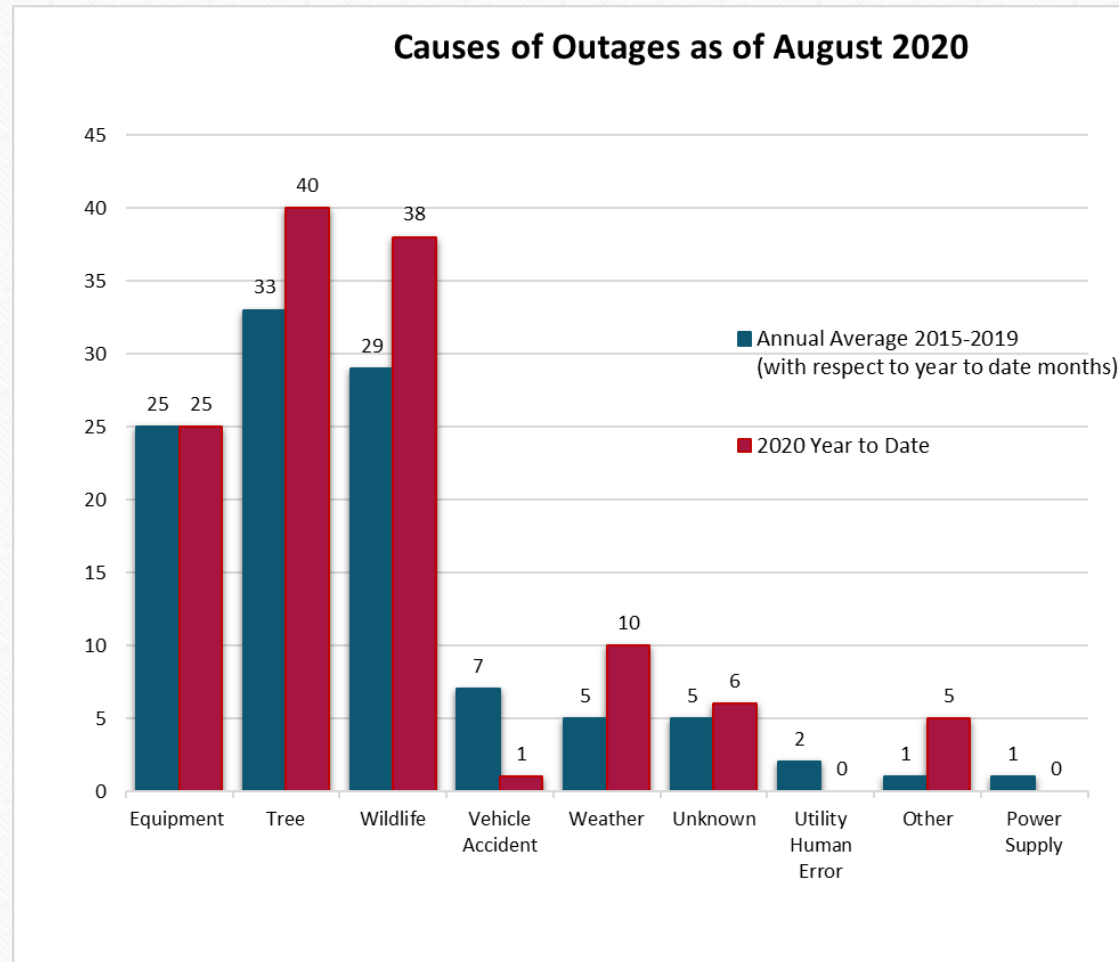
$$CAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customer Interruptions}}$$

**Note:** APPA eReliability Tracker using IEEE beta threshold method for outages.

$$SAIFI = \frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers Served}}$$







**Through August 2020:**

**Other:** (1) corroded connect; (2-3) fire (4) house fire; (5) power cut due to gas leak

**Unknown:** (1) burnt fuse; (2) two blown cutouts; (3) blown cutout; (4) inside problem; (5) blown cutout; (6) 4W4 operation



## New Vehicles Received ...

- *The Underground Utility truck has been received and is now in operation.*
- *Four hybrid SUVs and one pick-up truck has been received; registration is underway.*







Thank  
you

RMLD PROCUREMENT REQUEST  
REQUIRING BOARD APPROVAL  
ATTACHMENT 5

September 9, 2020

Town of Reading Municipal Light Board

Subject: IFB 2020-11 Removal, Transportation, Disposal, and Remediation of Hazardous Materials including Emergency Response Services

Pursuant to M.G.L c. 30 § 39M, on August 5, 2020, an invitation for bid was placed as a legal notice in the Middlesex East Section of the Daily Times Chronicle, was published in the Central Register, and was posted on COMMBUYS and the RMLD website, requesting sealed bids for Removal, Transportation, Disposal, and Remediation of Hazardous Materials including Emergency Response Services.

An invitation for bid was sent to the following twenty-two companies:

ADEP Group, Inc.	ACV Environmental Services, Inc.
Bestech Environmental Resources, Inc.	BidPrime, Inc.
Brighter Horizons Environmental, Inc.	Charter Contracting Company, LLC
Clean Harbors Environmental Services, Inc.	Compass Restoration Services, LLC
Environmental Restoration, LLC	Facility Support Services, LLC
Green Site Services Group, Inc.	Greenleaf Environmental, Inc.
Heritage-Crystal Clean, LLC	New England Disposal Technologies, Inc.
Nordee Enterprise LLC	NRC East Environmental Services, Inc.
Prime Vendor, Inc.	Projectdog
Tradebe Environmental Services LLC	Triumvirate Environmental
W.L. French Excavating Corp.	Watermark

Sealed bids were received from five companies: AVC Environmental Services, Inc., Clean Harbors Environmental Services, Inc., Green Site Services Group, Inc., NRC East Environmental Services, Inc., and Tradebe Environmental Services, LLC.

The sealed bids were opened and read aloud via a video Zoom meeting\* at 12:00 noon, August 27, 2020, in the Town of Reading Municipal Light Department's Audio Visual/Spurr Room, 230 Ash Street, Reading, Massachusetts. After conclusion of the bid opening, the bid results were posted on RMLD's website and sent to all vendors who submitted a bid.

*\*Due to the COVID-19 restrictions, the RMLD building is closed to the public.*



The bids were reviewed, analyzed, and evaluated by staff and recommended to the General Manager.

Move that bid IFB 2020-11 for: Removal, Transportation, Disposal, and Remediation of Hazardous Materials including Emergency Response Services be awarded to: **ACV Environmental Services, Inc., for a not to exceed amount of \$50,000 per year (without written approval)** pursuant to M.G.L c. 30 § 39M, as the lowest responsible and eligible bidder on the recommendation of the General Manager.

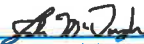
<sup>1</sup>See attached analysis.

The 2020 Operating Budget amount for this item is \$50,000.



[Nick D'Alleva \(Sep 11, 2020 09:11 EDT\)](#)

Nick D'Alleva



[John McDonagh \(Sep 11, 2020 09:19 EDT\)](#)

John McDonagh



[Hamid Jaffari \(Sep 11, 2020 09:57 EDT\)](#)

Hamid Jaffari



[coleen obrien \(Sep 11, 2020 12:20 EDT\)](#)

Coleen O'Brien

**Removal, Transportation, Disposal, and Remediation of Hazardous Materials  
including Emergency Response Services  
IFB 2020-11**

<b>Bidder</b>	<u>Pricing - Typical Job A</u>	<u>Pricing - Typical Job B</u>	<u>Combined Totals of Jobs A and B</u>
<b>AVC Environmental Services, Inc.</b>			
Total bid form price	\$2,685.13	\$11,797.41	<b>\$14,482.54</b>
<b>Tradebe Environmental Services LLC</b>			
Total bid form price	\$3,680.80	\$12,918.80	<b>\$16,599.60</b>
<b>NRC East Environmental Services, Inc.</b>			
Total bid form price	\$3,537.80	\$13,808.25	<b>\$17,346.05</b>
<b>Clean Harbors Environmental Services, Inc.</b>			
Total bid form price	\$4,367.06	\$13,717.40	<b>\$18,084.46</b>
<b>Green Site Services Group, Inc.</b>			
Total bid form price	\$3,935.42	\$18,190.65	<b>\$22,126.07</b>

PRESENTATION FROM GREATER READING  
ALLIANCE FOR CLEAN ENERGY (GRACE)  
ATTACHMENT 6



# RMLD and Clean Energy

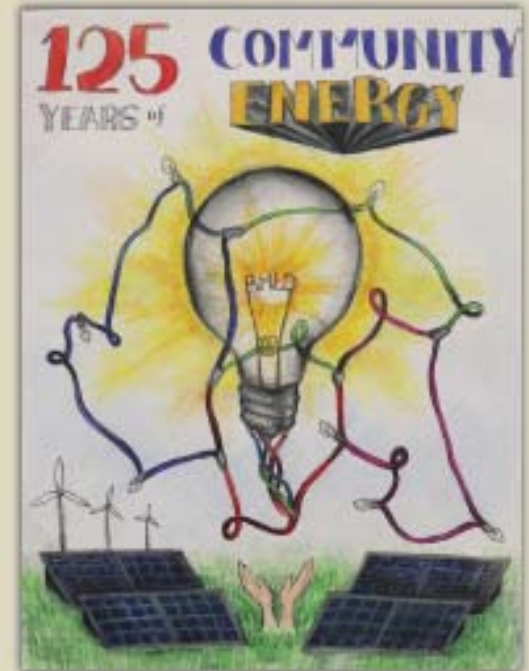
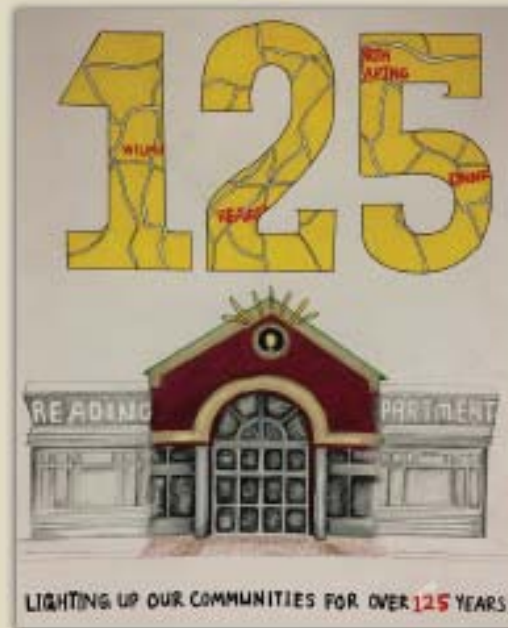
Greater Reading Alliance for Clean Energy  
(GRACE)  
Board of Commissioners meeting  
September 16, 2020

RMLD is about more than costs.

“At RMLD, our focus is to be efficient, **get greener**, and go paperless.”

[www.rmlld.com/about-rmld](http://www.rmlld.com/about-rmld)

Reading Municipal  
Light Department  
**ANNUAL REPORT  
2019**



**THE  
POWER  
OF  
COMMUNITY**



GRACE request (7/23/20):

...that the RMLD adopt a policy of parity with the investor-owned utilities (IOUs) for renewable and clean energy

1. Same technology considerations
2. Same annual targets
3. Same standards for complying

History:  
Massachusetts's IOUs  
have met the  
Renewable Portfolio  
Standard (RPS) for  
decades.

- 1997: Electrical Industry Restructuring Act
- 2008: Green Communities Act
- 2018: Act to Advance Clean Energy  
+ First year of Clean Energy Standard (CES)
- 2020: [Pending]

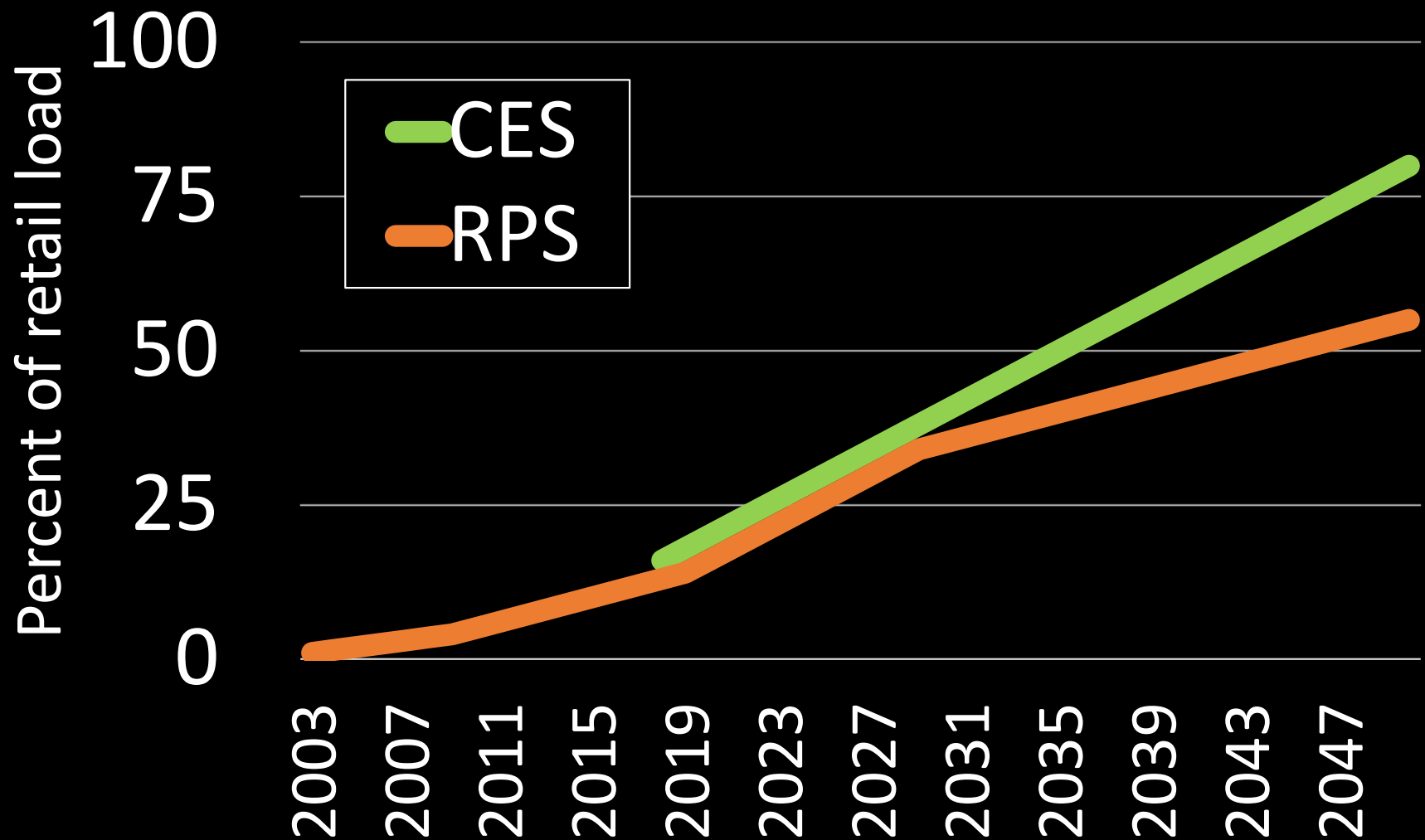


# 1. Same technology considerations

	RPS	CES
Solar	●	●
Wind	●	●
Low-impact hydro	●	●
Wave/tidal	●	●
Geothermal	●	●
Landfill gas	●	●
Select biomass	●	●
Large hydro		●
Nuclear		●
Low-GHG		●



## 2. Same annual targets



3.

## Same standards for complying

- Generation: IOUs don't own.
- Renewable energy certificates (RECs): Buy and retire 1 per megawatt-hour

3.

Same standards for complying - role of RECs

RECs are *the* tool for establishing/validating  
renewable energy claims, according to  
RPS states,  
the Environmental Protection Agency,  
the US Federal Trade Commission,  
the federal Council on Environmental Quality,  
and many others.



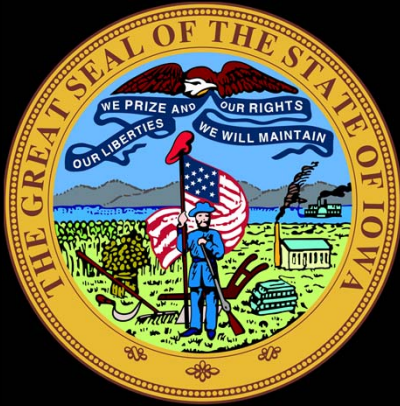
“Electricity produced by new renewable energy generators qualified for the RPS is generally broken into two products:

“1) The electricity production that is consumed on-site or delivered to the grid

“2) The **positive environmental attributes** associated with the energy production.”

- Commonwealth of Massachusetts (first statewide RPS, 1997)

[www.mass.gov/service-details/program-summaries](http://www.mass.gov/service-details/program-summaries)



“Because of the laws of physics that govern operation of the electric transmission system, it is impossible to ensure that electricity produced by a particular renewable source is specifically and exclusively directed, in a physical sense, to the purchasing entity. An accounting system that verifies compliance must therefore rely on an **agreed-upon abstract medium of exchange** similar to the way the financial markets rely on money to represent value.”

- State of Iowa (first RPS, 1983)

<https://resource-solutions.org/wp-content/uploads/2015/07/The-Legal-Basis-for-RECs.pdf>



“A renewable energy certificate, or REC..., is a market-based instrument that **represents the property rights** to the environmental, social and other non-power attributes of renewable electricity generation.”

- US EPA

[www.epa.gov/greenpower/renewable-energy-certificates-recs](http://www.epa.gov/greenpower/renewable-energy-certificates-recs)



“Your organization should retire the RECs associated with its green power purchase. Organizations should not transfer or sell RECs after a claim has been made. **Making a claim constitutes a retirement of the REC**; any sale or claim by a different owner would constitute a double claim.”

- US EPA

[www.epa.gov/greenpower/making-environmental-claims](http://www.epa.gov/greenpower/making-environmental-claims)



“If a marketer generates renewable electricity but sells renewable energy certificates for all of that electricity, it would be deceptive for the marketer to represent, directly or by implication, that it uses renewable energy.”

- US Federal Trade Commission

[www.ftc.gov/sites/default/files/attachments/press-releases/ftc-issues-revised-green-guides/greenguides.pdf](http://www.ftc.gov/sites/default/files/attachments/press-releases/ftc-issues-revised-green-guides/greenguides.pdf)





“Note that a REC is also retired once a claim is made that the REC instrument would substantiate (e.g., renewable energy use or environmental claim).”

“Note that an agency cannot count electricity obtained from a renewable project towards the renewable electricity goals if the Agency does not retain the RECs or does not purchase replacement RECs.”

- [US] Council on Environmental Quality

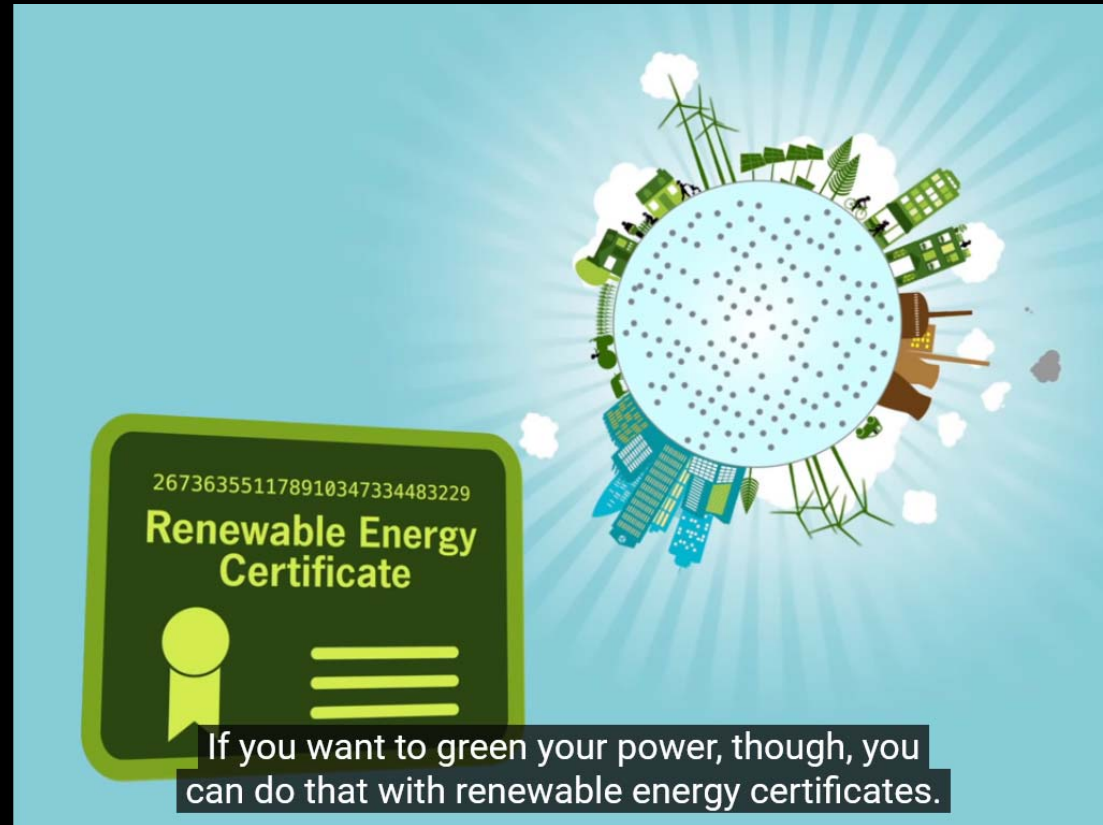
[www.sustainability.gov/pdfs/federal\\_rec\\_guide.pdf](http://www.sustainability.gov/pdfs/federal_rec_guide.pdf)

RECs = renewable energy.

No RECs = no renewable energy.

# Other resources

- USEPA, “RECs: Making Green Power Possible”  
[www.youtube.com/watch?v=12VYXms6-c](http://www.youtube.com/watch?v=12VYXms6-c)
- CRS, “What is a Renewable Energy Certificate?”  
[www.youtube.com/watch?v=opJMrzNauFQ](http://www.youtube.com/watch?v=opJMrzNauFQ)



3.

## Same standards for complying, revisited

- Generation: IOUs don't own.
- Renewable energy certificates (RECs): Buy and retire 1 per megawatt-hour
- Alternative Compliance Payment: Use if can't get RECs

# Summary

GRACE requests that the RMLD commit to voluntarily meeting the annual targets of the RPS and CES, using the same technologies, same targets, and same reporting standards.





Thank you.

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BOARD MATERIAL AVAILABLE  
BUT NOT DISCUSSED