



Redwood Coast Energy Authority  
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## **BOARD OF DIRECTORS MEETING AGENDA**

**Humboldt Bay Municipal Water District Office**  
**828 7<sup>th</sup> Street, Eureka, CA 95501**

**October 24, 2019**  
**Thursday, 3:30 p.m.**

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In compliance with the Americans with Disabilities Act, if you need assistance to participate in this meeting, please contact the Clerk of the Board at the phone number, email or physical address listed above at least 72 hours in advance.

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Pursuant to Government Code section 54957.5, all writings or documents relating to any item on this agenda which have been provided to a majority of the Board of Directors, including those received less than 72 hours prior to the RCEA Board meeting, will be made available to the public in the agenda binder located in the RCEA lobby during normal business hours, and at <https://redwoodenergy.org/about/board-of-directors/>.

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PLEASE NOTE: Speakers wishing to distribute materials to the Board at the meeting are asked to provide 12 copies to the Clerk of the Board.

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### **OPEN SESSION** Call to Order

#### **1. REPORTS FROM MEMBER ENTITIES**

#### **2. ORAL COMMUNICATIONS**

This time is provided for people to address the Board or submit written communications on matters not on the agenda. At the conclusion of all oral communications, the Board may respond to statements. Any request that requires Board action will be set by the Board for a future agenda or referred to staff.

#### **3. CONSENT CALENDAR**

All matters on the Consent Calendar are considered to be routine by the Board and are enacted in one motion. There is no separate discussion of any of these items. If discussion is required, that item is removed from the Consent Calendar and considered separately. At the end of the reading of the Consent Calendar, Board members or members of the public can request that an item be removed for separate discussion.

**3.1** Approve Minutes of September 26, 2019, Board Meeting.

**3.2** Approve Disbursements Report.

**3.3** Accept Financial Reports.

**3.4** Approve Transaction by The Energy Authority, Inc. with NRG Power Marketing, LLC, for an Amount Above the Authorized Staff Transaction Execution Limit of \$2 Million for 2020 Resource Adequacy.

#### **4. REMOVED FROM CONSENT CALENDAR ITEMS**

Items removed from the Consent Calendar will be heard under this section.

#### **5. OLD BUSINESS**

**5.1** Comprehensive Action Plan for Energy Update – Information only

## **5.2 Long-Term Renewable Energy Solicitation Update**

Discuss and provide guidance/authorization for any potential RCEA input to the County Planning Commission on the Terra-Gen/Humboldt Wind Energy project.

## **5.3 RCEA Office Space Update – Information only**

# **6. NEW BUSINESS**

## **6.1. PG&E Public Safety Power Shutoff Event**

Direct staff to pursue a process to develop, test, and execute a plan to provide more advance notice, provisions for people with medical needs, and capabilities to electrically-island Humboldt County during future power shutoffs.

## **6.2. Redwood Coast Airport Microgrid Project Site Tree Removal Request for Proposals**

Authorize staff to issue a request for proposals for removing trees along the southern boundary of the microgrid project site at the California Redwood Coast-Humboldt County Airport.

# **COMMUNITY CHOICE ENERGY (CCE) BUSINESS (Confirm CCE Quorum)**

Items under this section of the agenda relate to CCE-specific business matters that fall under RCEA's CCE voting provisions, with only CCE-participating jurisdictions voting on these matters with weighted voting as established in the RCEA joint powers agreement.

# **7. OLD CCE BUSINESS**

## **7.1. Energy Risk Management Quarterly Report**

Accept Energy Risk Management Quarterly Report.

# **8. NEW CCE BUSINESS – None.**

# **END OF COMMUNITY CHOICE ENERGY (CCE) BUSINESS**

# **9. STAFF REPORTS – None.**

# **10. FUTURE AGENDA ITEMS**

Any request that requires Board action will be set by the Board for a future agenda or referred to staff.

# **11. CLOSED SESSION**

## **11.1. Closed Session to meet with legal counsel per Government Code Section 54956.9(d)(4), in re PG&E, Bankruptcy Court, 19-30088, Northern District of California.**

**12. RECONVENE TO OPEN SESSION**

**13. CLOSED SESSION REPORT**

**14. ADJOURNMENT**

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**NEXT REGULAR MEETING**

Thursday, November 21, 2019, 3:30 p.m.  
Humboldt Bay Municipal Water District Office  
828 7<sup>th</sup> Street, Eureka, CA 95501

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## **DRAFT BOARD OF DIRECTORS MEETING MINUTES**

**Humboldt Bay Municipal Water District Office  
828 7<sup>th</sup> Street, Eureka, CA 95501**

**September 26, 2019  
Thursday, 3:30 p.m.**

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Chair Michael Winkler called a regular meeting of the Board of Directors of the Redwood Coast Energy Authority to order on the above date at 3:29 p.m. Notice of this meeting was posted on September 20, 2019. PRESENT: Vice Chair Austin Allison, Alternate Director Stephen Avis, Summer Daugherty, Estelle Fennell, Alternate Director Barbara Hecathorn, Dwight Miller, Chair Michael Winkler. ABSENT: Dean Glaser, Frank Wilson. STAFF PRESENT: General Counsel Nancy Diamond, Executive Director Matthew Marshall, Community Strategies Manager Nancy Stephenson, Clerk of the Board Lori Taketa.

### **REPORTS FROM MEMBER ENTITIES**

Chair Winkler reported that hundreds of people gathered in Arcata on September 20 for the International Climate Strike and expressed hope that the event would generate ongoing enthusiasm for local sustainable energy initiatives.

### **CONSENT CALENDAR**

- 3.1** Approve Minutes of August 22, 2019, Board Meeting.
- 3.2** Approve Disbursements Report.
- 3.3** Accept Financial Reports.
- 3.4** Authorize the Executive Director to Execute an Amendment to the Power Purchase Agreement with DG Fairhaven Power LLC Renewing the Agreement for a 10-month Period Beginning March 1, 2020, Along with Any Associated Documents.

No items were removed from the consent calendar by directors or any public participants.

**M/S: Fennell, Miller: Approve consent calendar items.**

**The motion passed on a unanimous voice vote. Ayes: Allison, Avis, Daugherty, Fennell, Hecathorn, Miller, Winkler. Absent: Glaser, Wilson.**

### **OLD BUSINESS**

#### **5.1 Comprehensive Action Plan for Energy Update (Information only)**

Executive Director Marshall summarized his staff report dated September 26, 2019, adding that 56 people attended and provided input during the first round of public workshops, 61 written comments were received and 45 people attended the offshore wind workshop. While attendance at the Orleans and Redway workshops was sparse, Mr. Marshall stated that the rural participants uniformly supported biomass, in contrast with participants from more

populated areas. Summarized comments will be available online and at the next Board meeting.

Mr. Marshall summarized public opinion gathered at the workshops prioritizing agency work in: Planning and Regional Coordination, Integrated Demand-Side Management, Transportation, and the Community Choice Aggregation Power Mix. Written comments received primarily focused on biomass and the Terra-Gen onshore wind project.

The directors requested analysis of public comment to aid in decision making and discussed public opinion on prioritizing local energy generation, the lack of modern nuclear power emphasis because of the unlikelihood of local development, how local biomass and feed-in tariff distributed medium-scale solar are currently more expensive than non-local wind energy, and how, if approved, the long-term onshore wind contract price would be competitive with non-local wind energy.

Chair Winkler invited public comment.

Deborah Dukes of 350 Humboldt and the Eureka Energy Committee noted that people who usually attend energy events went to the Eureka CAPE meetings and asked whether it was possible to encourage more diverse participation. Staff described publicity efforts and feedback received that people were aware of the meetings but not motivated to attend. Directors praised staff's outreach efforts and described more active community involvement when facing contentious issues rather than when making long-range plans.

Chair Winkler closed public comment.

## **5.2 Redwood Coast Airport Microgrid Project Site Fence Request for Proposals**

Executive Director Marshall summarized a staff report citing timing and cost reasons for obtaining site control from the County, removing fence construction from the Tesla contract scope of work and issuing a request for proposals for a fence around the solar array and battery system at the County Airport.

The directors discussed how the project would be funded from the reduced cost of the amended Tesla contract, costly FAA requirements for escorted workers until the project area is enclosed by a fence, Tesla's willingness to change the contract, other project FAA requirements such as glare analysis, and how fence construction and ensuing tree removal this fall and winter avoids raptor nesting season impacts.

Chair Winkler invited public comment. No one came forward to speak. Chair Winkler closed public comment.

Alternate Director Avis moved and Director Miller seconded authorizing staff to obtain site control from the County and issue a request for proposals for new fence installation at the Humboldt County airport. Discussion ensued about adding negotiation and execution of a Tesla contract change order to the same motion. The motion was amended thus:

**M/S: Avis, Miller: 1) Authorize staff to obtain site control from the County and issue a request for proposals for installation of a new fence at the California Redwood Coast -**

**Humboldt County Airport, and 2) Direct Executive Director to negotiate and execute a change order to remove fence installation and the associated costs from the contract with Tesla, and any associated documents.**

**The motion passed on a unanimous voice vote. Ayes: Allison, Avis, Daugherty, Fennell, Hecathorn, Miller, Winkler. Absent: Glaser, Wilson.**

### **5.3 Renewal of RCEA Office Lease, 633 3<sup>rd</sup> Street, Eureka**

Executive Director Marshall reviewed the staff report, adding that staff is seeking to either buy or lease office space in the Eureka area to remain centrally located and to address a shortage of appropriately configured space following agency expansion with the launch of the Community Choice Energy program.

Discussion ensued on the rent increase, the landlord's previous accommodations and renter's market conditions when the original building lease was signed, current Eureka office space rents, the possibility of sharing office space with the County should a larger-than-needed space be found, and the use of a conventional loan to finance any potential building purchase until the agency cash reserve is larger. The directors requested a financial analysis of potential rental, purchase and remodeling costs.

Chair Winkler invited public comment. No one came forward to speak. Chair Winkler closed public comment.

**M/S: Fennell, Daugherty: Authorize Executive Director and legal counsel to negotiate, finalize, and execute a building lease renewal for 633 3rd Street, Eureka, CA, and any associated documents.**

**The motion passed on a unanimous voice vote. Ayes: Allison, Avis, Daugherty, Fennell, Hecathorn, Miller, Winkler. Absent: Glaser, Wilson.**

### **CLOSED SESSION**

Chair Winkler invited public comment on the closed session item. No one came forward to speak. Chair Winkler closed public comment.

The directors adjourned to closed session at 4:14 p.m. to meet with legal counsel per Government Code Section 54956.9(d)(4), in re PG&E, Bankruptcy Court, 19-30088, Northern District of California.

The directors reconvened to open session at 4:39 p.m. Chair Winkler stated there was nothing to report out.

Chair Winkler adjourned the meeting at 4:39 p.m.

Respectfully submitted,

Lori Taketa, Clerk of the Board

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# Redwood Coast Energy Authority

## Disbursements Report

### As of August 31, 2019

Type	Date	Num	Name	Memo	Amount
Check	08/01/2019	9793	CoPower	Premium	-353.20
Bill Pmt -Check	08/09/2019	9849	Avcolle, M.	July mileage reimbursement	-63.80
Bill Pmt -Check	08/09/2019	9850	Biondini, L.	Travel reimbursement. CA Energy Summit & EUCI Crec	-242.52
Bill Pmt -Check	08/09/2019	9851	Bishop, M.	Mileage reimbursement - July EW	-39.56
Bill Pmt -Check	08/09/2019	9852	Booklegger	"Talk Matters" - 10 copies.	-243.58
Bill Pmt -Check	08/09/2019	9853	Boudreau, D.	Travel Reimbursement	-154.05
Bill Pmt -Check	08/09/2019	9854	Brennan, K.	July mileage reimbursement - EW	-152.08
Bill Pmt -Check	08/09/2019	9855	Central Office	Printing/Copying services.	-186.16
Bill Pmt -Check	08/09/2019	9856	Chargepoint	Chargepoint Support	-2,309.00
Bill Pmt -Check	08/09/2019	9857	City of Arcata	July Utility User Tax	-9,253.23
Bill Pmt -Check	08/09/2019	9858	City of Blue Lake	July Utility User Tax	-797.73
Bill Pmt -Check	08/09/2019	9859	City of Eureka-Water	Water service, 6/25-7/25/19	-182.02
Bill Pmt -Check	08/09/2019	9860	Diamond, Nancy	Legal Services	-11,866.80
Bill Pmt -Check	08/09/2019	9861	Donald Dame	Professional Services	-218.75
Bill Pmt -Check	08/09/2019	9862	Environmental Indicator Accounting Svcs.	Services & support for climate action plan.	-2,375.00
Bill Pmt -Check	08/09/2019	9863	FedEx	Shipping	-86.14
Bill Pmt -Check	08/09/2019	9864	Fetters, Jake	July mileage reimbursement	-135.72
Bill Pmt -Check	08/09/2019	9865	Hilson, D.	July mileage reimbursement	-76.79
Bill Pmt -Check	08/09/2019	9866	HireRight	Background Check: new hires	-83.71
Bill Pmt -Check	08/09/2019	9867	Humboldt Bay Coffee Co.	Office Supply	-43.25
Bill Pmt -Check	08/09/2019	9868	Humboldt Lighting, LLC.	Grocery Outlet - Eka self-install rebate/Audit 5752	-10,116.43
Bill Pmt -Check	08/09/2019	9869	Jim Niesen	EUC Assessment Refund	-500.00
Bill Pmt -Check	08/09/2019	9870	Local Worm Guy	Janitorial - compost	-60.00
Bill Pmt -Check	08/09/2019	9871	Loleta Market	VO D: Ponci's Diesel self-install rebate/Audit 5714	0.00
Bill Pmt -Check	08/09/2019	9872	McMahon, J.	May, June, July mileage	-325.15
Bill Pmt -Check	08/09/2019	9873	Means, M.	July mileage	-164.55
Bill Pmt -Check	08/09/2019	9874	Mission Uniform & Linen	Janitorial - rugs and paper products	-13.83
Bill Pmt -Check	08/09/2019	9875	NGI, Inc.	Roy's Auto Center self-install rebate/Audit 5866	-2,525.60
Bill Pmt -Check	08/09/2019	9876	North Coast Cleaning	July monthly cleaning service	-438.00
Bill Pmt -Check	08/09/2019	9877	North Coast Journal	Full page ad - page 16.	-1,115.00
Bill Pmt -Check	08/09/2019	9878	PG&E EV Account	EV stations June	-359.49
Bill Pmt -Check	08/09/2019	9879	PG&E Utility Account	June utilities/lighting upgrade financing	-784.18
Bill Pmt -Check	08/09/2019	9880	Ponting, W.	July mileage reimbursement	-108.00
Bill Pmt -Check	08/09/2019	9881	Recology	July garbage service	-90.72
Bill Pmt -Check	08/09/2019	9882	River Lodge Conference Center	Security deposit: 09/13/19 workshop	-200.00
Bill Pmt -Check	08/09/2019	9883	SDRMA Medical	September Premium	-20,049.12
Bill Pmt -Check	08/09/2019	9884	Slackerelli, M.	M. Slackerelli travel reimbursement: CalCCA	-66.77
Bill Pmt -Check	08/09/2019	9885	Stephenson, Nancy	Purchase reimbursement	-115.90
Bill Pmt -Check	08/09/2019	9886	Taketa, L.	Travel reimbursement: CSDA training	-60.95
Bill Pmt -Check	08/09/2019	9887	Verizon Wireless	July tablet/cell service for field staff/mobile broadband s	-228.75
Bill Pmt -Check	08/09/2019	9888	WREGIS	VO D: WREGIS "Retired"	0.00
Bill Pmt -Check	08/09/2019	9889	Advanced Security	Security monitoring for Aug-Oct.	-118.50
Bill Pmt -Check	08/09/2019	9890	City of Arcata	July High Energy Use Tax	-3,382.81
Paycheck	08/09/2019	9891	Payroll	Payroll - July	-54,761.87
Liability Check	08/13/2019	E-pay	Internal Revenue Service	74-3104616 QB Tracking # 1226075030	-44.91
Liability Check	08/13/2019	E-pay	EDD	499-0864-3 QB Tracking # 1226087030	-4,356.49
Liability Check	08/13/2019	E-pay	Internal Revenue Service	74-3104616 QB Tracking # 1226095030	-21,424.10
Liability Check	08/13/2019	E-pay	EDD	499-0864-3 QB Tracking # 1226107030	-107.72
Bill Pmt -Check	08/14/2019	9988	Shred Aware	VO D:	0.00
Bill Pmt -Check	08/14/2019	9989	Stephenson, Nancy	VO D:	0.00
Bill Pmt -Check	08/14/2019	9990	Terry, P.	VO D: August Mileage	0.00
Bill Pmt -Check	08/14/2019	9991	The Independent	VO D: Print Advertising: CAPE workshop	0.00
Bill Pmt -Check	08/14/2019	9992	Times Printing Company	VO D:	0.00
Bill Pmt -Check	08/14/2019	9993	Verizon Wireless	VO D: August tablet/cell service for field staff/mobile br	0.00
Bill Pmt -Check	08/19/2019	ACH	VISA	July Statement 06/21/19-07/19/19	-9,666.91
Liability Check	08/20/2019	E-pay	EDD	499-0864-3 QB Tracking # 1398266030	-4,379.00

**Redwood Coast Energy Authority**  
**Disbursements Report**  
As of August 31, 2019

Type	Date	Num	Name	Memo	Amount
Liability Check	08/20/2019	E-pay	Internal Revenue Service	74-3104616 QB Tracking # 1398282030	-21,735.48
Liability Check	08/20/2019	E-pay	EDD	499-0864-3 QB Tracking # 1398299030	-155.42
Liability Check	08/20/2019	9894	Umpqua Bank	HSA contribution	-698.72
Liability Check	08/20/2019	9895	Calvert	S MPLE IRA contribution	-12,901.24
Bill Pmt -Check	08/21/2019	ACH	Humboldt Redwood Company	Humboldt Redwood CO. July 2019	-695,799.12
Bill Pmt -Check	08/21/2019	ACH	DG Fairhaven	DG Fairhaven July 2019	-415,925.26
Bill Pmt -Check	08/21/2019	ACH	CalPine Corporation	Calpine July 2019 Costs	-73,400.26
Bill Pmt -Check	08/22/2019	ACH	Staples Charge Account	July Statement	-354.31
Check	08/23/2019	ACH	Halvorsen, Nicole E.	Payroll Overage - made in error, deposit corrected.	-1,507.94
Paycheck	08/23/2019	9892	Payroll	Final paycheck	-2,655.37
Paycheck	08/23/2019	9893	Payroll	Paycheck	-483.34
Bill Pmt -Check	08/23/2019	9911	ABC Office Equipment	June print/copying services	-327.47
Bill Pmt -Check	08/23/2019	9912	APP Imprints, LLC	Msc. Outreach Materials	-1,218.50
Bill Pmt -Check	08/23/2019	9913	Dell USA	XPS 13 Laptops	-3,019.42
Bill Pmt -Check	08/23/2019	9914	Donald Dame	Professional Services	-218.75
Bill Pmt -Check	08/23/2019	9915	Enterprise	Mtiple rental agreements	-531.47
Bill Pmt -Check	08/23/2019	9916	Eureka Chamber of Commerce	2019 Membership Dues	-2,500.00
Bill Pmt -Check	08/23/2019	9917	HCOE	Multiple business card print orders	-73.50
Bill Pmt -Check	08/23/2019	9918	Marshall, M.	June travel reimbursement	-946.10
Bill Pmt -Check	08/23/2019	9919	Mission Uniform & Linen	August mat service, janitorial supplies	-7.09
Bill Pmt -Check	08/23/2019	9920	North Coast Unified Air Quality	Contract services through 09/30/18, FCEV	-1,300.00
Bill Pmt -Check	08/23/2019	9921	NYLEX.net, Inc.	Onsite network support services - September	-3,200.00
Bill Pmt -Check	08/23/2019	9922	PG&E CCA	July CCE Charges	-22,103.20
Bill Pmt -Check	08/23/2019	9923	Pierson's Home Ctr	Misc. tools and facilities expenses	-267.97
Bill Pmt -Check	08/23/2019	9924	Platt/Rexel	Bulb orders	-19,949.17
Bill Pmt -Check	08/23/2019	9925	Slackerelli, M.	M. Slackerelli travel reimbursement: TOU mtg in San Fr	-112.84
Bill Pmt -Check	08/23/2019	9926	Times Printing Company	Misc. printing and mailers	-2,753.49
Bill Pmt -Check	08/23/2019	9927	Winzler, John	Office Lease - September	-4,524.00
Paycheck	08/23/2019	9928	Payroll	Payroll August	-52,376.02
Bill Pmt -Check	08/28/2019	ACH	NextEra	Tradable RECs - Category 2.	-138,600.00
Check	08/31/2019		Umpqua Bank	Service Charge	-267.50
<b>TOTAL</b>					<b>-1,644,340.79</b>

**Redwood Coast Energy Authority**  
**Balance Sheet**  
As of August 31, 2019

	<u>Aug 31, 19</u>
<b>ASSETS</b>	
<b>Current Assets</b>	
<b>Checking/Savings</b>	
1010 · Petty Cash	414.35
1050 · GRANTS & DONATIONS 3840	15,204.58
1060 · Umpqua Checking Acct 0560	112,244.78
1071 · Umpqua Deposit Control Acct 8215	3,270,478.04
1075 · Umpqua Reserve Account 2300	2,000,000.00
8413 · COUNTY TREASURY 3839	5,065.52
<b>Total Checking/Savings</b>	<u>5,403,407.27</u>
<b>Total Accounts Receivable</b>	196,315.82
<b>Other Current Assets</b>	
1101 · Allowance for Doubtful Accounts	-325,739.54
1103 · Accounts Receivable-Other	7,941,725.18
1120 · Inventory Asset	21,715.00
1202 · Prepaid Expenses	-7,703.88
1210 · Retentions Receivable	8,738.37
1499 · Undeposited Funds	77,741.38
<b>Total Other Current Assets</b>	<u>7,716,476.51</u>
<b>Total Current Assets</b>	13,316,199.60
<b>Total Fixed Assets</b>	<u>151,725.39</u>
<b>Total Other Assets</b>	<u>-145,900.00</u>
<b>TOTAL ASSETS</b>	<u><u><b>13,322,024.99</b></u></u>
<b>LIABILITIES &amp; EQUITY</b>	
<b>Liabilities</b>	
<b>Current Liabilities</b>	
Total Accounts Payable	4,799,045.84
Total Credit Cards	0.00
<b>Total Other Current Liabilities</b>	<u>120,270.84</u>
<b>Total Current Liabilities</b>	4,919,316.68
<b>Long Term Liabilities</b>	
2700 · Long-Term Debt	
2701 · Lighting Upgrade	795.27
<b>Total 2700 · Long-Term Debt</b>	<u>795.27</u>
2703 · TEA Phase I & II	68,357.81
<b>Total Long Term Liabilities</b>	<u>69,153.08</u>
<b>Total Liabilities</b>	4,988,469.76
<b>Equity</b>	
2320 · Investment in Capital Assets	150,930.11
3203 · LTD - TEA Phase I & II	-68,357.81
3900 · Fund Balance	6,275,321.30
Net Income	1,975,661.63
<b>Total Equity</b>	<u>8,333,555.23</u>
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<u><u><b>13,322,024.99</b></u></u>

**Redwood Coast Energy Authority**  
**Profit & Loss Budget vs. Actual**  
July through August 2019

	<b>Jul - Aug 19</b>	<b>Budget</b>	<b>% of Budget</b>
<b>Ordinary Income/Expense</b>			
Income			
<b>Total 4 GRANTS AND DONATIONS</b>	270.00		
<b>5 REVENUE EARNED</b>			
<b>Total 5000 · Revenue - government agencies</b>	10,409.19	125,000.00	8.33%
<b>Total 5100 · Revenue - program related sales</b>	8,471.35	16,000.00	52.95%
<b>Total 5400 · Revenue-nongovernment agencies</b>	204,143.96	2,576,300.00	7.92%
<b>Total 5500 · Revenue - Electricity Sales</b>	9,664,161.79	53,482,965.00	18.07%
<b>Total 5 REVENUE EARNED</b>	9,887,186.29	56,200,265.00	17.59%
<b>9500 · Debt Proceeds</b>	0.00	2,730,300.00	0.0%
<b>Total Income</b>	9,887,456.29	58,930,565.00	16.78%
<b>Gross Profit</b>	9,887,456.29	58,930,565.00	16.78%
Expense			
<b>Total 6 WHOLESALE POWER SUPPLY</b>	6,882,510.63	42,295,190.00	16.27%
<b>Total 7 PERSONNEL EXPENSES</b>	385,785.01	3,026,492.00	12.75%
<b>Total 8.1 FACILITIES AND OPERATIONS</b>	47,496.44	4,539,920.00	1.05%
<b>Total 8.2 COMMUNICATIONS AND OUTREACH</b>	15,407.87	115,000.00	13.4%
<b>Total 8.3 TRAVEL AND MEETINGS</b>	9,060.40	68,000.00	13.32%
<b>8.4 PROFESSIONAL &amp; PROGRAM SRVS</b>			
<b>8400 · Regulatory</b>	30,422.81	184,000.00	16.53%
<b>Total 8410 · Contracts - Program Related Ser</b>	10,471.95	435,000.00	2.41%
<b>8420 · Accounting</b>	105.00	68,950.00	0.15%
<b>8430 · Legal</b>	24,509.56	125,000.00	19.61%
<b>8450 · Wholesale Services - TEA</b>	99,900.70	602,401.00	16.58%
<b>8460 · Procurement Credit - TEA</b>	109,928.58	753,809.00	14.58%
<b>8470 · Data Management - Calpine</b>	147,088.81	882,348.00	16.67%
<b>Total 8.4 PROFESSIONAL &amp; PROGRAM SRVS</b>	422,427.41	3,051,508.00	13.84%
<b>Total 8.5 PROGRAM EXPENSES</b>	71,529.15	555,786.00	12.87%
<b>Total 8.6 INCENTIVES &amp; REBATES</b>	67,467.09	881,500.00	7.65%
<b>Total 9 NON OPERATING COSTS</b>	10,110.66	169,518.00	5.96%
<b>Total Expense</b>	7,911,794.66	54,702,914.00	14.46%
<b>Net Ordinary Income</b>	1,975,661.63	4,227,651.00	46.73%
<b>Net Income</b>	<b>1,975,661.63</b>	<b>4,227,651.00</b>	<b>46.73%</b>



**STAFF REPORT**  
**Agenda Item # 3.4**

AGENDA DATE:	October 24, 2019
TO:	Board of Directors
PREPARED BY:	Richard Engel, Director of Power Resources
SUBJECT:	2020 Resource Adequacy Transaction

**SUMMARY**

As a California load-serving entity, RCEA is required by the California Public Utilities Commission to procure its share of resource adequacy (RA), or capacity of existing power plants. This requirement ensures that load-serving entities are collectively procuring enough capacity to support the state's grid reliability.

The Energy Authority, Inc. (TEA) regularly transacts for RA on RCEA's behalf. With RA prices recently rising sharply, TEA has been seeking opportunities to procure as much of RCEA's future RA requirement as possible within the limits of our risk policy. At this time, TEA has an opportunity to procure a substantial amount of RA for calendar year 2020 through a joint transaction also supplying another TEA client. The proposed purchase will help RCEA meet its RA requirements set by the California Public Utilities Commission for the upcoming Annual RA compliance filing due October 31<sup>st</sup>. The seller is NRG Power Marketing, LLC.

RCEA's share of the transaction is valued higher than what the RCEA risk management team has the authority to approve under RCEA's risk management policy. RCEA's risk management team has reviewed the proposed transaction and unanimously recommends it for approval by the Board of Directors.

**FINANCIAL IMPACTS**

This transaction being made on RCEA's behalf has a cumulative value moderately in excess of the \$2 million limit for resource adequacy transactions that can be approved by RCEA's risk management team. Above this level, transactions must be approved by the Board. Given the recent upward trajectory of RA prices, staff recommends approving this transaction to guard against paying higher prices if the RA is procured at a later date. TEA staff have shared with RCEA staff the range of RA prices they are currently transacting for their various clients, and the unit price for this transaction falls well within that range.

**RECOMMENDED ACTION**

Approve Transaction by The Energy Authority, Inc. with NRG Power Marketing, LLC, for an Amount Above the Authorized Staff Transaction Execution Limit of \$2 Million for 2020 Resource Adequacy.

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**STAFF REPORT**  
**Agenda Item # 5.1**

AGENDA DATE:	October 24, 2019
TO:	Board of Directors
PREPARED BY:	Matthew Marshall, Executive Director
SUBJECT:	Comprehensive Action Plan for Energy Update

**SUMMARY**

The process of updating RCEA's Comprehensive Action Plan for Energy continues. Staff incorporated input received into a second draft that is attached with edits shown and also as a "clean" version with edits included. The updated draft includes the addition of proposed goals and targets as well as revisions to the draft qualitative strategies. Also, this draft has been updated to use RePower Humboldt as the title of the document based on 1) suggestions that "RePower Humboldt" is a more effective and memorable title than "Comprehensive Action Plan for Energy (CAPE)," and 2) the current draft document has as many or more elements from the original RePower Humboldt plans as it does from the 2012 CAPE.

Staff proposes to extend the comment period on this draft through November 10, and to then present a final draft for initial review by the RCEA Board at the November 21 meeting and then again for final adoption at the December 19 Board meeting.

The remaining two public workshops were completed the week of October 14; there were 45 participants at the October 17 "CAPE draft 2" meeting and 74 participants at the "Forests, Energy, and Environment" workshop on October 18. RCEA hired professional videographers to capture the October 18 panel discussion and public comments, which will be available on RCEA's website and will also be aired on Access Humboldt.

In total there were 221 participants at the 6 workshops held in August, September, and October (that total double counts any individuals who attended more than one workshop). RCEA has to date also received a total of 380 written comments. All comments are available on RCEA's website, and below is staff's high-level categorization of comments received. Note that some comments addressed multiple topics so the categorizations total to more than 380. Also note that many individuals that attended workshops also submitted written comments.

**Overall summary**

Topic Commented On	Number of Comments
Energy efficiency	3
General	6
Electricity Generation	390
Planning	5
Process	7
Transportation	5

**Breakdown of 390 written comments on electricity generation**

Generation category	Total	Support	Against	Mixed
Biomass	349	320	22	7
Onshore wind	14	4	8	2
Offshore wind	1	1	0	0
Solar	12	12	0	0
General power resources	8			
Distributed generation	2			
Rates and tariffs	3			
Infrastructure	1			

At the meeting staff will provide additional information on public input as well as a presentation on the updates made in the second draft of document.

**RECOMMENDED ACTION:**

N/A – information only.

**ATTACHMENTS:**

Clean and red-line versions of Draft 2.0 of the Comprehensive Action Plan for Energy.



# RePower Humboldt

The Redwood Coast  
Energy Authority's  
Comprehensive Action  
Plan for Energy

**2019 UPDATE – DRAFT 2.0a**

**10-21-19**



REDWOOD COAST  
**EnergyAuthority**



**Redwood Coast Energy Authority**

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# Executive Summary

Consistent with Humboldt County's General Plan, the County of Humboldt recognizes the Redwood Coast Energy Authority (RCEA) as the regional energy authority to foster, coordinate, and facilitate countywide strategic energy planning, implementation, and education through RePower Humboldt, RCEA's comprehensive action plan for energy. This action plan consists of implementation measures specific to the functions of RCEA as the regional energy authority for Humboldt County and in alignment with the mission and purpose stated in RCEA's Joint Powers Agreement, which is to:

Develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region.

The strategies within this 2019 update of the RePower Humboldt strategic plan will be implemented between 2020-2030 to achieve the following goals:

## REGIONAL PLANNING AND COORDINATION

RCEA will take a leadership role to develop and advance strategic regional energy goals through economic development, funding, planning efforts, and education. This work will be done in coordination with RCEA's member governments, other local public agencies, local tribes, and other public and private stakeholders.

**Goals:** Achieve net-zero greenhouse gas emissions county-wide by 2030.

By 2030 fully establish Humboldt County as a renewable energy secure community that can affordably and reliably meet its local energy needs with local renewable resources and has the robust local capabilities and infrastructure necessary to effectively respond to energy emergencies or disruptions in energy supply.

Build the clean energy sector into a cornerstone of the local economy through a breadth of strategies that include innovation, research and development, local energy-related business development, and establishing Humboldt Bay as the primary west coast hub for the offshore wind energy industry.

## INTEGRATED DEMAND SIDE MANAGEMENT

RCEA will use an Integrated Demand Side Management approach to develop distributed energy resources and reduce energy consumption in the residential, commercial, industrial, agricultural, and government sectors and to align customer energy use with variable clean and renewable energy supplies. RCEA will prioritize efforts that enhance local energy resiliency and independence.

**Goals:** Support the wide-spread installation of customer solar photovoltaic energy systems, with a target to increase installation to a rate of one system every day for the next decade and reach 30MW of customer solar installed by 2025 and 50MW installed by 2030.

Make energy efficiency and conservation services available to every household and business in the county by 2030.

Develop and begin implementation of expanded energy efficiency, conservation and electrification programs to reduce greenhouse gas emissions from buildings using fossil fuels by 20% from 2018 levels by 2030 and establish and maintain a trajectory to reduce emission from natural gas by 90% by 2050.

Deploy a network of community microgrids and renewable energy back-up power systems for homes and businesses across the county to reduce greenhouse gas emissions and to provide energy resiliency and long-duration emergency energy supply at all critical facilities by 2030.

## **LOW-CARBON TRANSPORTATION**

RCEA will decarbonize regional transportation through efforts to reduce vehicle miles travelled, increase advanced fuel vehicles adoption and fuel efficiency, and expand advanced fuel infrastructure.

**Goals:** Accelerate the adoption of electric vehicles, with a target of over 6,000 electric vehicles on the road in Humboldt County by 2025 and 22,000 vehicles by 2030. Develop public, workplace, and residential electric vehicle charging infrastructure necessary to support the county electric vehicle targets.

Work with other local public entities to reduce vehicle miles traveled in Humboldt County by at least 25% by 2030.

By 2030 reduce greenhouse gas emissions from transportation by over 65% through reductions in vehicle miles traveled, improved vehicle efficiency, the adoption of electric vehicles, and, where determined to be an effective emissions-reduction strategy, the use of biofuels as a bridge to a full transition to zero-emissions vehicles. Establish and maintain a trajectory of emissions reduction to eliminate the use of fossil fuels by 2050.

## **ENERGY GENERATION AND UTILITY SERVICES**

RCEA will address Humboldt County's supply-side energy needs through its existing Community Choice Aggregation (CCA) program and development of new programs and initiatives.

**Goals:** By 2025 100% of RCEA's power mix will be from a combination of state-designated renewable energy sources—solar, wind, biomass, small hydroelectric, and geothermal—and state-designated net zero carbon emission existing large hydroelectric facilities.

By 2030 Humboldt County will be a net exporter of renewable electricity and RCEA's power mix will consist of 100% local, net-zero-carbon-emission renewable sources.

Humboldt County can effectively respond to regional and local disruptions to energy supply and distribution systems through modernization of the local electric grid, the deployment of local distributed energy resources, and the development of community microgrids.



# Introduction

## ENERGY FUELS OUR EVERYDAY LIVES

### SECTION TO BE UPDATED

In Humboldt County, as in all parts of the United States, we depend on energy 24 hours a day, and we continuously benefit from direct and indirect use of energy resources. Energy is so pervasive in our daily lives that it can sometimes be taken for granted. From the sun we draw heat, light, and solar power; we depend on it to grow our food, forests, flowers, etc. We depend on fossil fuels to get us to work, school, local shops, and the hospital; to transport our food, commodities, mail, and even garbage; we depend on it to visit exotic places by plane (and to get to the airport), or to visit a friend by car. Electricity enables us to work after the sun goes down; we depend on it to light our offices, classrooms, and streets; to keep our food cold and our ice cream frozen; to pump water through pipes; and to transmit information in this electronic age. Energy in a diversity of forms fuels our industries and business ventures: from powering lumber mills to dairy farms; from firing ceramics to pizzas, and from brewing beer to baking bread. Energy generation and transmission is also an industry in and of itself. Clearly, reliance on energy resources characterizes a large part of our everyday lives.

The production and consumption of energy also affects our daily lives in more indirect ways, particularly with regard to the environment. The burning of fossil fuels has led to damaging environmental effects such as acid rain, smog, water pollution, and global warming. Exploratory drilling and extraction of non-renewable energy sources (such as coal, petroleum, and natural gas), and their attendant infrastructure, has resulted in the degradation of other natural resources, for example forests, coastal communities, and rainforests. Although these areas may be far away, the environmental impacts can reach Humboldt County.

In Humboldt County, energy is used as a transportation fuel and as electrical and heat energy in homes, businesses, industries, and agriculture. In 2010 it is estimated that Humboldt County spent \$460 million to meet local energy demands, the majority of which left the county. Approximately half of the energy was used as a transportation fuel (gasoline and diesel), with large amounts also used to meet end use electrical demands and end-use natural gas heating demands. Primary energy sources were comprised mainly of natural gas, gasoline, diesel, and biomass (wood waste and firewood).



# REDWOOD COAST ENERGY AUTHORITY MISSION AND PURPOSE

The purpose of the Redwood Coast Energy Authority is to develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region for the benefit of the Member agencies and their constituents. To further that purpose, the Redwood Coast Energy Authority will work toward the following goals:

- A. To lead, coordinate and integrate regional efforts that advance secure, sustainable, clean and affordable energy resources.
- B. To develop a long-term sustainable energy strategy and implementation plan.
- C. To increase awareness of, and enhance access to, energy conservation, energy efficiency, and renewable energy opportunities available to the region.
- D. To add value to, but not duplicate, energy services offered by utilities and others serving the region in a manner that does not conflict with acting as a community choice aggregator.
- E. To keep key decision makers and stakeholders informed of policy, regulatory, and market changes that are likely to impact the region.
- F. To support research, development, demonstration, innovation, and commercialization of sustainable energy technologies by public and private entities operating in Humboldt County.
- G. To develop regional capabilities to respond to energy emergencies and short-term disruptions in energy supply, infrastructure, or markets that could adversely affect Humboldt residents and businesses.

The RePower Humboldt plan is intended to support achieving these goals through strategies that specifically address: Regional Energy Planning & Coordination, Integrated Demand Side Management, Low-Carbon Transportation, and Energy Generation & Utility Services.

# VISION STATEMENT

The below vision statement was developed in 2012 through the public comment process for the original draft of the Humboldt County General Plan Energy Element prepared by RCEA. It expresses the community qualities and characteristics that the RePower Humboldt plan aspires to achieve, expressed as how Humboldt County could be described in 2030. Minor modifications have been made to the original vision statement to reflect recent changes to the state and local energy economies, as well as community input gathered in developing this 2019 RePower Humboldt update.

## **In 2030...**

Humboldt County has surpassed net-zero greenhouse gas emissions and is a net exporter of renewable energy. We achieve energy independence and self-sufficiency through high levels of energy conservation, efficiency, and electrification combined with locally-produced and -managed energy generation. Our energy comes from renewable sources. Money spent on energy stays in the county.

Individual communities have developed greater energy self-sufficiency and independence as has the county overall. Citizens have a diversity of choices for how to meet their energy needs. We have local control over energy prices. We readily adapt to any major external changes in energy supply or technology.

Our rate of energy consumption is level, due to increasing conservation and efficiency to offset increases in growth-related demand.

Our overall quality of life is better than it was in 2005. The population is healthier as a result of leading energy-conserving lifestyles. It is safe, pleasant, economically favorable, and typical to have a lifestyle that doesn't consume much energy.

Energy conservation education has reached, and continues to reach, effectively, everyone in the county.

Energy considerations and decisions are integrated with all other decision-making arenas.

The County is energy efficient through neighborhood design. Good community planning has reduced sprawl. There are fewer automobiles used for travel; people depend more on transit, bikes, scooters, walking, and shared-use automobiles than they depend on private automobiles. Public transportation is conveniently available and well utilized. There is much less consumption of energy from non-renewable sources for transportation.

All buildings are energy efficient. All new construction is all-electric and done in the most energy efficient manner, starting with building design. All existing buildings have been upgraded to be more efficient and many have converted their previous uses of natural gas and propane to electricity. Energy efficiency is integral to locally adopted building standards, which have flexibility and include meaningful incentives. Many homes and businesses produce more energy than they consume.

The County is a thriving research and development center and incubator for energy technology and related manufacturing, which is a stable source of local jobs.



# **Draft 2019 Strategies Update**

# Regional Energy Planning & Coordination

RCEA will take a leadership role to develop and advance strategic regional energy goals through economic development, funding, planning efforts, and education. This work will be done in coordination with RCEA's member governments, other local public agencies, local tribes, and other public and private stakeholders.

**Goals:**    **Achieve net-zero greenhouse gas emissions county-wide by 2030.**

**By 2030 fully establish Humboldt County as a renewable-energy secure community that can affordably and reliably meet its local energy needs with local resources and has the robust local capabilities and infrastructure necessary to effectively respond to any energy emergencies or disruptions in energy supply.**

**Build the clean energy sector into a cornerstone of the local economy through a breadth of strategies that include innovation, research and development, local energy-related business development, and Humboldt Bay as the primary west coast hub for the offshore wind energy industry.**

## ECONOMIC DEVELOPMENT

**Attract Energy-related Business.** Collaborate with local economic development entities to attract technology developers, manufacturers, and energy service providers to locate operations in the County when appropriate.

**Support Proactive Energy-related Business Development.** Collaborate with local jurisdictions to identify and pre-assess locations and facilities for energy-related business ventures.

**Support Energy-sector Workforce Development.** Work with other local entities to provide training and continuing education that develops and maintains a qualified local workforce available to implement energy efficiency upgrades, renewable energy projects, and advanced-vehicle technology deployment.

## ENERGY-RELATED EMERGENCY RESPONSE

**Develop Emergency Response Capabilities.** Coordinate with other local entities to develop regional capabilities to respond to energy emergencies and disruptions in energy supply, infrastructure, or markets. Incorporate efforts to enhance emergency response capabilities across RCEA's demand-side, power resources, and transportation programs.

**Assist with Energy Emergency Response Procedures.** Assist the Humboldt County Office of Emergency Services in the preparation of energy response procedures for the Humboldt County Emergency Response Plan.

**Support Climate Change Adaptation.** Work with other local entities to conduct a climate change risk assessment and develop an adaptation plan consistent with the best-practices guidance provided by the California Natural Resources Agency and California Emergency Management Agency.

## FUNDING

**Develop Regional Energy Funding Mechanisms.** Offer support and act as the fiscal agent and funding clearinghouse for countywide energy programs.

**Pursue Cap and Trade Auction Proceeds.** Work regionally to access Cap and Trade auction proceeds and other State funding mechanisms to ensure effective, efficient, coordinated, and equitable resource allocation in the North Coast Region.

**Develop Job Development Incentives.** Collaborate with local economic development entities to identify funding opportunities for developing jobs in the field of energy conservation, efficiency, and renewable sources.

**Implement Energy Project Financing.** Work with local economic development entities and/or financial institutions to develop and implement financing programs that enable residents and businesses to implement energy efficiency and renewable energy projects.

**Facilitate Financing Mechanisms.** Facilitate Property Assessed Clean Energy (PACE) and other financing programs that access the needed capital to deploy regional energy independence strategies.

**Develop Local Energy Investment Programs.** Work with local economic development entities and financial institutions to develop programs and resources that facilitate local community investment in and/or ownership of energy efficiency and renewable energy projects.

## PLANNING

**Support Carbon Sequestration.** Support the development and deployment of mechanisms for retaining carbon in the region's abundant natural areas and working lands.

**Assist with Climate Action Planning.** Work with member jurisdictions to regularly complete greenhouse gas inventories, set greenhouse gas reduction targets, and develop climate action plans.

**Support Countywide Strategic Energy Planning.** Coordinate an effective energy strategy based on self-sufficiency, development of renewable energy resources, energy conservation, and

electrification that is actively implemented countywide through Climate Action Plans, General Plans and the Redwood Coast Energy Authority's RePower Humboldt plan.

**Encourage Adoption of Energy Elements.** Encourage and assist with the adoption of energy elements by member jurisdictions. Periodically review local energy elements and recommend updates, as necessary, to reflect changing technologies for the generation, transmission, and efficient use of energy.

**Encourage Energy Policies and Plans.** Encourage member jurisdictions and entities to adopt and implement sound energy plans and policies, to include energy elements and/or energy policies in their general plans and ordinances. Advocate and disseminate energy planning strategies, policies, and other information.

## EDUCATION

**Maintain an Energy Resource Center.** Operate an energy resource center open to the public and provide information on energy conservation, energy planning, renewable energy, energy storage, low-carbon transportation, and energy-efficient and all-electric building design and retrofits.

**Hold Regional Energy Forums.** Serve as a forum for addressing countywide energy issues.

**Develop Public Displays.** Encourage and assist development of educational displays for exemplary renewable energy and distributed energy systems installed throughout Humboldt County. Displays should provide county residents and businesses with information on how the systems work and how well they perform and should inform county residents about the importance, benefits, and associated impacts of developing local energy resources.

**Provide Energy Efficiency, Conservation and Electrification Education and Training.** Provide community education, information, and resources on energy issues to support informed decision making related to customer energy use, including the benefits of reduced energy consumption, electrification and increased energy efficiency. Collaborate with schools and colleges for energy-related research, education, and conservation practices.

# Integrated Demand Side Management

RCEA will use an Integrated Demand Side Management approach to develop distributed energy resources and reduce energy consumption in the residential, commercial, industrial, agricultural, and

government sectors and to align customer energy use with variable clean and renewable energy supplies. RCEA will prioritize efforts that enhance local energy resiliency and independence.

**Goals:** **Support the wide-spread installation of customer solar energy systems, with a target to increase installation to a rate of one system every day for the next decade to reach 30MW of customer solar installed by 2025 and 50MW installed by 2030.**

**Provide energy efficiency and conservation services to every household and business in the county by 2030.**

**Develop and begin implementation of expanded efficiency and electrification programs to reduce greenhouse gas emission from natural gas use by 20% by [YEAR] and establish and maintain a trajectory to reduce emissions from natural gas by 90% by 2050.**

**Deploy a network of community microgrids and renewable energy back-up power systems across the county to reduce greenhouse gas emission and to provide energy resiliency and long-duration emergency energy supply at all critical facilities by 2030.**

## **INTEGRATED DEMAND SIDE MANAGEMENT STRATEGIES**

**Support Member Agency and Local Government Energy Management.** Support member agencies in managing their energy consumption. RCEA will support activities that reduce and balance energy use with available clean and renewable supplies to reduce costs while aligning to performance-based action plans and Greenhouse Gas Emission Reduction goals. Additional activities will be prioritized where they support energy resiliency and independence.

**Support Implementation of Codes and Standards.** Support the State's goals related to residential and commercial net-zero-energy and zero-net carbon standards along with other green building standards, including the local implementation of Title 24 building energy codes, Title 20 appliance efficiency standards and individual projects that strive to achieve energy efficiencies that exceed state or local requirements. Support implementation of above code energy ordinances.

**Promote No Regrets Energy Efficiency, Renewable Energy, and Storage Permitting.** Support local ordinances that streamline permitting processes for energy efficiency, renewable energy, and storage technologies.

**Assist with Facility Benchmarking.** Assist local governments and businesses with facility benchmarking to evaluate and track the energy performance of non-residential buildings.

**Support Energy Assessments.** Support and encourage full knowledge of the costs and benefits (including product stewardship) of energy efficiency, conservation, generation and storage activities through assessments.

**Integrate Distributed Energy Resources.** Develop and implement customer programs that support, promote and integrate distributed energy resources, including but not limited to distribution-



connected generation, energy storage, energy efficiency, electric vehicle and demand response technologies.

**Integrate a Distributed Energy Resource Management System.** Support the development and installation of systems needed for effective and responsive management of distributed energy resources. Evaluate the potential integration of distributed energy resources into a unified system that would allow RCEA to aggregate and automate demand response activities.

**Support and Deploy Microgrids.** Support and deploy energy microgrids, focusing on critical infrastructure and community facilities, that through onsite generation, energy storage, and advanced control systems provide energy resiliency and emergency-response capabilities as well as ongoing economic and environmental benefits.

**Use Advanced Metering Infrastructure.** Use advanced metering infrastructure to make informed, data driven program decisions and allow customers visibility into their energy usage for more ownership and control of their energy related behavior and decisions

## ENERGY EFFICIENCY & CONSERVATION

**Maximize the Efficiency of Buildings.** Support energy efficiency and conservation as core strategies toward achieving environmental, economic, and community goals. Where feasible, energy efficiency technologies will be controllable and integrated as a distributed resource; any such efforts will be implemented with a commitment to respecting and protecting customers' rights to privacy.

**Support Electrification.** Prioritize the development and implementation of programs and services that promote the use of the most energy-efficiency electric equipment including: air-source heat pump hot water and space heaters, induction stoves, electric clothes dryers, and the electrification of commercial and industrial processes.

**Encourage Energy-Efficient Equipment.** Encourage the use of the most energy-efficient equipment for space and water heating, ventilation, lighting, refrigeration, and air conditioning in all buildings and developments, including residential, commercial and industrial facilities.

**Promote Performance Contracting.** Promote residential and commercial performance contracting that is consistent with current best practices for energy efficiency and environmentally sound construction techniques.

**Develop and Support Behavioral, Commissioning and Operations Programs.** Promote, develop, and implement programs that enable energy conservation and load-shifting through customer behavior changes, building system commissioning, and operational changes.

**Replace Plug Loads.** Replace existing plug load devices and install smart technologies that save energy and provide an integrated solution that aligns with demand response and storage measures. Examples include internet-of-things enabled lighting, water and space conditioning, dish and clothes washing, and refrigeration.

## DEMAND RESPONSE

**Implement Demand Response Programs.** Support and prioritize demand response programs that offer ratepayers a role in balancing energy usage with renewable energy supply. Demand response programs and offerings will, where possible, integrate with distribution-connected efficiency systems and controls, renewable energy generation, and energy storage measures.

**Support Time of Use.** Notify, support, and enable action from customers who want to participate in load shifting or peak shaving to reduce energy usage during times of peak demand.

**Provide and Support Peak Day Pricing.** Provide notification and support for customer energy use changes during summer peak energy demand day events.

**Enable Automated Demand Response.** Install electrification, efficiency, and storage technologies that automatically reduce energy use during demand response events. Implement building demand response systems that allow for the curtailment of loads without major impacts to occupants and operations.

## DISTRIBUTED GENERATION & STORAGE

**Support Customer Installation of Distributed Generation.** Support the deployment of distribution-level renewable energy and storage systems as core strategies toward achieving environmental, economic, and community stability/resilience goals.

**Implement the Public Agency Solar Program.** Continue to implement the solar and energy-storage technical assistance program for public agencies; integrate grid-connected resources, electrification and microgrids as feasible.

**Implement a Community Solar and Storage Program.** Evaluate, design and launch community solar and storage program services that support the increased adoption of grid-connected solar and storage technologies.

**Integrate Vehicle to Grid Storage.** Integrate vehicle to grid storage solutions with transportation and demand side management goals and objectives.

# Low-carbon Transportation

RCEA will decarbonize regional transportation through efforts to reduce vehicle miles travelled, increase advanced fuel vehicles adoption and fuel efficiency, and expand advanced fuel infrastructure.

**Goals:** Accelerate the adoption of electric vehicles, with a target of over 6,000 electric vehicles on the road in Humboldt County by 2025 and 22,000 vehicles by 2030. Develop public, workplace, and residential electric vehicle charging infrastructure necessary to support these county-wide electric vehicle targets.

Work with other local public entities to reduce vehicle miles traveled in Humboldt County by at least 25% by 2030.

By 2030 reduce greenhouse gas emission from transportation by over 65% through reductions in vehicle miles traveled, improved vehicle efficiency, the adoption of electric vehicles, and, where determined to be an effective emissions-reduction strategy, the use of biofuels as a bridge to the full transition to zero-emissions vehicles. Establish and maintain a trajectory of emissions reduction to eliminate the use of fossil fuels by 2050.

## REDUCE VEHICLE MILES TRAVELED

**Strengthen Broadband Infrastructure.** Support efforts to strengthen rural regional broadband infrastructure to facilitate remote access to educational and business opportunities, and deploy advanced, resilient grid management technology and integrated energy efficiency and demand response solutions.

**Encourage Transportation-efficient Land Use Planning.** Encourage infill, transit-oriented development, and walkable and bikeable communities through thoughtful zoning and land-use planning processes.

**Facilitate Multi-modal Transportation Infrastructure.** Support improving multi-modal transportation options through regional trail networks, transit infrastructure, and complete streets infrastructure strategies that support walking, biking, carsharing, ridesharing, and the use of public transportation.

## INCREASE ADVANCED FUEL VEHICLE ADOPTION & FUEL EFFICIENCY

**Support Local Vehicle Fleet Owners Leading by Example.** Encourage local government and private fleets to maximize the use of low-carbon vehicles and support low-carbon transportation initiatives at other agencies..

**Promote Advanced Fuels.** Equitably promote, support and incentivize low carbon vehicle and fuel adoption by local governments, commercial fleets, and the public. Encourage the use of non-fossil sources of advanced fuels that reduce greenhouse gas emissions, which may include electricity, hydrogen, biodiesel, ethanol, and renewable diesel.

**Support Electric Vehicle Adoption.** Conduct public outreach campaigns to promote electric vehicles. Offer electric vehicle incentives and provide customers with web and in-person decision

support when considering the purchase of an electric vehicle. Conduct leadership by example among government agencies.

**Promote Efficient Driving Practices.** Promote the use of energy-efficient driving practices that improve fuel efficiency, such as moderate speed changes and legal speeds, anti-idling, and traffic-calming features.

**Support Shipping Efficiency.** Support the implementation of trucking efficiency technologies and best-practices, including idle-reduction technologies, aerodynamic retrofits, and low rolling resistance tires. Support the analysis of other potential transportation modes that could provide efficient shipping alternatives such as barge and rail.

## EXPAND FUELING INFRASTRUCTURE

**Develop Transportation Electrification Infrastructure.** Develop and implement Electric Vehicle charging stations. Provide local incentives for electric vehicle charging infrastructure and prioritize technologies that align with integrated demand-side management goals.

**Utilize Biofuels.** Promote use of biofuels with low California Low Carbon Fuel Standard (LCFS) scores, particularly those produced with local waste feedstocks.

**Streamline Permitting for Electric Vehicle Charging Infrastructure.** Encourage local jurisdictions to list vehicle charging as a permitted use across a broad range of zoning classifications. If a zoning review is triggered, consider vehicle charging as an accessory use to another permitted use whenever possible. Develop a standard vehicle charging permitting process.

**Promote Vehicle-to-Grid Connection.** Promote integration of electric vehicles with the electric grid. Evaluate the development status of vehicle-to-grid interconnect standards and the use of grid-connected vehicles for short-term energy storage.

# Energy Generation & Utility Services

RCEA will address Humboldt County's supply-side energy needs through its existing Community Choice Aggregation (CCA) program and development of new programs and initiatives.

**Goals:** By 2025 100% of RCEA's power mix will be from a combination of state-designated renewable energy sources—solar, wind, biomass, small-hydroelectric, and

geothermal—and state-designated net zero carbon emission existing large hydroelectric facilities.

By 2030 Humboldt County will be a net exporter of renewable electricity and RCEA's power mix will consist of 100% local, net-zero-carbon-emission renewable sources.

Humboldt County can effectively respond to regional and local disruptions to energy supply and distribution systems through modernization of the local electric grid, the deployment of local distributed energy resources, and the development of community microgrids.

## POWER RESOURCES

**Maximize the Use of Local Renewable Energy to the Extent Technically and Economically Feasible and Prudent.** Use the CCA program with its renewable energy targets, and programs supporting distributed energy resources, to achieve this goal.

**Minimize Greenhouse Gas Emissions Associated with RCEA's CCA Program.** Procure a power mix that has, at least, a 5% lower greenhouse gas emission rate than PG&E mix. Assess, evaluate, and monitor the short-term and lifecycle emissions from all generation sources to ensure power resources align with RCEA's greenhouse gas emissions goals.

**Reduce Regulatory Barriers.** Support streamlining the renewable energy permitting process and reduce any excessive regulatory barriers to renewable energy and distributed generation projects. Using RCEA's position as a power offtaker, work with developers on proactive strategies to reduce and mitigate the environmental and community impacts of potential energy projects.

**Maximize Renewable Energy Content of RCEA's CCA Program.** Procure a power mix that reaches 100% clean and renewable content by 2025.

**Ensure Diversity in Local Sources.** Pursue development of a diverse, locally produced renewable energy supply that is price-competitive in the California power market and that can be generated in a way that minimizes adverse environmental and community impacts.

**Promote Energy Feasibility Studies.** Encourage and support feasibility studies of local wind, solar, hydro-power, and ocean energy resources. Make recommendations on preferred alternatives that are consistent with community goals for energy security and sustainability.

### Power Resources: Distributed Generation

**Designate "Renewable Energy Parks."** Work with County and City planning departments to designate areas of the county preferred for renewable energy development.

**Develop Distributed Generation.** Encourage studies to identify key locations throughout the county that would benefit from distributed generation systems. Encourage development of responsive distributed generation demonstration sites.

**Provide Feed-In-Tariff Power Procurement Program for Small Generators.** Offer long-term contracts at a market-adjusting rate for Renewable Portfolio Standard eligible renewable energy generators of 1MW or smaller.

## **Power Resources: Solar**

**Support Solar Energy Development.** Support local efforts to develop customer solar electric systems and solar hot water systems in the county. Support development of local training programs for solar contractors and installers. Educate the public about the benefits of solar energy systems. Develop programs that facilitate an increase in the number of solar energy systems in the county.

**Procure Local Solar Energy.** Contract for local onshore solar energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs.

## **Power Resources: Offshore Wind**

**Develop Offshore Wind Energy.** Work with public and private entities to develop offshore wind energy off of the north coast region's coastline, and support establishing Humboldt Bay as a west-coast hub for the offshore wind industry.

**Procure Local Offshore Wind Energy.** Contract for local offshore wind energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs.

## **Power Resources: Onshore Wind**

**Promote Large-Scale Wind Energy.** Provide information about the potential for cost-effective, commercial-scale wind farms in the county. Educate the public about the benefits and impacts of wind energy systems. Work with utilities, local government, and private companies to develop onshore wind energy projects.

**Procure Local Onshore Wind Energy.** Contract for local onshore wind energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs.

## **Power Resources: Bioenergy**

**Support Biomass Fuels Reduction and Utilization.** Develop strategies and technologies for improved biomass utilization in ways that effectively support restoration objectives and fire management priorities. Coordinate with local agencies, communities, and landowners to develop biomass energy plans that are consistent with sustainable forest management, hazardous fuels reduction, fire safety, and restoration needs.

**Procure Local Biomass Energy.** Contract with local biomass facilities at a scale matched to the local supply of wood waste from mills and, when feasible and appropriate, from forest management and restoration activities. Require and support a high standard of environmental compliance from RCEA's biomass suppliers through the deployment of the best-available emissions control technologies. Analyze and confirm on an ongoing basis that, within the context of local commercial forest land management practices and the forest-products sector, local biomass power generation sector has net-zero greenhouse gas emissions on both a short-term and long-term basis.

**Promote Small-Scale Biomass Generation Sites.** Monitor feasibility of smaller and/or mobile biomass electric generators fed with wood waste and very small diameter logs (e.g.,

from thinning for fire safety and timber harvest slash). If/when technology proves feasible and cost effective, promote its use in county areas where appropriate.

**Pursue Biogas Development.** Support HWMA and others with the development of organic waste digesters. Develop and publicize dairy biogas demonstration sites and work with local farm organizations to promote dairy biogas energy systems where appropriate. Publicize the use of biogas at existing local wastewater treatment facilities and encourage its use at additional facilities where appropriate. Encourage biogas use to produce electricity onsite rather than pipeline injection to avoid the potential greenhouse gas emission impacts of pipeline leaks.

### **Power Resources: Wave and Tidal**

**Pursue Wave and Tidal Energy Development.** Build on the previous WaveConnect and CalWave projects to explore and evaluate opportunities for local wave and tidal energy research, development, and pilot deployment.

### **Power Resources: Hydro**

**Support Existing and New Local Small-scale Hydroelectric Power.** Evaluate options for contracting with existing small hydroelectric projects as well as the development of new run-of-river hydroelectric projects that would be eligible for Renewable Portfolio Standard designation and compatible with environmental and cultural priorities. Update the Oscar Larson and Associates' 1982 assessment of small hydroelectric resource potential in the county.

## **UTILITY ENERGY SERVICE**

**Minimize Energy Interruptions.** Work with local utility providers to minimize the impact of power outages and improve the reliability and resiliency of the local electricity delivery service.

**Provide Energy via Direct Access.** Explore the feasibility of RCEA acting as an electricity provider through direct access.

**Review Utility Options.** Review the effectiveness of the incumbent utility in meeting Humboldt County's long-term energy needs and evaluate the feasibility of establishing a local municipal electric utility.

**Provide Outstanding Customer Service to RCEA Ratepayers.** Ensure that participants in RCEA's community choice energy program receive high-quality customer service related to enrollment, rates, billing, and customer programs supported by CCE program ratepayer funds.

## RATES & TARIFFS

**Provide Community Choice Aggregation Program Customer Rate Savings.** Provide customer savings relative to corresponding PG&E generation rates and departing load charges averaging at least \$2 million per year.

**Provide Electricity Buyback from Self Generators.** Provide a net energy metering program that encourages more distributed local generation and more equitably compensates such generation.

**Retain and/or Redirect Rate-Payer Dollars Back into Humboldt County.** Work to maximize the amount of ratepayer dollars retained in Humboldt County when taking into consideration local power procurement, electricity rates, local program spending, and allocations toward building the reserve fund for RCEA's Community Choice Aggregation program.

**Provide Match Funding for State, Federal, and Foundation Energy Grants.** Support bringing resources into Humboldt County to pursue CCA community energy goals.

**Support Transition to Time of Use Rates.** Support customer adoption and transition to time of use electricity rates.

## TRANSMISSION & DISTRIBUTION INFRASTRUCTURE

**Perform Transmission Assessments and Monitoring.** Encourage development of long-term transmission assessments and, if necessary, electrical transmission grid upgrade and/or expansion plans. Monitor local electricity transmission system planning to ensure that projected growth areas are adequately served and to support the development of local renewable energy projects.

**Support Upgrade of the Electricity Transmission and Distribution System.** Collaborate with PG&E, the California Independent System Operator, and renewable energy developers to upgrade the regional transmission and distribution electrical grid to enable increased development of both utility-scale renewable energy projects and community-scale distributed generation systems, including capability to export surplus renewable electricity from Humboldt County to other areas of the state.



# RePower Humboldt

The Redwood Coast  
Energy Authority's  
Comprehensive Action  
Plan for Energy

**2019 UPDATE – DRAFT 2.0a**

**10-21-19**



REDWOOD COAST  
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# Executive Summary

Consistent with Humboldt County's General Plan, the County of Humboldt recognizes the Redwood Coast Energy Authority (RCEA) as the regional energy authority to foster, coordinate, and facilitate countywide strategic energy planning, implementation, and education through RePower Humboldt, RCEA's a Comprehensive Action Plan for Energy (CAPE). This action plan consists of implementation measures specific to the functions of RCEA as the regional energy authority for Humboldt County and in alignment with the mission and purpose stated in RCEA's Joint Powers Agreement, which is to:

Develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region.

The strategies within this 2019 update of the RePower Humboldt strategic plan will be implemented between 2020-2030 to achieve the following goals:

## **REGIONAL PLANNING AND COORDINATION**

RCEA will take a leadership role to develop and advance strategic regional energy goals through economic development, funding, planning efforts, and education. This work will be done in coordination with RCEA's member governments, other local public agencies, local tribes, and other public and private stakeholders.

**Goals:** Achieve net-zero greenhouse gas emissions county-wide by 2030.

By 2030 fully establish Humboldt County as a renewable energy secure community that can affordably and reliably meet its local energy needs with local renewable resources and has the robust local capabilities and infrastructure necessary to effectively respond to any energy emergencies or disruptions in energy supply.

Build the clean energy sector into a cornerstone of the local economy through a breadth of strategies that include innovation, research and development, local energy-related business development, and establishing Humboldt Bay as the primary west coast hub for the offshore wind energy industry.

## **INTEGRATED DEMAND SIDE MANAGEMENT**

RCEA will use an Integrated Demand Side Management approach to develop distributed energy resources and reduce energy consumption in the residential, commercial, industrial, agricultural, and government sectors and to align customer energy use with variable clean and renewable energy supplies. RCEA will prioritize efforts that enhance local energy resiliency and independence.

**Goals:** Support the wide-spread installation of customer solar photovoltaic energy systems, with a target to increase installation to a rate of one system every day for the next decade and to reach 30MW of customer solar installed by 2025 and 50MW installed by 2030.

~~Make~~Provide energy efficiency and conservation services available to every household and business in the county by 2030.

Develop and begin implementation of expanded ~~energy efficiency, conservation and electrification programs to reduce greenhouse gas emissions from buildings using fossil fuels from natural gas use~~ by 20% from 2018 levels by 2030 and establish and maintain a trajectory to reduce emission from natural gas by 90% by 2050.

Deploy a network of community microgrids and renewable ~~energy back-up power systems for homes and businesses across the county to reduce greenhouse gas emissions~~ and to provide energy resiliency and long-duration emergency energy supply at all critical facilities by 2030.

## **LOW-CARBON TRANSPORTATION**

RCEA will decarbonize regional transportation through efforts to reduce vehicle miles travelled, increase advanced fuel vehicles adoption and fuel efficiency, and expand advanced fuel infrastructure.

**Goals:** Accelerate the adoption of electric vehicles, with a target of over 6,000 electric vehicles on the road in Humboldt County by 2025 and 22,000 vehicles by 2030. Develop public, workplace, and residential electric vehicle charging infrastructure necessary to support the county electric vehicle targets.

Work with other local public entities to reduce vehicle miles traveled in Humboldt County by at least 25% by 2030.

By 2030 reduce greenhouse gas emissions from transportation by over 65% through reductions in vehicle miles traveled, improved vehicle efficiency, the adoption of electric vehicles, and, where determined to be an effective emissions-reduction strategy, the use of ~~the~~ biofuels as a bridge to ~~the~~ a full transition to zero-emissions vehicles. Establish and maintain a trajectory of emissions reduction to eliminate the use of fossil fuels by 2050.

## **ENERGY GENERATION AND UTILITY SERVICES**

RCEA will address Humboldt County's supply-side energy needs through its existing Community Choice Aggregation (CCA) program and development of new programs and initiatives.

**Goals:** By 2025 100% of RCEA's ~~electricity~~ power mix will be from ~~net-zero carbon emission sources that are either~~ a combination of state-designated renewable energy sources—solar, wind, biomass, small ~~hydroelectric~~, and geothermal—and ~~and~~ state-designated net zero carbon emission existing large hydroelectric facilities.

By 2030 Humboldt County will be a net exporter of renewable ~~electricity~~ energy and RCEA's power mix will consist of 100% local, net-zero-carbon-emission renewable sources.

Humboldt County can effectively respond to regional and local disruptions to energy supply and distribution systems through modernization of the local electric grid, the

deployment of local distributed energy resources, and the development of community microgrids.

~~The CAPE strategies target the following objectives:~~

~~**Regional Energy Planning & Coordination:** Facilitate coordinated strategic energy planning within Humboldt County, provide a forum for addressing countywide energy issues, and assist local jurisdictions with completing greenhouse gas inventories, climate action plans, and general plan energy elements.~~

~~**Energy Reliability & Security:** Coordinate with utility providers and other local governments on energy emergency planning and response, evaluate transmission and distribution systems, and conduct a climate change risk assessments and develop adaptation plans.~~

~~**Economic Development:** Support the development of emerging energy technologies, attract and support energy sector businesses and ventures, and provide training and workforce development assistance for jobs in the energy field.~~

~~**Built Environment Efficiency:** Develop and implement programs which encourage energy efficiency and renewable energy retrofits in existing buildings, and support local implementation of state wide energy efficiency standards and goals.~~

~~**Education:** Through a variety of channels, provide the community with comprehensive education and information on energy conservation, energy planning, renewable energy, and energy efficiency.~~

~~**Water & Waste:** Support water and waste conservation initiatives that will result in reduce energy demand and or renewable energy generation.~~

~~**Transportation:** Encourage energy efficient, health promoting modes of travel such as walking, bicycling, and public transit, and support the adoption of alternative fuels.~~

~~**Energy Generation & Utility Services:** Promote policies which seek to meet local energy needs with a diversity of renewable energy resources, distributed generation, and cogeneration.~~

~~This action plan shall be periodically updated by the RCEA Board and presented to the Humboldt County Board of Supervisors for review.~~

# Introduction

## ENERGY FUELS OUR EVERYDAY LIVES

### SECTION TO BE UPDATED

In Humboldt County, as in all parts of the United States, we depend on energy 24 hours a day, and we continuously benefit from direct and indirect use of energy resources. Energy is so pervasive in our daily lives that it can sometimes be taken for granted. From the sun we draw heat, light, and solar power; we depend on it to grow our food, forests, flowers, etc. We depend on fossil fuels to get us to work, school, local shops, and the hospital; to transport our food, commodities, mail, and even garbage; we depend on it to visit exotic places by plane (and to get to the airport), or to visit a friend by car. Electricity enables us to work after the sun goes down; we depend on it to light our offices, classrooms, and streets; to keep our food cold and our ice cream frozen; to pump water through pipes; and to transmit information ~~during-in~~ this electronic age. Energy in a diversity of forms fuels our industries and business ventures: from powering lumber mills to dairy farms; from firing ceramics to pizzas, and from brewing beer to baking bread. Energy generation and transmission is also an industry in and of itself. Clearly, reliance on energy resources characterizes a large part of our everyday lives.

The production and consumption of energy also affects our daily lives in more indirect ways, particularly with regard to the environment. The burning of fossil fuels has led to damaging environmental effects such as acid rain, smog, water pollution, and global warming. Exploratory drilling and extraction of non-renewable energy sources (such as coal, petroleum, and natural gas), and their attendant infrastructure, has resulted in the degradation of other natural resources, for example forests, coastal communities, and rainforests. Although these areas may be far away, the environmental impacts can reach Humboldt County.

In Humboldt County, energy is used as a transportation fuel and as electrical and heat energy in homes, businesses, industries, and agriculture. In 2010 it is estimated that Humboldt County spent \$460 million to meet local energy demands, the majority of which left the county. Approximately half of the energy was used as a transportation fuel (gasoline and diesel), with large amounts also used to meet end use electrical demands and ~~end-use~~ natural gas heating demands. Primary energy sources were comprised mainly of natural gas, gasoline, diesel, and biomass (wood waste and firewood).



# REDWOOD COAST ENERGY AUTHORITY MISSION AND PURPOSE

The purpose of the Redwood Coast Energy Authority is to develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region for the benefit of the Member agencies and their constituents. To further that purpose, the Redwood Coast Energy Authority will work toward the following goals:

- A. To lead, coordinate and integrate regional efforts that advance secure, sustainable, clean and affordable energy resources.
- B. To develop a long-term sustainable energy strategy and implementation plan.
- C. To increase awareness of, and enhance access to, energy conservation, energy efficiency, and renewable energy opportunities available to the region.
- D. To add value to, but not duplicate, energy services offered by utilities and others serving the region in a manner that does not conflict with acting as a community choice aggregator.
- E. To keep key decision makers and stakeholders informed of policy, regulatory, and market changes that are likely to impact the region.
- F. To support research, development, demonstration, innovation, and commercialization of sustainable energy technologies by public and private entities operating in Humboldt County.
- G. To develop regional capabilities to respond to energy emergencies and short-term disruptions in energy supply, infrastructure, or markets that could adversely affect Humboldt residents and businesses.

| ~~The CAPEThe RePower Humboldt plan~~ is intended to support achieving these goals through strategies that specifically address: Regional Energy Planning & Coordination, ~~Integrated Demand Side Management, Low-Carbon Transportation, Energy Reliability & Security, Economic Development, Built Environment Efficiency, Education, Water & Waste, Transportation,~~ and Energy Generation & Utility Services.

# VISION STATEMENT

The below vision statement was developed in 2012 through the public comment process for the original draft of the Humboldt County General Plan Energy Element prepared by RCEA. It expresses the community qualities and characteristics that ~~the CAPE~~ the RePower Humboldt plan aspires to achieve, expressed as how Humboldt County could be described in 2030. Minor modifications have been made to the original vision statement to reflect recent changes to the state and local energy economies, as well as community input gathered in developing this 2019 RePower Humboldt update.

## In 2030...

Humboldt County has surpassed net-zero greenhouse gas emissions and is ~~no longer~~ a net exporter ~~importer~~ of renewable energy. We achieve ~~a high degree of~~ energy independence and self-sufficiency through high levels of energy conservation, ~~and efficiency,~~ and electrification combined with locally-produced and -managed energy generation. ~~Most of o~~Our energy comes from renewable sources. ~~Significantly less m~~Money spent on energy leaves stays in the county.

Individual communities have developed greater energy self-sufficiency and independence as has the county overall. Citizens have a diversity of choices for how to meet their energy needs. We have ~~much more~~ local control over energy prices. We ~~have been able to~~ readily adapt to any major external changes in energy supply or technology.

Our rate of energy consumption is level, due to increasing conservation and efficiency to offset increases in growth-related demand.

Our overall quality of life is ~~as good as or~~ better than it was in 2005. The population is healthier as a result of leading energy-conserving lifestyles. It is safe, pleasant, economically favorable, and typical to have a lifestyle that doesn't consume much energy.

Energy conservation education has reached, and continues to reach, effectively, everyone in the county.

Energy considerations and decisions are integrated with all other decision-making arenas.

The County is energy efficient through neighborhood design. Good community planning has reduced sprawl. There are fewer automobiles used for travel; ~~people depend more on transit, bikes, scooters, walking, and shared-use automobiles than they depend on private automobiles. There are fewer automobiles and there is less automobile dependence.~~ Public transportation is conveniently available and well utilized, ~~and walking, bicycling and other non-automobile forms of transportation are commonly used.~~ There is much less consumption of energy from non-renewable sources for transportation.

All buildings are energy efficient. All new construction is all-electric and done in the most energy efficient manner, starting with building design. All existing buildings have been upgraded to be more efficient and many have converted their previous uses of natural gas and propane to electricity. Energy efficiency is integral to locally adopted building standards, which have flexibility and include meaningful incentives. Many homes and businesses produce more energy than they consume.

The County is a thriving research and development center and incubator for energy technology and related manufacturing, which is a stable source of local jobs.



# **Draft 2019 Strategies Update**

# Regional Energy Planning & Coordination

RCEA will take a leadership role to develop and advance strategic regional energy goals through economic development, funding, planning efforts, and education. This work will be done in coordination with RCEA's member governments, other local public agencies, local tribes, and other public and private stakeholders.

**Goals:** Achieve net-zero greenhouse gas emissions county-wide by 2030.

By 2030 fully establish Humboldt County as a renewable-energy secure community that can affordably and reliably meet its local energy needs with local resources and has the robust local capabilities and infrastructure necessary to effectively respond to any energy emergencies or disruptions in energy supply.

Build the clean energy sector into a cornerstone of the local economy through a breadth of strategies that include innovation, research and development, local energy-related business development, and Humboldt Bay as the primary west coast hub for the offshore wind energy industry.

## ECONOMIC DEVELOPMENT

**Attract Energy-related Business.** Collaborate with local economic development entities to attract technology developers, manufacturers, and energy service providers to locate operations in the County when appropriate.

**Support Proactive Energy-related Business Development.** Collaborate with local jurisdictions to identify and pre-assess locations and facilities for energy-related business ventures.

**Support Energy-sector Workforce Development.** Work with other local entities to provide training and continuing education that develops and maintains a qualified local workforce available to implement energy efficiency upgrades, renewable energy projects, and advanced-vehicle technology deployment.

## ENERGY-RELATED EMERGENCY RESPONSE

**Develop Emergency Response Capabilities.** Coordinate with other local entities to develop regional capabilities to respond to energy emergencies and disruptions in energy supply, infrastructure, or markets. Incorporate efforts to enhance emergency response capabilities across RCEA's demand-side, power resources, and transportation programs.

**Assist with Energy Emergency Response Procedures.** Assist the Humboldt County Office of Emergency Services in the preparation of energy ~~emergency~~ response procedures for the Humboldt County Emergency Response Plan.

**Support Climate Change Adaptation.** Work with other local entities to conduct a climate change risk assessment and develop an adaptation plan consistent with the best-practices guidance provided by the California Natural Resources Agency and California Emergency Management Agency.

## FUNDING

**Develop Regional Energy Funding Mechanisms.** Offer support and act as the fiscal agent and funding clearinghouse for countywide energy programs.

**Pursue Cap and Trade Auction Proceeds.** Work regionally to access Cap and Trade auction proceeds and other State funding mechanisms to ensure effective, efficient, coordinated, and equitable resource allocation in the North Coast Region.

**Develop Job Development Incentives.** Collaborate with local economic development entities to identify ~~funding~~ opportunities for developing jobs in the field of energy conservation, efficiency, and renewable sources.

**Implement Energy Project Financing.** Work with local economic development entities and/or financial institutions to develop and implement financing programs that enable residents and businesses to implement energy efficiency and renewable energy projects.

**Facilitate Financing Mechanisms.** Facilitate Property Assessed Clean Energy (PACE) and other financing programs that access the needed capital to deploy regional energy independence strategies.

**Develop Local Energy Investment Programs.** Work with local economic development entities and financial institutions to develop programs and resources that facilitate local community investment in and/or ownership of energy efficiency and renewable energy projects.

## PLANNING

**Support Carbon Sequestration.** Support the development and deployment of mechanisms for retaining carbon in ~~the~~ region's abundant natural areas and working lands.

**Assist with Climate Action Planning.** Work with ~~member local~~ jurisdictions to ~~regularly~~ complete greenhouse gas inventories, set greenhouse gas reduction targets, and develop climate action plans.

~~**Support Climate Change Adaptation.** Work with other local entities to conduct a climate change risk assessment and develop an adaptation plan consistent with the best practices guidance~~

~~provided by the California Natural Resources Agency and California Emergency Management Agency.~~

**Support Countywide Strategic Energy Planning.** Coordinate an effective energy strategy based on self-sufficiency, development of renewable energy resources, ~~and~~ energy conservation, ~~and~~ electrification that is actively implemented countywide through Climate Action Plans, General Plans and the Redwood Coast Energy Authority's RePower Humboldt plan~~Comprehensive Energy Action Plan~~.

**Encourage Adoption of Energy Elements.** Encourage ~~and assist with~~ the adoption of energy elements ~~in by member other local and regional~~ jurisdictions. Periodically review local energy elements and recommend updates, as necessary, to reflect changing technologies for the generation, transmission, and efficient use of energy.

~~**Assist with Energy Emergency Response Procedures.** Assist the Humboldt County Office of Emergency Services in the preparation of energy emergency response procedures for the Humboldt County Emergency Response Plan.~~

**Encourage Energy Policies and Plans.** Encourage ~~other member~~ jurisdictions and entities, ~~including the cities in Humboldt County,~~ to adopt and implement sound energy plans and policies, to include energy elements and/or energy policies in their general plans and ordinances. Advocate and disseminate energy planning strategies, policies, and other information.

## EDUCATION

**Maintain an Energy Resource Center.** Operate an energy resource center open to the public and provide information on energy conservation, energy planning, renewable energy, energy storage, low-carbon transportation, and energy-efficient and all-electric building design and retrofits ~~information~~.

**Hold Regional Energy Forums.** Serve as a forum for addressing countywide energy issues.

**Develop Public Displays.** Encourage and assist development of educational displays for exemplary renewable energy and distributed energy systems installed throughout Humboldt County. Displays should provide county residents and businesses with information on how the systems work and how well they perform and should inform county residents about the importance, benefits, and associated impacts of developing local energy resources.

**Provide Energy Efficiency, Conservation and Electrification Education and Training.** Provide community education, information, and resources on energy issues to support informed decision making related to customer energy use, including the benefits of reduced energy consumption, electrification and increased energy efficiency. Collaborate with schools and colleges for energy-related research, education, and conservation practices.

# Integrated Demand Side Management

RCEA will use an Integrated Demand Side Management ~~(IDSM)~~ approach to develop distributed energy resources and reduce energy consumption in the residential, commercial, industrial, agricultural, and government sectors and to align ~~match and enhance~~ customer energy use with intermittent-variable clean and renewable energy supplies. RCEA will prioritize efforts that enhance ~~An additional priority will be placed on local~~ energy resiliency and independence.

**Goals:** Support the wide-spread installation of customer solar energy systems, with a target to increase installation to a rate of one system every day for the next decade to reach 30MW of customer solar installed by 2025 and 50MW installed by 2030.

Provide energy efficiency and conservation services to every household and business in the county by 2030.

Develop and begin implementation of expanded efficiency and electrification programs to reduce greenhouse gas emission from natural gas use by 20% by [YEAR] and establish and maintain a trajectory to reduce emissions from natural gas by 90% by 2050.

Deploy a network of community microgrids and renewable energy back-up power systems across the county to reduce greenhouse gas emission and to provide energy resiliency and long-duration emergency energy supply at all critical facilities by 2030.

## INTEGRATED DEMAND SIDE MANAGEMENT STRATEGIES

**Support Member Agency and Local Government Energy Management.** Support member agencies in managing their energy consumption. RCEA will support ~~varying~~ activities that reduce and ~~balance~~ align energy use with available clean and renewable supplies to reduce costs while aligning to performance-based action plans and Greenhouse Gas Emission Reduction goals. Additional activities will be prioritized where they support energy resiliency and independence.

**Support Implementation of Codes and Standards.** Support the State's goals related to residential and commercial net-zero-energy and zero-net carbon standards along with other green building standards, including ~~Support~~ the local implementation of Title 24 building energy codes, Title 20 appliance efficiency standards and individual projects that strive to achieve energy efficiencies that exceed state or local requirements. Support ~~the consideration and adoption of implementation of~~ above code energy ordinances.



**Promote No Regrets Energy Efficiency, ~~Solar Renewable Energy~~, and Storage Permitting.**

Support local ordinances that streamline permitting processes for energy efficiency, ~~solar-renewable energy~~, and storage technologies.

**Assist with Facility Benchmarking.** Assist local governments ~~and businesses~~ with facility benchmarking to evaluate and track the energy performance of non-residential buildings.

~~**Support Zero Net Energy Standards.** Support the State's goals related to residential and commercial net zero energy standards along with other green building standards that align to RCEA's IDSM strategies.~~

~~**Conduct Community Engagement.** Provide community facing information and resources that will support informed decision making as relating to customer energy use.~~

**Support Energy Assessments.** Support and encourage full knowledge of the costs and benefits (including product stewardship) of energy efficiency, conservation, generation and storage activities through assessments.

**Integrate Distributed Energy Resources.** ~~Develop and implement customer programs that~~ ~~S~~support, promote and integrate distributed energy resources, including but not limited to distribution-connected generation, energy storage, energy efficiency, electric vehicle and demand response technologies ~~into new and existing customer facing programs.~~

**Integrate a Distributed Energy Resource Management System.** Support the development and installation of systems needed for effective and responsive management of distributed energy resources. ~~Evaluate the potential integration of~~ ~~Integrate~~ distributed energy resources into a unified system that would allow RCEA to ~~can~~ aggregate ~~and/or~~ automate demand response activities.

**Support and Deploy Microgrids.** Support and deploy energy microgrids, focusing on critical infrastructure and community facilities, that through onsite generation, energy storage, and advanced control systems provide energy resiliency and emergency-response capabilities as well as ongoing economic and environmental benefits.

**Use Advanced Metering Infrastructure.** Use advanced metering infrastructure to make informed, data driven program decisions and allow customers visibility into their energy usage for more ownership and control of their energy related behavior and decisions.

## ENERGY EFFICIENCY & CONSERVATION

**Maximize the Efficiency of Buildings.** ~~RCEA will~~ ~~s~~Support energy efficiency and conservation as core strategies toward achieving ~~the program's~~ environmental, economic, and community goals. Where feasible, energy efficiency technologies will be controllable and integrated as a distributed resource; any such efforts will be implemented with a commitment to respecting and protecting customers' rights to privacy. ~~RCEA will:~~

**Support Electrification.** Prioritize the development and implementation of new programs and ~~alterations to existing~~ services that promote the use of the most energy-efficiency electric equipment

including: air-source heat pump ~~domestic~~ hot water and space heaters, induction stoves ~~and~~, electric clothes dryers, and the electrification of commercial and industrial processes.

**Encourage Energy-Efficient Equipment.** Encourage the use of the most energy-efficient equipment for space and water heating, ventilation, lighting, refrigeration, and air conditioning in all buildings and developments, including residential, and commercial and industrial facilities.

**Promote Performance Contracting.** Promote residential and commercial performance contracting that is consistent with current best practices for energy efficiency and environmentally sound construction techniques.

**Develop and Support Behavioral, Commissioning and Operations Programs (BROs).** Promote, dDevelop, ~~promote~~ and support-implement programs that promote-enable energy conservation and load-shifting through, customer behavior changes, building system commissioning, and operational changes, that reduce or change the time of energy use.

**Replace Plug Loads.** Replace existing plug load devices and install line-signaling smart technologies that save energy and provide an integrated solution that aligns with demand response and storage measures. Examples include internet-of-things enabled lighting, water and space conditioning, dish and clothes washing, and refrigeration.

## DEMAND RESPONSE

**Implement Demand Response Programs.** ~~RCEA will s~~Support and prioritize demand response programs that give-offer ratepayers an opportunity to play a role in balancing energy load-usage with renewable energy supply. Demand response programs and offerings will, where possible, integrate with ~~distribution-distribution~~-connected efficiency systems and controls, solar-renewable energy generation, and energy storage measures.

**Support Time of Use.** Notify, support, and enable action from customers ~~who express an interest in~~who want to participate in load shifting or peak shaving to reduce ~~evening hour coincident~~energy usage during times of peak demand.

**Provide and Support Peak Day Pricing.** ~~Notify-Provide notification~~ and support for customer energy use changes during summer peak energy demand day events.

**Enable Automated Demand Response.** Install electrification, efficiency, and storage technologies that automatically reduce energy use during demand response events. Implement building demand response systems that allow for the curtailment of loads without major impacts to occupants and operations in descending order of priority.

**~~Implement Grid-Connected Buildings.~~** ~~Implement grid-connected buildings that allow for the curtailment of loads in descending order of priority.~~

# DISTRIBUTED GENERATION & STORAGE

**Support Customers' Installation of Distributed Generation.** RCEA will support the deployment of distribution-level-connected solar-renewable energy and storage systems technologies as core strategies toward achieving environmental, economic, and community goals stability/resilience goals.

**Administer and Implement the Public Agency Solar Program.** Continue to implement the solar and energy-storage technical assistance program for public agencies; integrate grid-connected resources, electrification and microgrids as feasible.

**Administer and Implement the Community Solar and Storage Program.** Evaluate, design and launch community solar and storage program services that support the increased adoption of grid-connected solar and storage technologies.

**Integrate Vehicle to Grid Storage.** Integrate vehicle to grid storage solutions with transportation and IDSM integrated demand side management goals and objectives.

## Low-carbon Transportation

RCEA will decarbonize regional transportation through efforts to reduce vehicle miles travelled, increase advanced fuel vehicles adoption and fuel efficiency, and expand advanced fuel infrastructure.

**Goals:** Accelerate the adoption of electric vehicles, with a target of over 6,000 electric vehicles on the road in Humboldt County by 2025 and 22,000 vehicles by 2030. Develop public, workplace, and residential electric vehicle charging infrastructure necessary to support these county-wide electric vehicle targets.

Work with other local public entities to reduce vehicle miles traveled in Humboldt County by at least 25% by 2030.

By 2030 reduce greenhouse gas emission from transportation by over 65% through reductions in vehicle miles traveled, improved vehicle efficiency, the adoption of electric vehicles, and, where determined to be an effective emissions-reduction strategy, the use of biofuels as a bridge to the full transition to zero-emissions vehicles. Establish and maintain a trajectory of emissions reduction to eliminate the use of fossil fuels by 2050.

# REDUCE VEHICLE MILES TRAVELED

**Strengthen Broadband Infrastructure.** Support efforts to strengthen rural regional broadband infrastructure to facilitate remote access to educational and business opportunities, and deploy advanced, resilient grid management technology and integrated energy efficiency and demand response solutions.

**Encourage Transportation-efficient Land Use Planning.** Encourage infill, transit-oriented development, and walkable and bikeable communities through thoughtful zoning and land-use planning processes.

**Facilitate Multi-modal Transportation Infrastructure.** Support improving multi-modal transportation options through regional trail networks, transit infrastructure, and complete streets infrastructure strategies that support walking, biking, [carsharing](#), [ridesharing](#), and the use of public transportation.

# INCREASE ADVANCED FUEL VEHICLE ADOPTION & FUEL EFFICIENCY

~~**Electrify Transportation**~~**Support Local Vehicle Fleet Owners Leading by Example.** Encourage local government and private fleets to maximize the use of low-carbon vehicles. [And support low-carbon transportation initiatives at other agencies.](#)~~Provide local incentives for electric vehicles.~~

**Promote Advanced Fuels.** [Equitably promote, support and incentivize low carbon vehicle and fuel adoption by local governments, commercial fleets, and the public.](#) Encourage the use of non-fossil sources of advanced fuels that reduce greenhouse gas emissions, which may include [electricity](#), hydrogen, biodiesel, ethanol, and renewable diesel.

~~**Promote Support PEV Electric Vehicle Adoption.**~~ Conduct public outreach campaigns to promote [electric vehicles](#)~~EV driving; fleet analysis.~~ [Offer electric vehicle incentives and P](#)~~provide~~ [customers with](#) web and in-person decision support [when considering the purchase of an electric vehicle.](#) Conduct leadership by example among government agencies. ~~Support low carbon transportation initiatives at other agencies.~~

**Promote Efficient Driving Practices.** Promote the use of energy-efficient driving practices that improve fuel efficiency, such as moderate speed changes and legal speeds, anti-idling, and traffic-calming features.

**Support Shipping Efficiency.** Support the implementation of trucking efficiency technologies and best-practices, including idle-reduction technologies, aerodynamic retrofits, and low rolling resistance tires. Support the analysis of other potential transportation modes that could provide efficient shipping alternatives such as barge and rail.

# EXPAND FUELING INFRASTRUCTURE

**Develop Transportation Electrification Infrastructure.** Develop and implement Electric Vehicle (EV) charging stations. Provide local incentives for EV-electric vehicle charging infrastructure and prioritize technologies that align with integrated demand-side management goals.

**Develop-Utilize Biofuels.** Promote use of biofuels with low California Low Carbon Fuel Standard (LCFS) scores, particularly those produced with local waste feedstocks. waste oils and other biomass sources for biofuels production. Focus on waste oils and other biomass that are not already being used for other purposes, and explore potential opportunities and issues of new technologies for biofuels production from local resources.

**Streamline Permitting for PEV Electric Vehicle Charging Infrastructure.** Encourage local jurisdictions to list PEV-vehicle charging as a permitted use across a broad range of zoning classifications. If a zoning review is triggered, consider the EVSE vehicle charging as an accessory use to another permitted use whenever possible. Develop a standard EVSE vehicle charging permitting process that can be used across the North Coast Region, etc.

**Promote Vehicle-to-Grid Connection.** Promote integration of motor vehicle electric vehicles with the electric grid, including battery electric vehicles, fuel cell vehicles, plug-in hybrid electric vehicles, and solar electric vehicles. Evaluate the development status of vehicle-to-grid interconnect standards and the use of grid-connected vehicles for short-term energy storage.

## Energy Generation & Utility Services

RCEA will address Humboldt County's supply-side energy needs for Humboldt County through its existing Community Choice Aggregation (CCA) program and development of new programs and initiatives as appropriate.

**Goals:** By 2025 100% of RCEA's electricity power mix will be from net zero carbon emission sources that are either a combination of state-designated renewable energy sources—solar, wind, biomass, small-hydroelectric, and geothermal—and state-designated net zero carbon emission existing large hydroelectric facilities.

By 2030 Humboldt County will be a net exporter of renewable energy electricity and RCEA's power mix will consist of 100% local, net-zero-carbon-emission renewable sources.

Humboldt County can effectively respond to regional and local disruptions to energy supply and distribution systems through modernization of the local electric grid, the deployment of local distributed energy resources, and the development of community microgrids.

## POWER RESOURCES

**Maximize the Use of Local Renewable Energy to the Extent Technically and Economically Feasible and Prudent.** Use the CCA program with its renewable energy targets, and programs supporting distributed energy resources, to achieve this [goalaim](#).

**Minimize Greenhouse Gas Emissions Associated with RCEA's CCA Program.** [Procure a CCA](#) power mix [that](#) has, at least, a 5% lower greenhouse gas emission rate than PG&E mix. [Assess, evaluate, and monitor the short-term and lifecycle emissions from all generation sources to ensure power resources align with RCEA's greenhouse gas emissions goals.](#)

**Reduce Regulatory Barriers.** Support [efforts to increase the efficiency of streamlining the energy systemsrenewable energy](#) permitting process and reduce any excessive regulatory barriers to renewable energy and distributed generation projects. [Using RCEA's position as a power offtaker, Work withto](#) developers [on](#) proactive strategies to reduce and mitigate the environmental and community impacts of potential energy projects.

**Maximize Renewable Energy Content of RCEA's CCA Program.** [Procure a CCA](#) power mix [that is at least 5% more renewable energy \(as defined by state law\) than PG&E's power mix and](#) reaches 100% clean and renewable content by 2025.

**Ensure Diversity in Local Sources.** Pursue development of a diverse, locally produced [renewable](#) energy supply [,with an emphasis on renewable resources,](#) that is price-competitive in the California [power](#) market and that can be generated in a way that minimizes adverse environmental [and community](#) impacts.

**Promote Energy Feasibility Studies.** Encourage and support feasibility studies of local wind, solar, hydro-power, and ocean energy resources. Make recommendations on preferred alternatives that are consistent with [the County'scommunity](#) goals for energy security and sustainability.

### Power Resources: Distributed Generation

**Designate "Renewable Energy Parks."** Work with County and City planning departments to designate areas of the county preferred for renewable energy development.

**Develop Distributed Generation.** Encourage studies to identify key [facilities locations](#) throughout the county that would benefit from distributed generation [and cogeneration energy](#) systems. Encourage development of responsive [environmentally preferable](#) distributed generation [demonstration sites, and cogeneration energy systems where appropriate.](#) [Encourage and publicize demonstration sites.](#)

**[Provide Education on Renewable Energy and Distributed Generation.](#)** [Provide educational and promotional programs that encourage and demonstrate the use of renewable energy and environmentally preferable distributed energy generation and cogeneration systems.](#)



**Provide Feed-In-Tariff Power Procurement Program for Small Generators.** Offer long-term contracts at a [market-adjusting set](#) rate for Renewable Portfolio Standard-eligible renewable energy generators of 1MW or smaller.

## **Power Resources: Solar**

**Support Solar Energy Development.** Support local efforts to develop [customer](#) solar electric systems and solar hot water systems in the county. Support development of local training programs for solar contractors and installers. Educate the public about the benefits of solar energy systems. Develop programs that facilitate an increase in the number of solar energy systems in the county.

[Procure Local Solar Energy. Contract for local onshore solar energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs.](#)

## **Power Resources: Offshore Wind**

**~~Pursue-Develop~~ Offshore Wind Energy.** Work with public and private entities to develop offshore wind energy off of ~~Humboldt County's~~[the north coast region's](#) coastline, and support establishing Humboldt Bay as a west-coast hub for the offshore wind industry.

[Procure Local Offshore Wind Energy. Contract for local offshore wind energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs.](#)

## **Power Resources: Onshore Wind**

**Promote Large-Scale Wind Energy.** Provide information about the potential for cost-effective, commercial-scale wind farms in the county. Educate the public about the benefits and impacts of wind energy systems. Work with utilities, local government, and private companies to develop onshore wind energy projects.

[Procure Local Onshore Wind Energy. Contract for local onshore wind energy as part of RCEA's community choice energy portfolio to the extent economically feasible and compatible with portfolio diversity needs.](#)

## **Power Resources: Bioenergy**

**Support Biomass Fuels Reduction and Utilization.** Develop strategies and technologies for improved biomass utilization in ways that effectively support restoration objectives and fire management priorities. Coordinate with local agencies, communities, and landowners to develop biomass energy plans that are consistent with sustainable forest management, hazardous fuels reduction, fire safety, and restoration needs.

~~**Contract for 20MW**~~**Procure Local Biomass Energy.** ~~Contingent on price and market conditions, contract for a target of around 20MW of local biomass energy. Contract with local biomass facilities at a scale matched to the local supply of wood waste from mills and, when feasible and appropriate, from forest management and restoration activities. Require and support a high standard of environmental compliance from RCEA's biomass suppliers through the deployment of the best-available emissions control technologies. Analyze and confirm on an ongoing basis that, within the context of local commercial forest land~~

management practices and the forest-products sector, local biomass power generation sector has net-zero greenhouse gas emissions on both a short-term and long-term basis.

**Promote Small-Scale Biomass Generation Sites.** Monitor feasibility of smaller and/or mobile biomass electric generators fed with wood waste and very small diameter logs (e.g., from thinning for fire safety and timber harvest slash ~~in National Forest areas~~). If/when technology proves feasible and cost effective, promote its use in county areas where appropriate. ~~near National Forests where existing electric transmission lines are available.~~

**Pursue Biogas Development.** Support HWMA and others ~~in the development with~~ the development of ~~a organic food~~ waste digesters. Develop and publicize dairy biogas demonstration sites and work with local farm organizations to promote dairy biogas energy systems where appropriate. Publicize the use of biogas at existing local wastewater treatment facilities and encourage its use at additional facilities where appropriate. Encourage biogas use to produce electricity onsite rather than pipeline injection to avoid the potential greenhouse gas emission impacts of pipeline leaks.

## **Power Resources: Wave and Tidal**

**Pursue Wave and Tidal Energy Development.** Build on the previous WaveConnect and CalWave projects to explore and evaluate opportunities for local wave and tidal energy research, development, and pilot ~~deployment.~~

## **Power Resources: Hydro**

**Support Existing and New Local Small-scale Hydroelectric Power.** Evaluate options for contracting with existing small hydroelectric projects as well as the development of new ~~small-scale~~ run-of ~~the~~-river hydroelectric projects that would be eligible for Renewable Portfolio Standard designation and compatible with environmental and cultural priorities. ~~Encourage appropriate local agencies to prepare an updated~~ the Oscar Larson and Associates' 1982 assessment of small hydroelectric resources ~~potential~~ in the county.

# **UTILITY ENERGY SERVICE**

**Minimize Energy Interruptions.** Work with local utility providers to minimize the impact of power outages and improve the reliability and resiliency of the local electricity delivery service.

**Provide Energy via Direct Access ~~or Core Transport Agent Agreements~~.** Explore the feasibility of RCEA acting as an electricity provider through direct access ~~and/or acting as a natural gas core transport agent for local energy customers.~~

**Review Utility Options.** Review the effectiveness of ~~PG&E~~ the incumbent utility in meeting Humboldt County's long-term energy needs and evaluate the feasibility of establishing a local municipal electric utility.

Provide Outstanding Customer Service to RCEA Ratepayers. Ensure that participants in RCEA's community choice energy program receive high-quality customer service related to enrollment, rates,



[billing, and customer programs supported by CCE community choice energy program ratepayer funds.](#)

## RATES & TARIFFS

**Provide Community Choice Aggregation Program Customer Rate Savings.** Provide customer savings relative to corresponding PG&E generation rates and [departing load charges with PG&E PCIA fees factored in](#) averaging at least \$2 million per year.

**Provide Electricity Buyback from Self Generators.** Provide a net energy metering program that encourages more distributed local generation and more equitably compensates such generation.

**Retain and/or Redirect Rate-Payer Dollars Back into Humboldt County.** Work to maximize the amount of rate payer dollars [retained/directed back](#) into Humboldt County when taking into consideration local power procurement, [customer electricity rates savings](#), local program spending, and allocations toward building the reserve/[contingency](#) fund for RCEA's Community Choice Aggregation program.

**Provide Match Funding for State, Federal, and Foundation Energy Grants.** Support bringing resources into Humboldt County to pursue CCA community energy goals.

**Support [Transition to](#) Time of Use Rates.** Support customer [adoption and](#) transitions to time of use [electricity](#) rates.

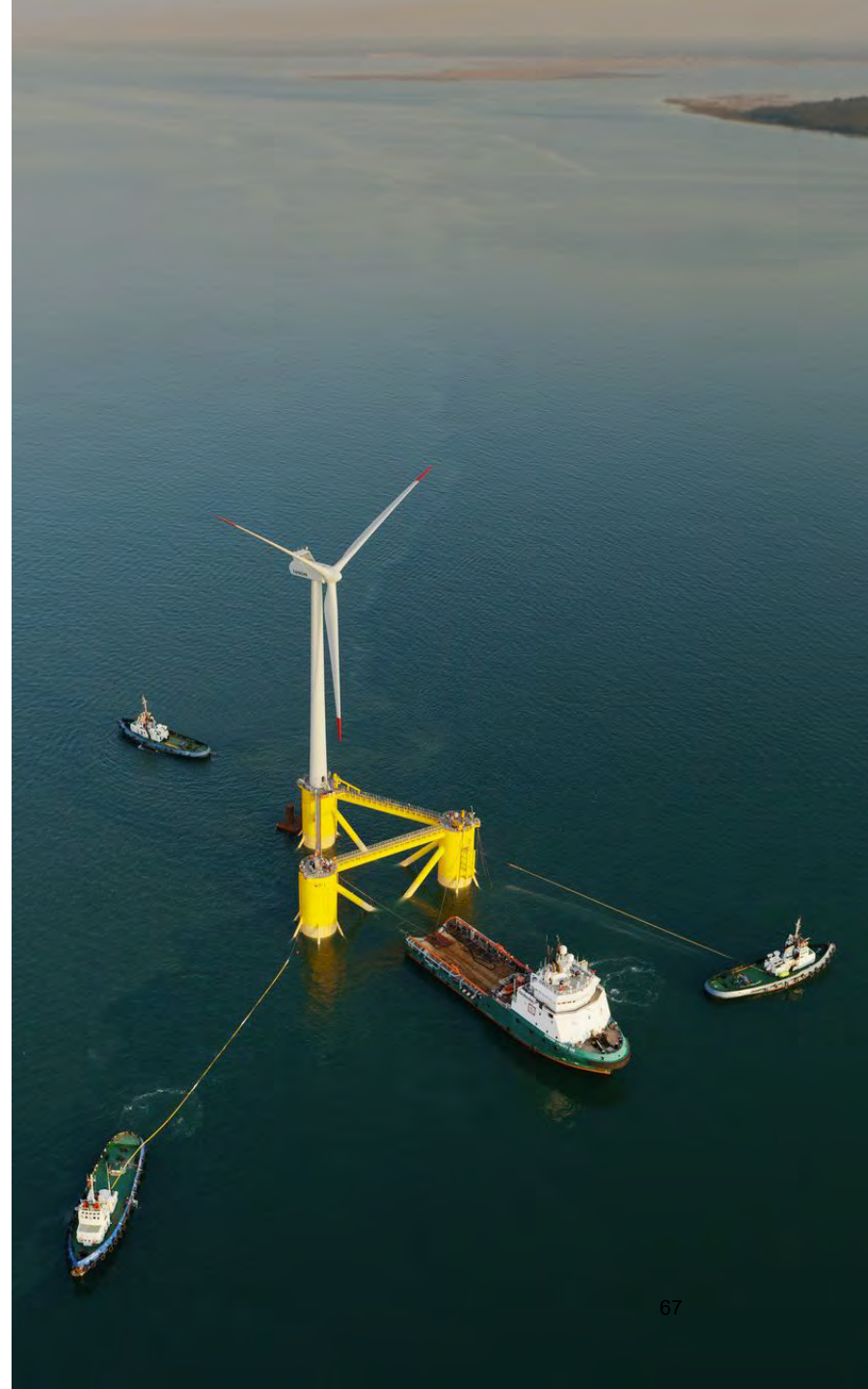
## TRANSMISSION & DISTRIBUTION INFRASTRUCTURE

**Perform Transmission Assessments and Monitoring.** Encourage development of long-term transmission assessments and, if necessary, electrical transmission grid [upgrade and/or](#) expansion plans. Monitor local electricity transmission system planning to ensure that projected growth areas are adequately served and to support the development of local renewable energy projects.

**[Support Upgrade of the Electricity Transmission and Distribution System.](#)** [Upgrade-Collaborate with PG&E, the California Independent System Operator, and renewable energy developers to upgrade](#) the regional transmission and distribution electrical grid to enable increased development of both utility-scale renewable energy projects [and as well as](#) community-scale distributed generation systems, including capability to export surplus renewable electricity [generation](#) from Humboldt County to other areas of the state.

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# RCEA's Comprehensive Action Plan for Energy 2019 Update



# Existing RCEA planning documents

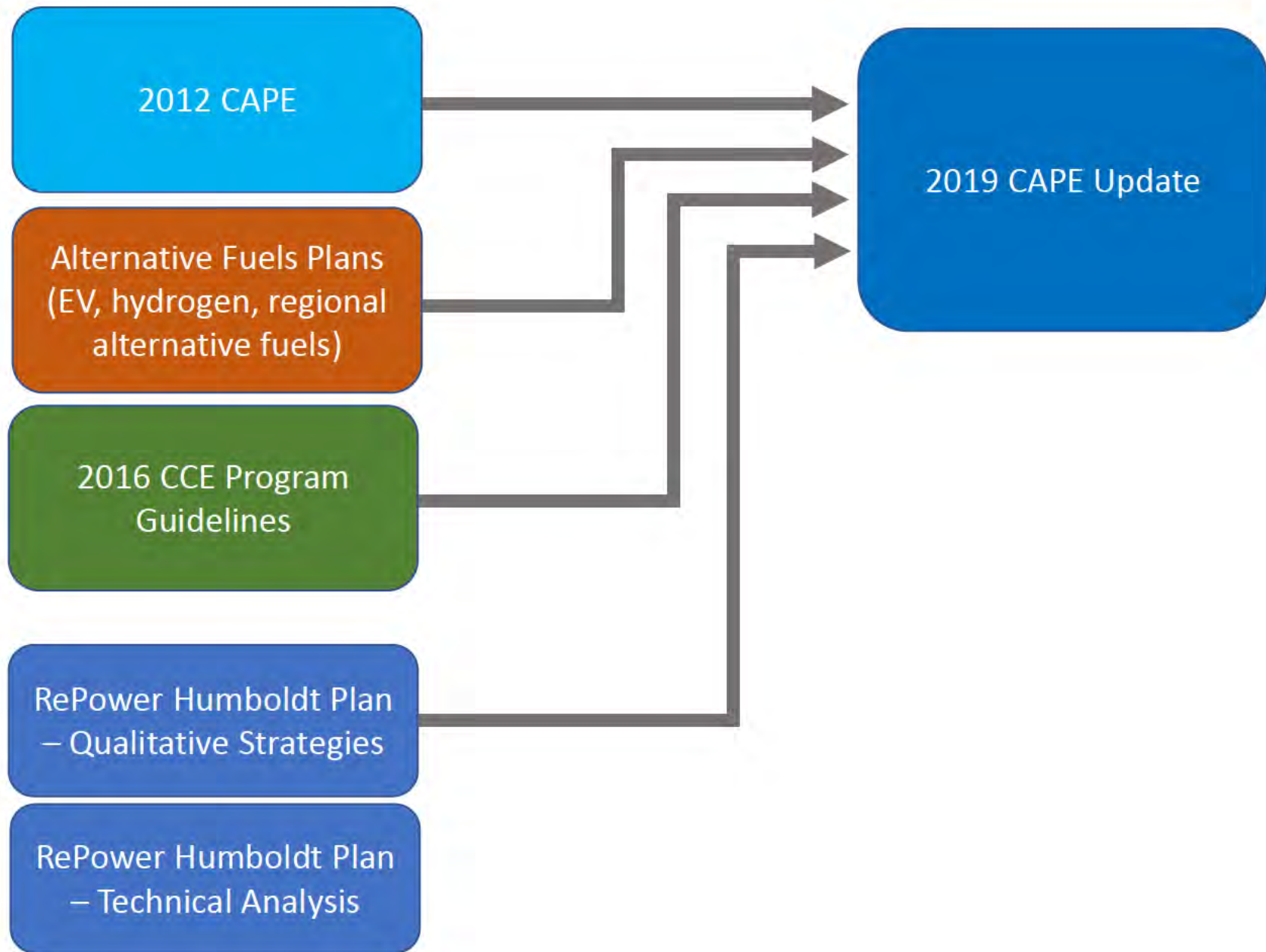
2012 CAPE

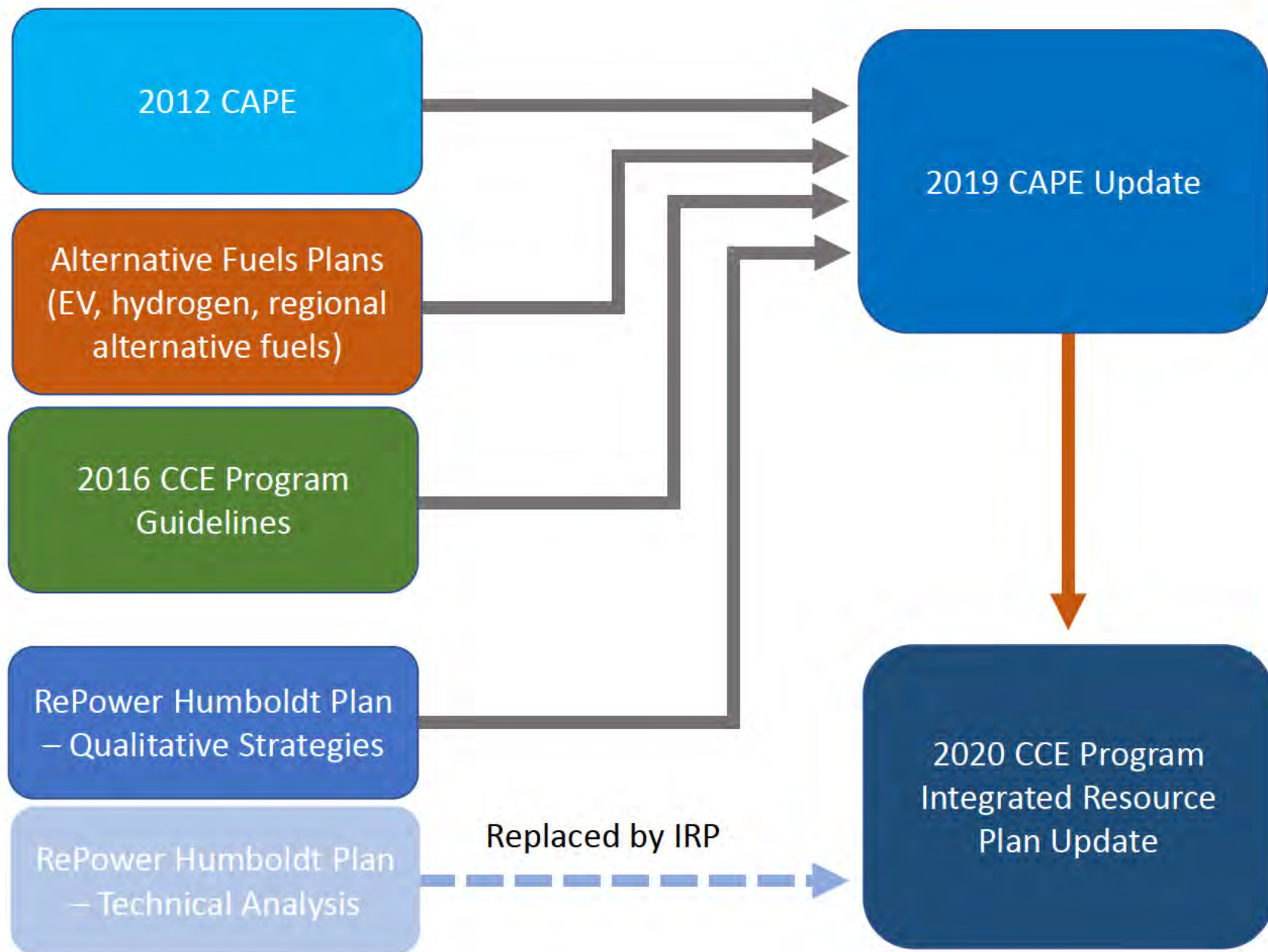
Alternative Fuels Plans  
(EV, hydrogen, regional  
alternative fuels)

2016 CCE Program  
Guidelines

RePower Humboldt Plan  
– Qualitative Strategies

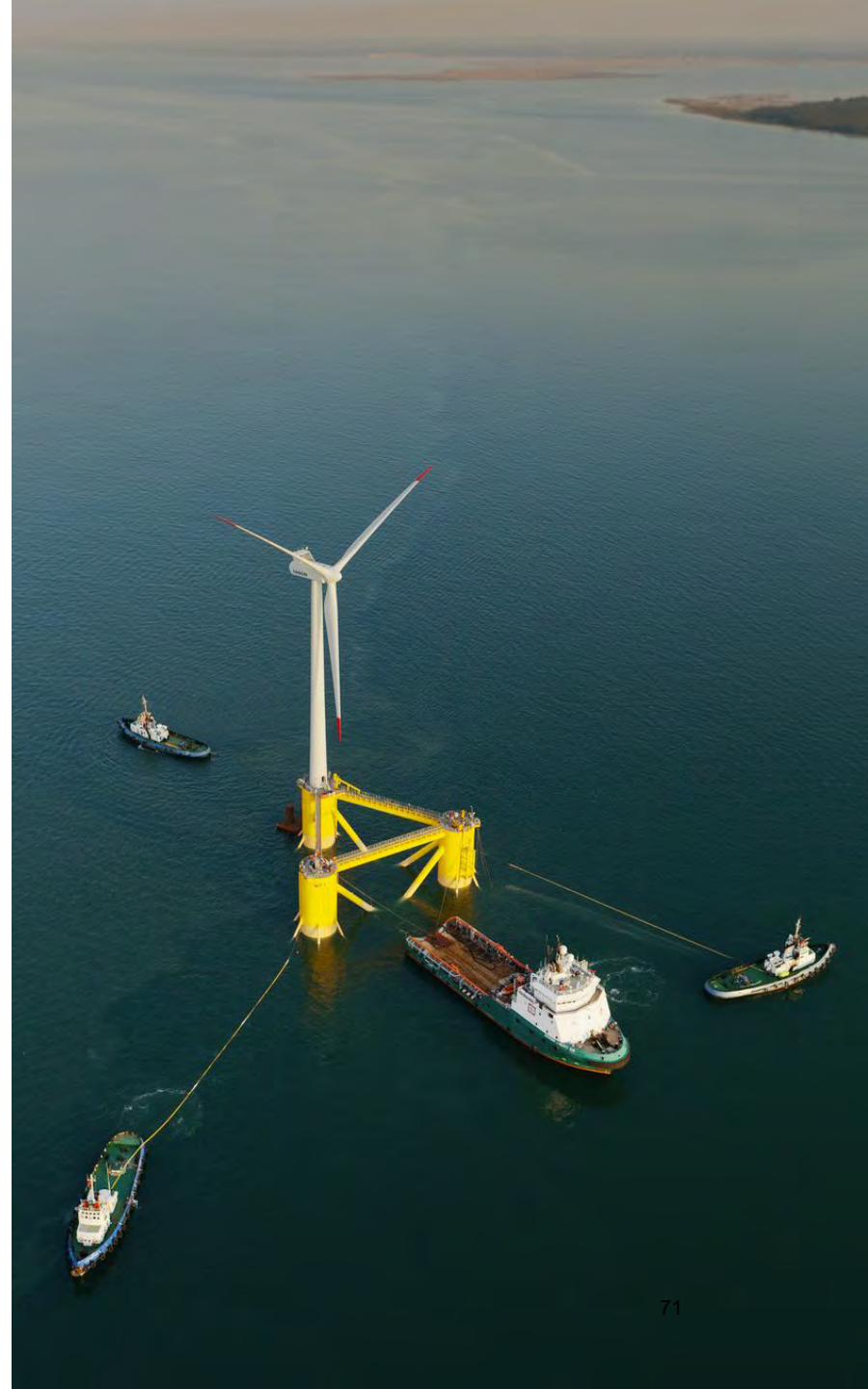
RePower Humboldt Plan  
– Technical Analysis







RCEA's  
~~Comprehensive~~  
~~Action Plan~~  
~~for Energy~~  
**RePower**  
**Humboldt**  
2019 Update



# Strategies regrouped into 4 areas



**Regional  
Planning &  
Coordination**



**Energy  
Generation &  
Utility Services**



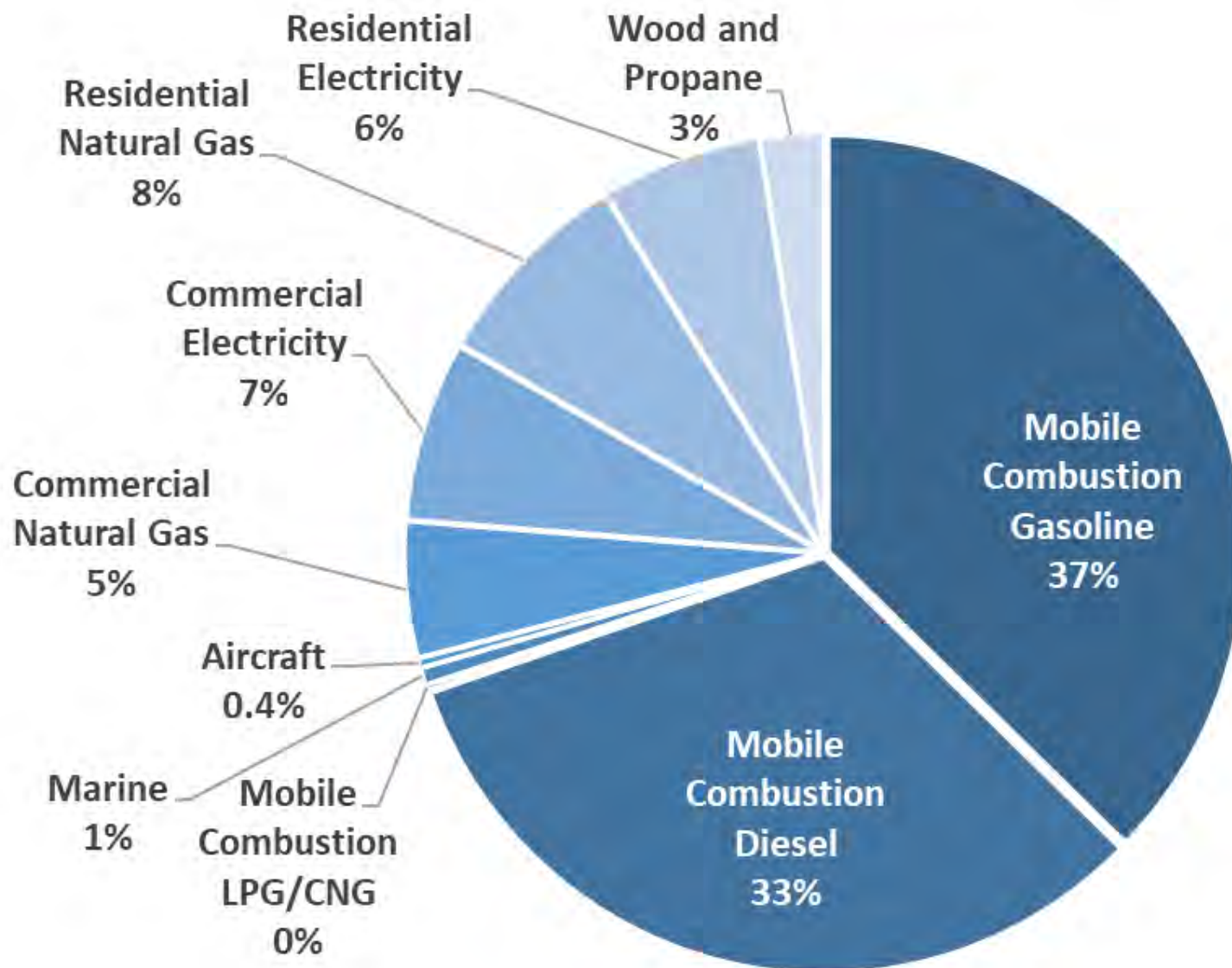
**Integrated  
Demand Side  
Management**



**Low-carbon  
Transportation**

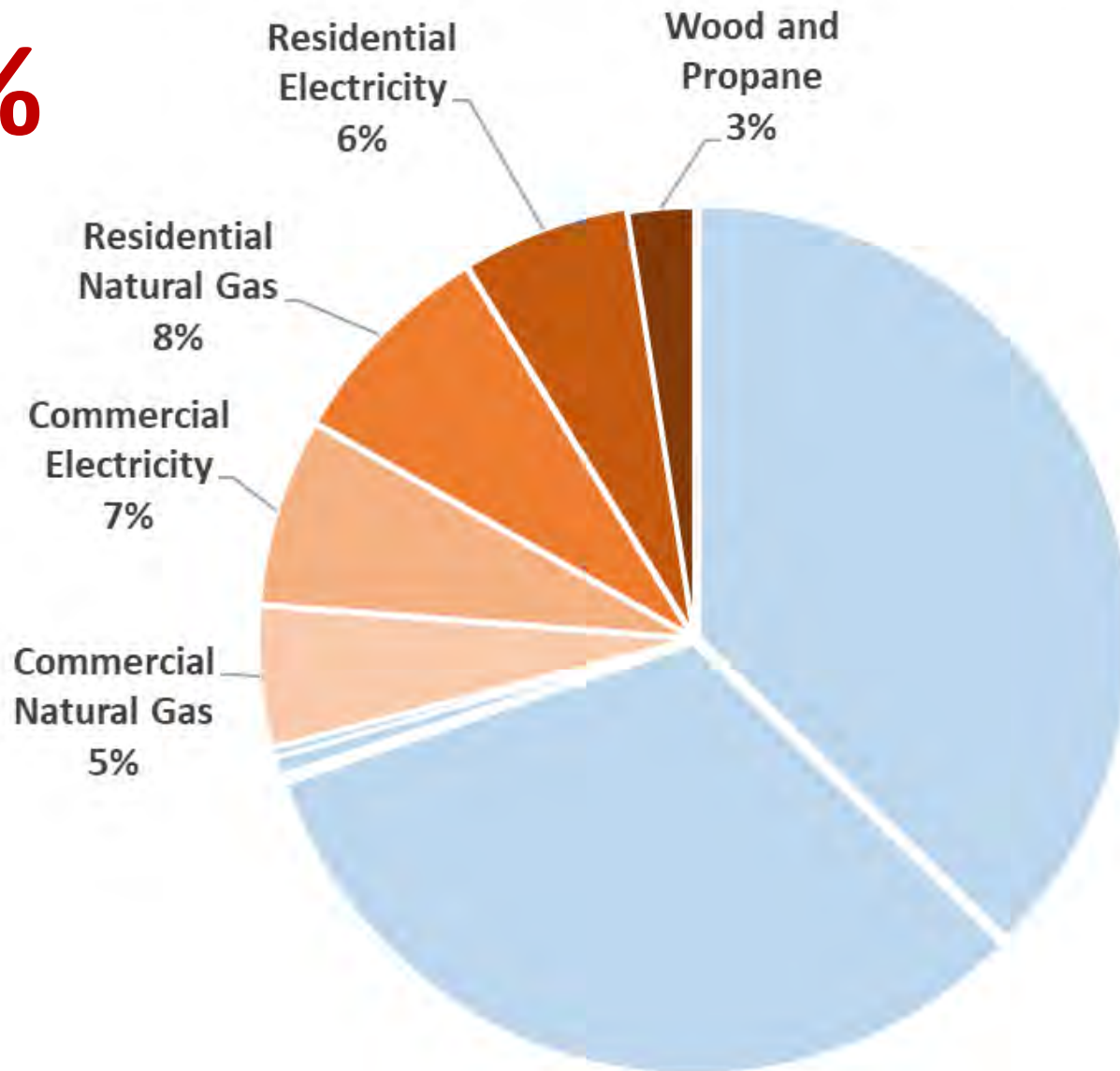


# Humboldt County Energy End Use Greenhouse Gas Emissions



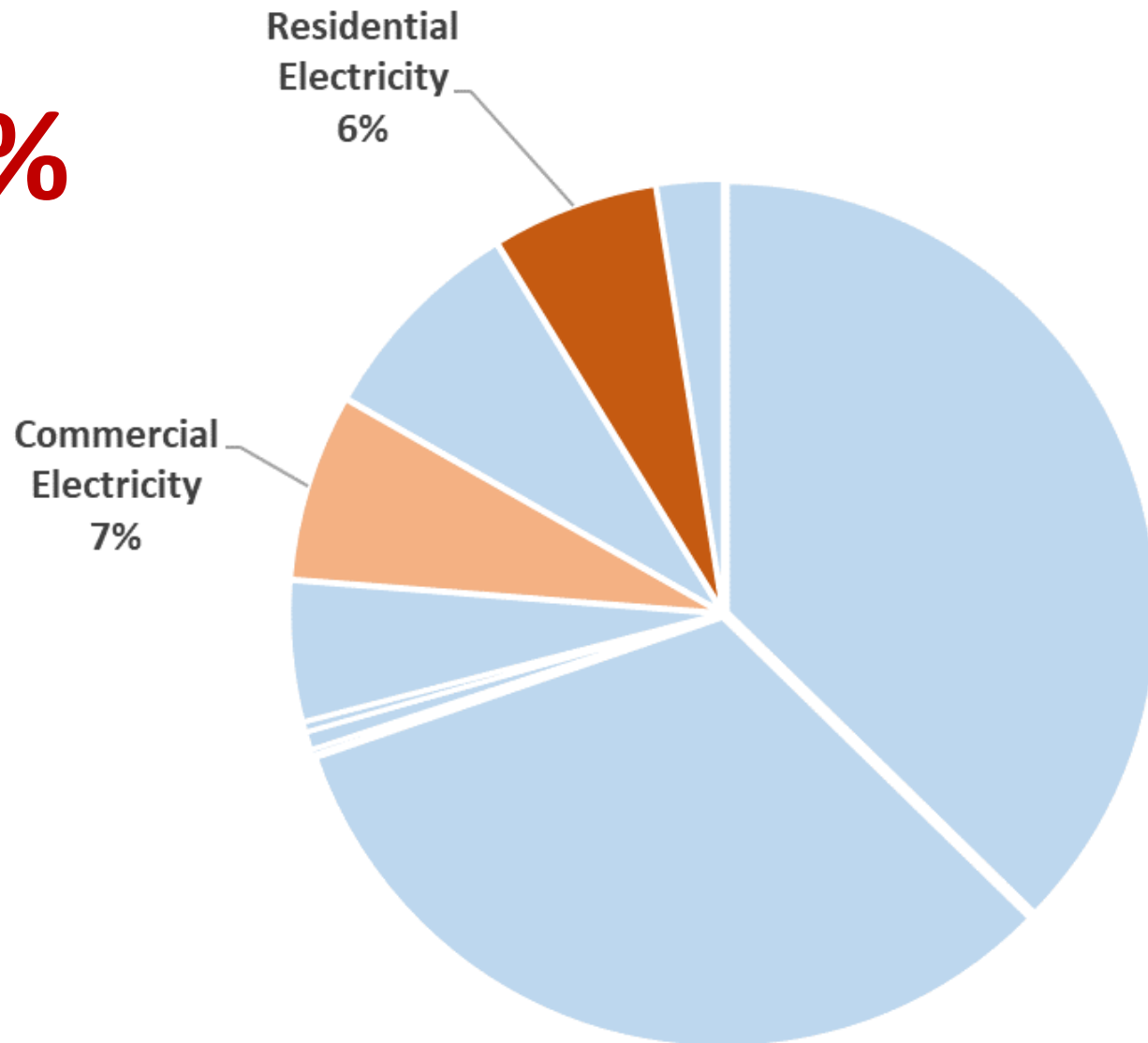
# Built Environment End Use Emissions

**29%**

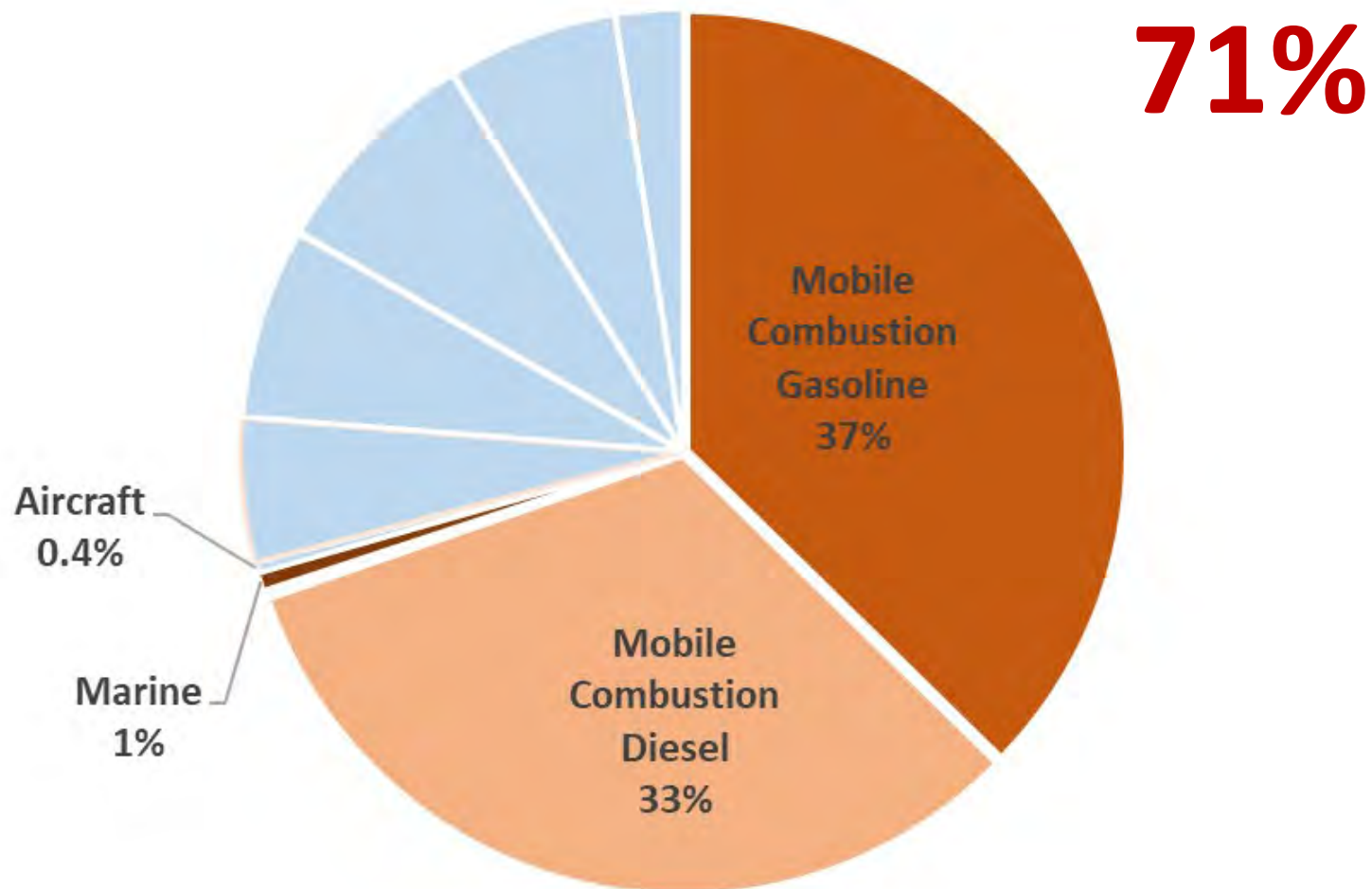


## Electricity End Use Emissions

**13%**



## Transportation End Use Emissions



# Public input to date



# Aug-Sep 2019

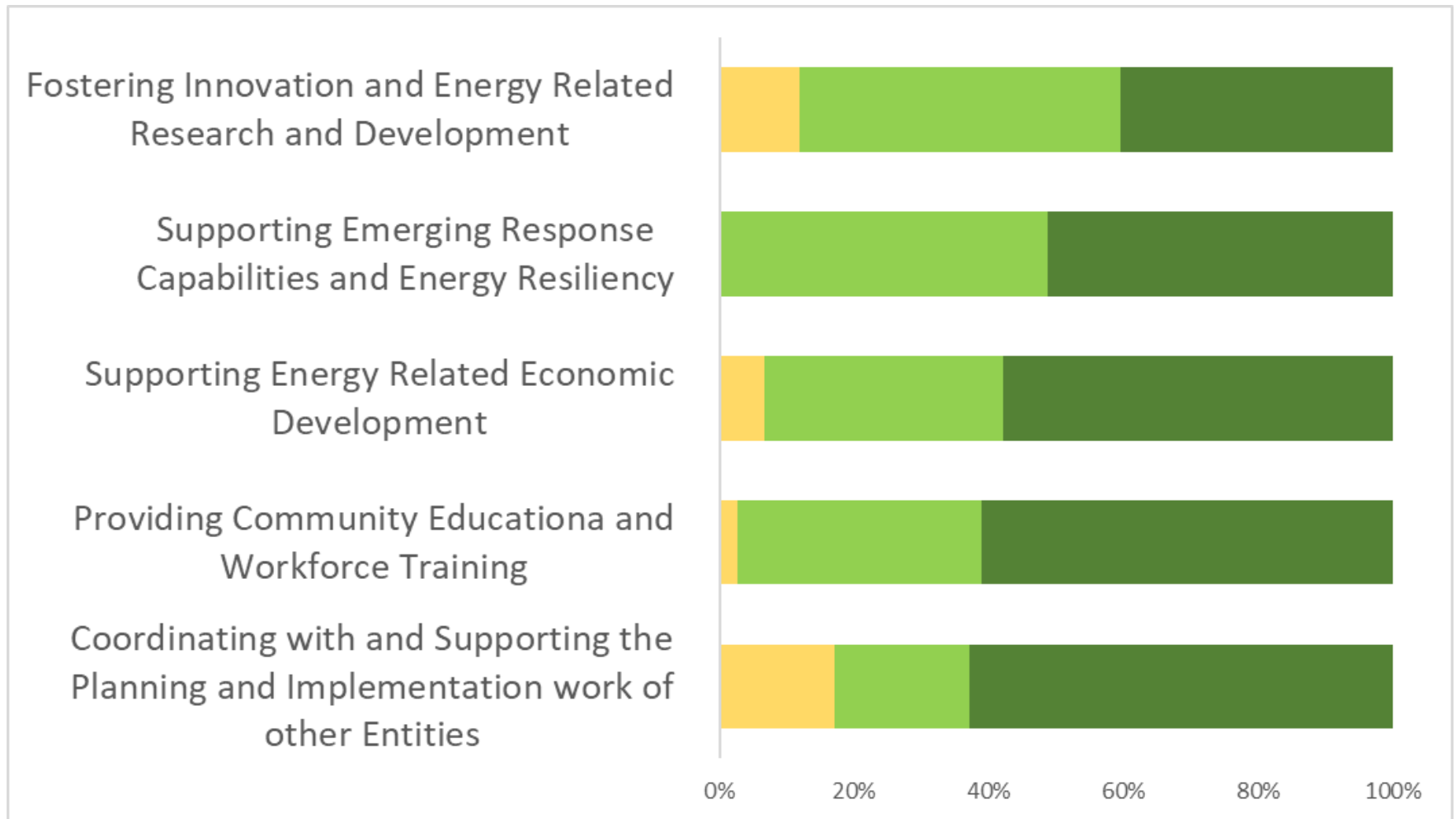
## RCEA Public Workshop Voting

### Eureka, Orleans, and Redway

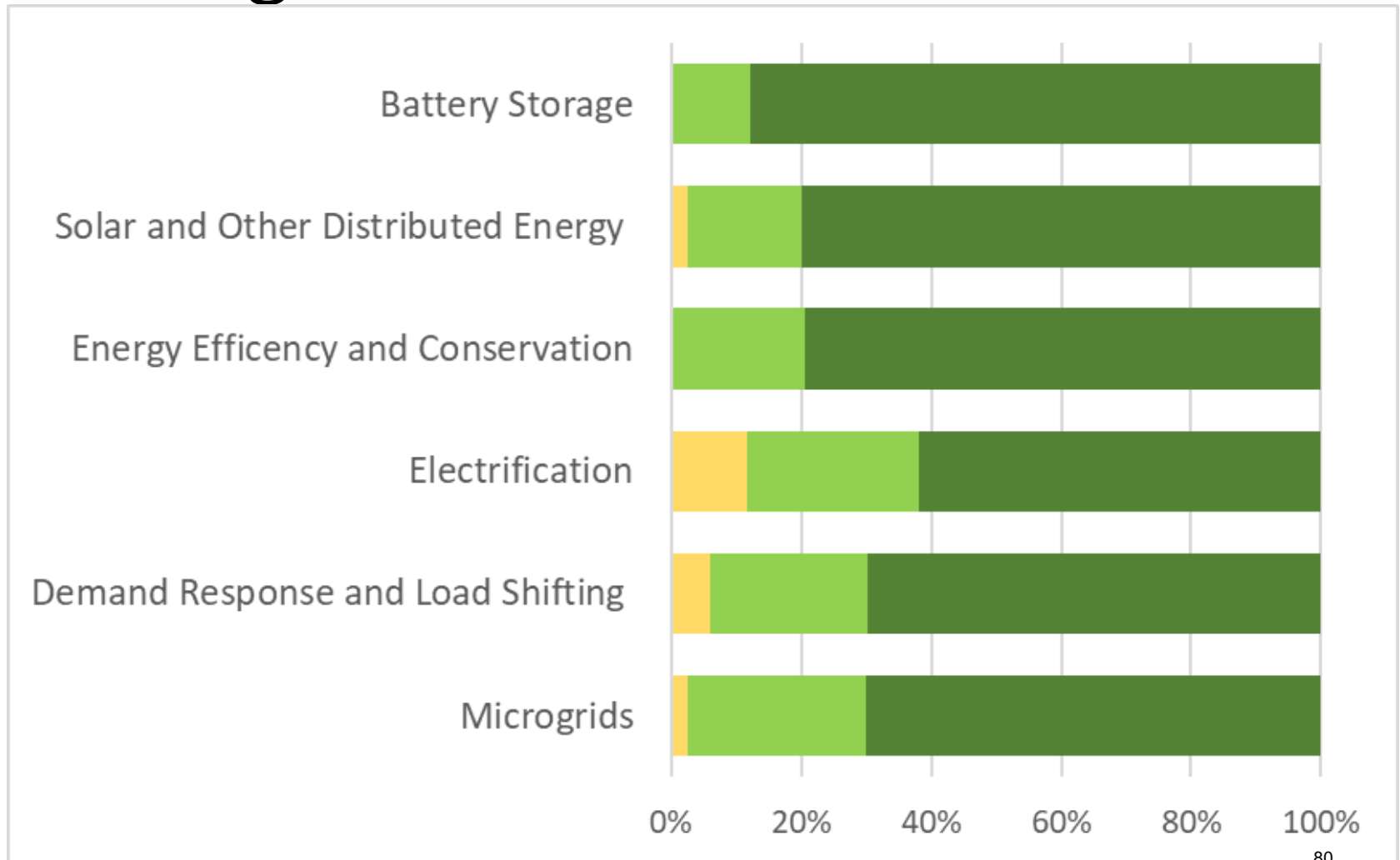
56 total attendees

- Do not include
- Minimize and only include as needed to support other goals
- Include as a key element of a balance mix
- Maximize to the greatest extent possible

# Planning & Regional Coordination

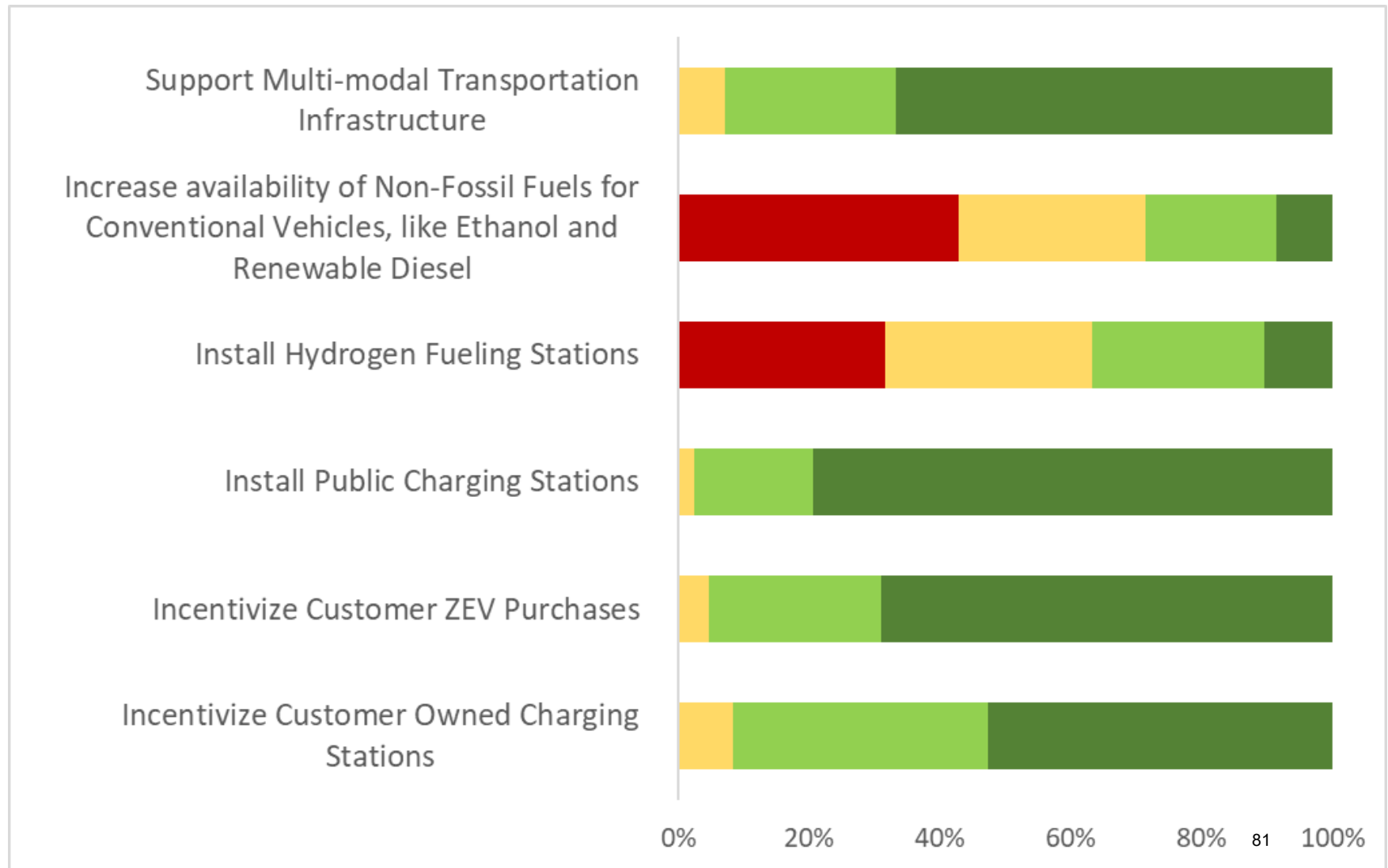


# Integrated Demand-side Management

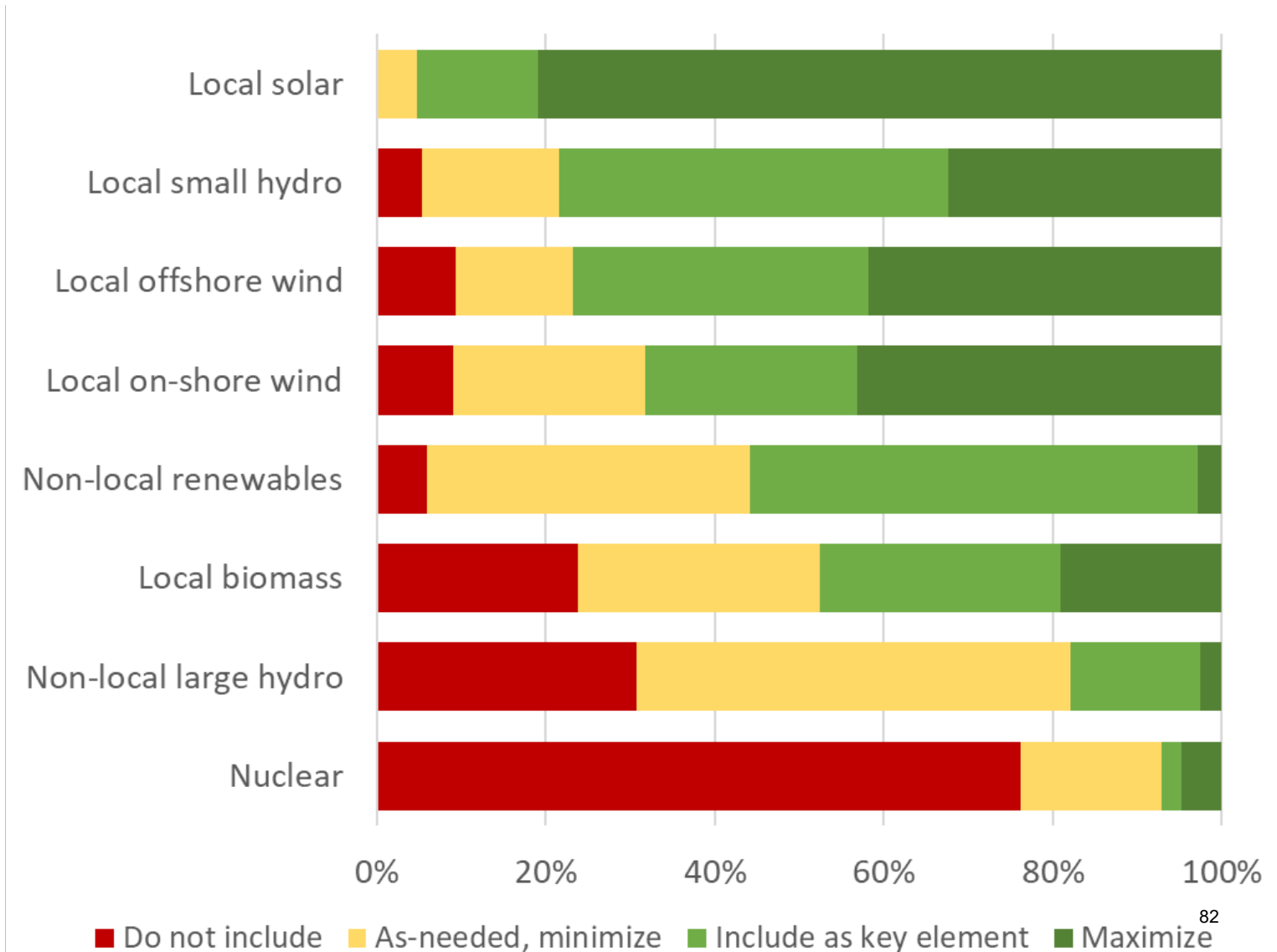




# Low-Carbon Transportation



# RCEA Power Mix



# 380 Written Comments

Category	Comments
Energy efficiency	3
General	6
Generation	390
Planning	5
Process	7
Transportation	5

*Note: Totals to more than 380 because some comments addressed multiple topics*

# Written Comments

Generation category	Total	Support	Against	Mixed
Bioenergy	349	320	22	7
Onshore wind	14	4	8	2
Offshore wind	1	1	0	0
Solar	12	12	0	0
General power resources	8			
Distributed generation	2			
Rates and tariffs	3			
Infrastructure	1			

# Draft 2.0: Proposed Targets



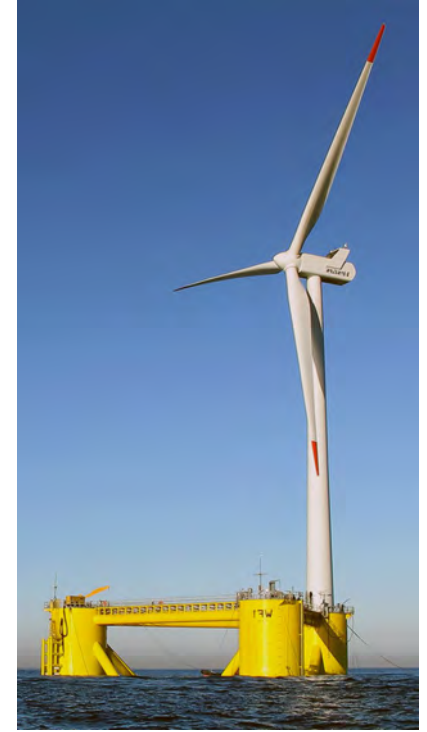
**Regional  
Planning &  
Coordination**



**Integrated  
Demand Side  
Management**



**Low-carbon  
Transportation**



**Energy  
Generation &  
Utility Services**

# Regional Planning & Coordination



RCEA will take a leadership role to develop and advance strategic regional energy goals through economic development, funding, planning efforts, and education.

# Regional Planning & Coordination



**Goal 1:** Achieve net-zero greenhouse gas emissions county-wide by 2030.

# Regional Planning & Coordination



**Goal 2:** By 2030 Humboldt County can affordably and reliably meet its local energy needs with local resources and has the robust local capabilities and infrastructure necessary to effectively respond to any energy emergencies or disruptions in energy supply.



# Regional Planning & Coordination



**Goal 3:** Build the clean energy sector into a cornerstone of the local economy through a breadth of strategies that include innovation, research and development, local energy-related business development, and Humboldt Bay as the primary west coast hub for the offshore wind energy industry.

# Integrated Demand Side Management



RCEA will use an Integrated Demand Side Management approach to develop distributed energy resources and reduce energy consumption and to align customer energy use with variable clean and renewable energy supplies.

RCEA will prioritize efforts that enhance local energy resiliency and independence.

# Integrated Demand Side Management



**Goal 1:** Support the wide-spread installation of customer solar energy systems, with a target to increase installation to a rate of one system every day for the next decade to reach 30MW of customer solar installed by 2025 and 50MW installed by 2030.

# Integrated Demand Side Management



**Goal 2:** Provide energy efficiency and conservation services to every household and business in the county by 2030.

# Integrated Demand Side Management



**Goal 3:** Implement expanded efficiency and electrification programs to reduce greenhouse gas emission from natural gas use by 20% by 2030 and establish and maintain a trajectory to reduce emission from natural gas by 90% by 2050.

# Integrated Demand Side Management



**Goal 4:** Deploy a network of community microgrids and renewable energy back-up power systems across the county to reduce greenhouse gas emissions and to provide energy resiliency and long-duration emergency energy supply at all critical facilities by 2030.

# Low-Carbon Transportation



RCEA will decarbonize regional transportation through efforts to reduce vehicle miles travelled, increase advanced fuel vehicles adoption and fuel efficiency, and expand advanced fuel infrastructure.



# Low-Carbon Transportation



**Goal 1:** Accelerate the adoption of electric vehicles, with a target of over 6,000 electric vehicles on the road in Humboldt County by 2025 and 22,000 vehicles by 2030.

Develop public, workplace, and residential electric vehicle charging infrastructure necessary to support these county electric vehicle targets.



# Low-Carbon Transportation



**Goal 2:** Work with other local public entities to reduce vehicle miles traveled in Humboldt County by at least 25% by 2030.

# Low-Carbon Transportation



**Goal 3:** By 2030 reduce greenhouse gas emissions from transportation by over 65% through:

- reductions in vehicle miles traveled,
- improved vehicle efficiency,
- the adoption of electric vehicles,
- and, where determined to be an effective emissions-reduction strategy, the use of biofuels as a bridge to a full transition to zero-emissions vehicles.

Establish and maintain a trajectory of emissions reduction to eliminate the use of fossil fuels by 2050.

# Energy Generation & Utilities Services



RCEA will address Humboldt County's supply-side energy needs through its existing Community Choice Energy program and the development of new programs and initiatives.

# Energy Generation & Utilities Services



**Goal 1:** By 2025 100% of RCEA's power mix will be from a combination of state-designated renewable energy sources—solar, wind, biomass, small-hydroelectric, and geothermal—and state-designated net zero carbon emission existing large hydroelectric facilities.

# Energy Generation & Utilities Services



**Goal 2:** By 2030 Humboldt County will be a net exporter of renewable energy and RCEA's power mix will consist of 100% local, net-zero-carbon-emission renewable sources.

# Energy Generation & Utilities Services



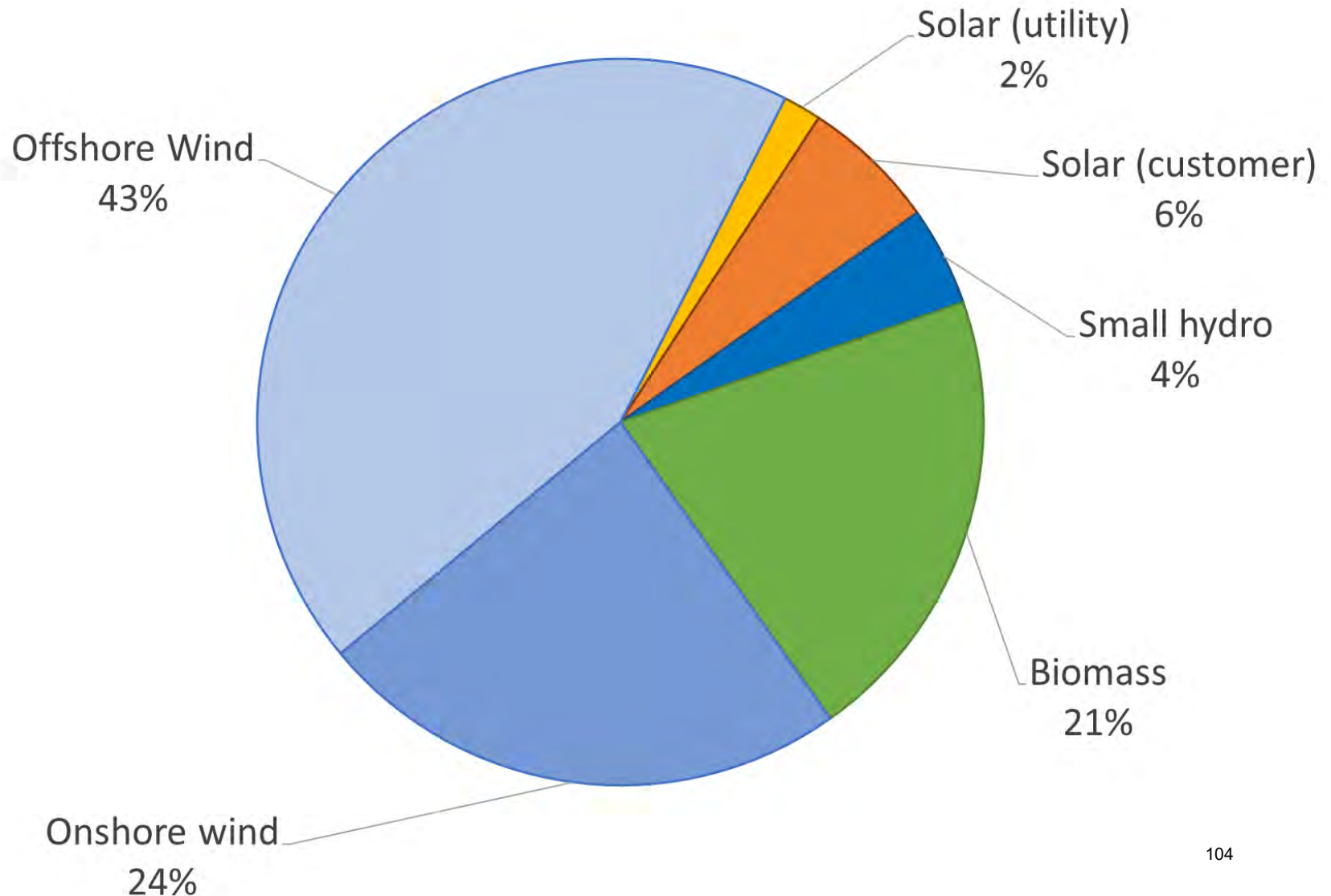
**Goal 3:** Humboldt County can effectively respond to regional and local disruptions to energy supply and distribution systems through modernization of the local electric grid, the deployment of local distributed energy resources, and the development of community microgrids.

# 2030 Local Power Generation Targets

## **Target installed capacities:**

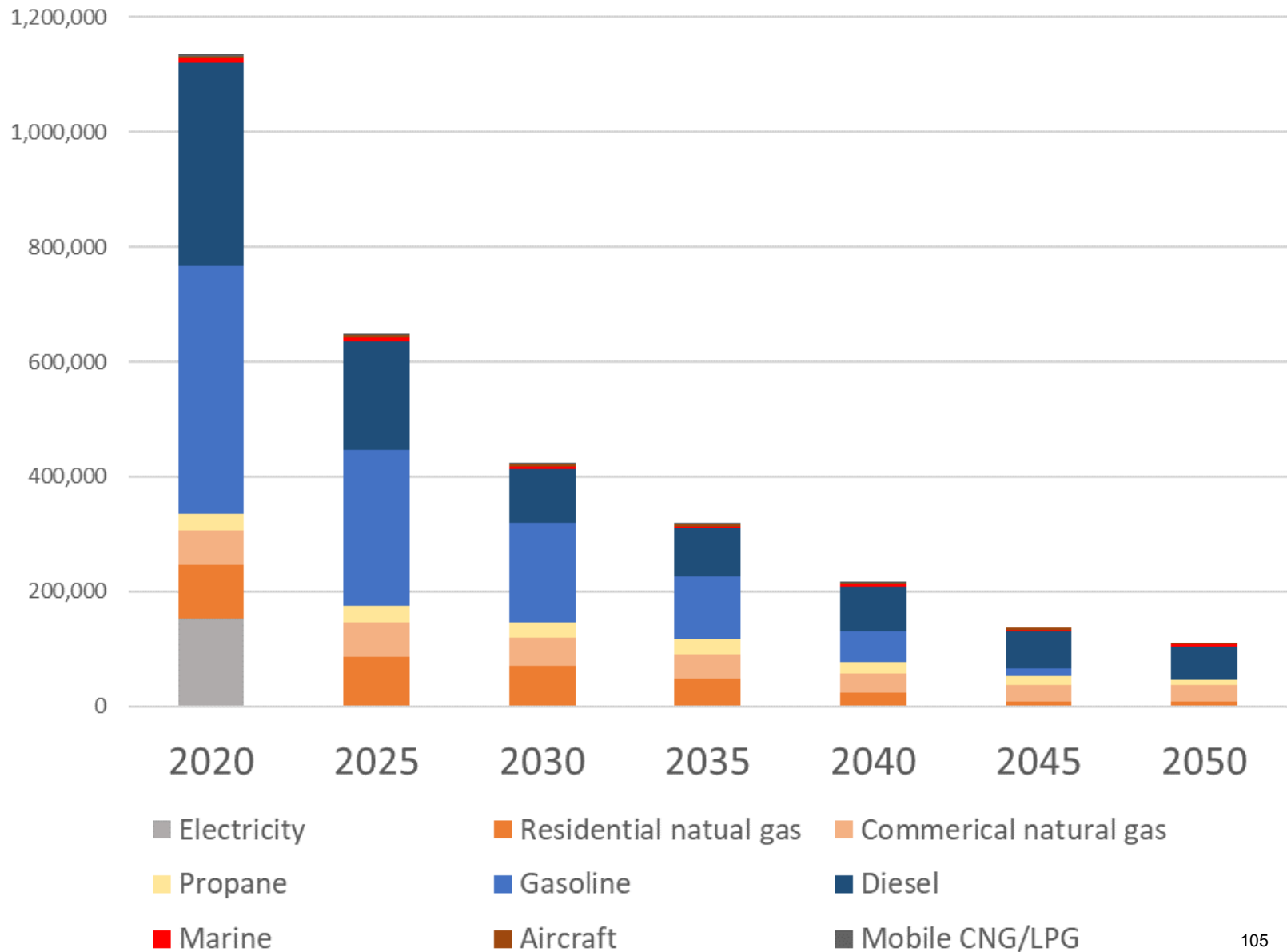
Solar (utility):	8 MW
Solar (customers'):	50 MW
Offshore wind:	150 MW
Onshore wind:	125 MW
Biomass:	50 MW
Small hydro:	21 MW

# 2030 Local Power Generation Targets





# Energy End-use Emissions Reduction Targets



# Next Steps





**STAFF REPORT**  
**Agenda Item # 5.2**

AGENDA DATE:	October 24, 2019
TO:	Board of Directors
PREPARED BY:	Richard Engel, Director of Power Resources
SUBJECT:	Update on long-term renewable energy solicitation

**SUMMARY**

With the Board's approval, staff entered earlier this year into negotiations with three counterparties for long-term renewable energy power purchase agreements (PPAs). These PPAs offer a hedge against future energy price volatility and will help RCEA comply with state requirements (SB 350) for long-term renewable energy contracting. Below is an update on status of these PPAs.

**Snow Mountain Hydro** – In July, the Board approved a 15-year PPA with Snow Mountain Hydro (SMH) for the full capacity of its 5.6 MW seasonally operated, run-of-the-river Cove hydropower project in Shasta County. This PPA is now fully executed, with deliveries of power set to begin in February 2020. Members of staff visited the project and met with the plant manager and the president of Ida-West, SMH's parent company, on October 11.

**Terra-Gen** – Staff are continuing negotiations with Terra-Gen for a PPA to take up to 90 MW of capacity from its planned Humboldt Wind project near Rio Dell. Meanwhile Terra-Gen is working toward a final environmental impact statement and hopes to get a conditional use permit for the project from the County.

The Humboldt County Planning Department will hold a workshop and public hearings on the Humboldt Wind Energy project beginning Thursday, November 7. Staff requests direction regarding whether staff and/or the Chair should present testimony on the agency's position on the project in the form of a letter or in-person testimony at these hearings.

**Candela Renewables** – Staff were until recently in negotiation for 50 MW of capacity from Candela's planned Luna solar project in Fresno County. Unfortunately, Candela has advised staff that they have been unable to resolve hurdles to developing the project on a timely basis. On this basis, we are discontinuing negotiations with them. In consultation with general counsel, staff have reached out to other companies that were short-listed earlier this year but not selected for negotiation, in order to determine whether they still have capacity to offer from their originally proposed projects. Pending outcome of these discussions, we may find it necessary to re-open the solicitation. Staff will keep the Board informed on this process.

**FINANCIAL IMPACTS**

Delays in getting power purchase agreements in place can have negative financial impacts on RCEA in multiple ways. For one, extra staff time is needed to carry on extended negotiations and, if necessary, move to negotiate with an alternative power provider.

**RECOMMENDED ACTION**

Discuss and provide guidance/authorization for any potential RCEA input to the County Planning Commission on the Terra-Gen/Humboldt Wind Energy project.



**STAFF REPORT**  
**Agenda Item # 5.3**

AGENDA DATE:	October 24, 2019
TO:	Board of Directors
PREPARED BY:	Lori Biondini, Director of Business Planning & Finance Dana Boudreau, Director of Operations Matthew Marshall, Executive Director
SUBJECT:	RCEA Office Space Update

**SUMMARY**

Redwood Coast Energy Authority operates out of a single facility at 633 3<sup>rd</sup> Street in Eureka. Staff additions due to the launch of the CCA program have caused RCEA to exceed the capacity of the current office space (for example: the maximum allowable occupancy of our largest meeting room is not sufficient to allow for a full-staff meeting with all employees in attendance).

Due to this situation, staff has begun to explore other options for office space. At its last meeting, the Board approved a one-year lease extension for 633 Third Street, which will allow time to review alternatives and select a new space (at the end of the one-year term the lease reverts to a month-to-month lease, or it could be extended, if additional time is needed).

RCEA's current office is 6,200 square feet. To accommodate RCEA's current staff of 33 plus future growth up to a potential maximum of perhaps 45 employees, along with RCEA's other meeting and storage requirements, staff has calculated that the organization's needs would be well accommodated by a space of around 8,000-10,000 square feet. Staff is actively evaluating options, with a search that is focused on staying in the Eureka area and on sites that provide good multi-modal (transit, biking, walking) access.

Staff is exploring both purchase options as well as lease options that would provide additional space and improved functionality over the current building. There are limited available office buildings in the area that match RCEA's needs, and so it is likely that remodeling work may be necessary for a lease or purchase option.

At the meeting staff will provide additional information on the current status of staff's efforts to explore options for RCEA office.

**FINANCIAL IMPACTS**

RCEA's current monthly rent is \$5,582.00, which is \$0.90/ft<sup>2</sup>. At \$0.90/ft<sup>2</sup> a new space of 10,000 ft<sup>2</sup> would equate to an annual office space budget of around \$108,000 for a lease or annual investment toward purchase of a building.

**RECOMMENDED ACTIONS**

None. Information only.

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## REDWOOD COAST Energy Authority

### STAFF REPORT Agenda Item # 6.1

AGENDA DATE:	October 24, 2019
TO:	Board of Directors
PREPARED BY:	Matthew Marshall, Executive Director
SUBJECT:	PG&E Public Safety Power Shutoff

#### SUMMARY

During the week of October 7, 2019, PG&E shut off power to approximately 730,000 homes and business in 35 counties, the largest planned power shutoff event in California history. The Public Safety Power Shutoff was a precautionary measure to reduce wildfire risk during severe winds in Tier 2 or Tier 3 high fire-threat designated PG&E service areas. Electrical transmission lines feeding Humboldt County were deenergized due to high fire threats in other areas and, consequently, Humboldt County residents were without electricity for over 24 hours. PG&E's attempts to island or supply electricity to Humboldt County separately from the greater electrical grid through its Humboldt Bay Power Plant were unsuccessful.

In addition to the overarching goal "to lead, coordinate and integrate regional efforts that advance secure, sustainable, clean and affordable energy resources," RCEA's Joint Powers Agreement includes among other additional goals "to develop regional capabilities to respond to energy emergencies and short-term disruptions in energy supply, infrastructure, or markets that could adversely affect Humboldt residents and businesses." While RCEA currently has no direct control or authority over the management of the local electric grid, RCEA can work collaboratively with PG&E and local partners to improve the community's energy-related energy-response capabilities (the Airport microgrid project is a key example).

Chair Winkler has requested discussion of the October 9 PG&E Public Safety Power Shutoff in Humboldt County and some proposed actions.

#### RECOMMENDED ACTION

Direct staff to pursue a process to develop, test and execute a plan to provide more advance notice, provisions for people with medical needs, and capabilities to electrically-island Humboldt County during future power shutoffs.

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**STAFF REPORT**  
**Agenda Item # 6.2**

AGENDA DATE:	October 24, 2019
TO:	Board of Directors
PREPARED BY:	Dana Boudreau, Director of Operations
SUBJECT:	Redwood Coast Airport Microgrid Project Site Tree Removal RFP

**SUMMARY**

Redwood Coast Energy Authority is partnering with Humboldt State University's Schatz Energy Research Center (SERC), PG&E, and the County of Humboldt to build a 7-acre, 2.5 MW solar array and battery energy storage system at the California Redwood Coast – Humboldt County Airport. The site requires removing trees along the southern perimeter fence line. A solar shading analysis indicates that the trees will reduce annual energy production from approximately 2,500-2,800 MWh/year, or about an 11% total reduction.

RCEA is soliciting bids from qualified contractors to conduct tree removal activities as part of Phase 2, Site Preparation, as preparation to install the solar panels scheduled to start in June 2020. Bidding process will secure a licensed C-61/D49 contractor that is registered with the Department of Industrial Relations (DIR). The price shall be full compensation for furnishing all materials, equipment and labor necessary to complete the project. Bids may include an option for bucking and removal of tree trunk wood or branches, but the current goal is to have the CalFire High Rock program process the felled material that would then be donated to the Low-Income Senior HEAP program for firewood. All work is to be completed by February 29, 2020 to avoid the raptor nesting season.

**FINANCIAL IMPACTS**

Financial impacts include the cost to remove the trees, estimated between \$150,000-\$200,000. The actual cost will be identified during the RFP process. Not removing the trees will result in an 11% loss of revenue for the 25-year life of the project. The tree removal is an additional cost beyond initial project plans and will be paid using RCEA match funds.

RCEA will receive an undetermined benefit through reduced risk of falling limbs and trees along the south end of the solar array field. The County will also benefit from avoided maintenance and removal costs for trees reaching end of life during the project period. Most trees in the stand are Monterey pines, with an average life span of 80 to 90 years. A historic aerial photograph<sup>1</sup> from the last century (date unknown) shows a tree line along the southern boundary and may establish the early years of the stand.

**RECOMMENDED ACTIONS**

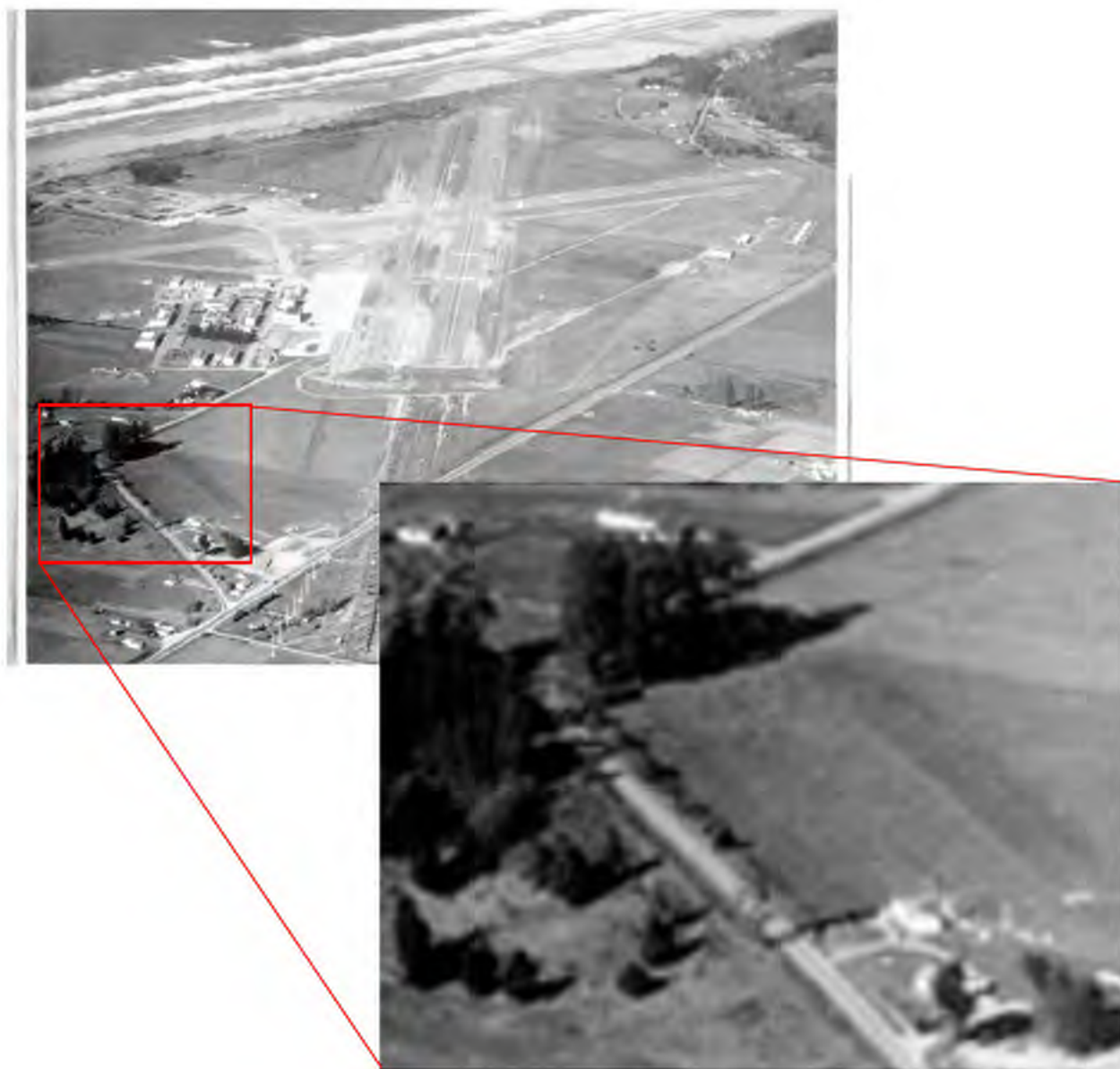
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<sup>1</sup> Humboldt State University Library, Palmquist Collection, photo ID 2003.01.0947

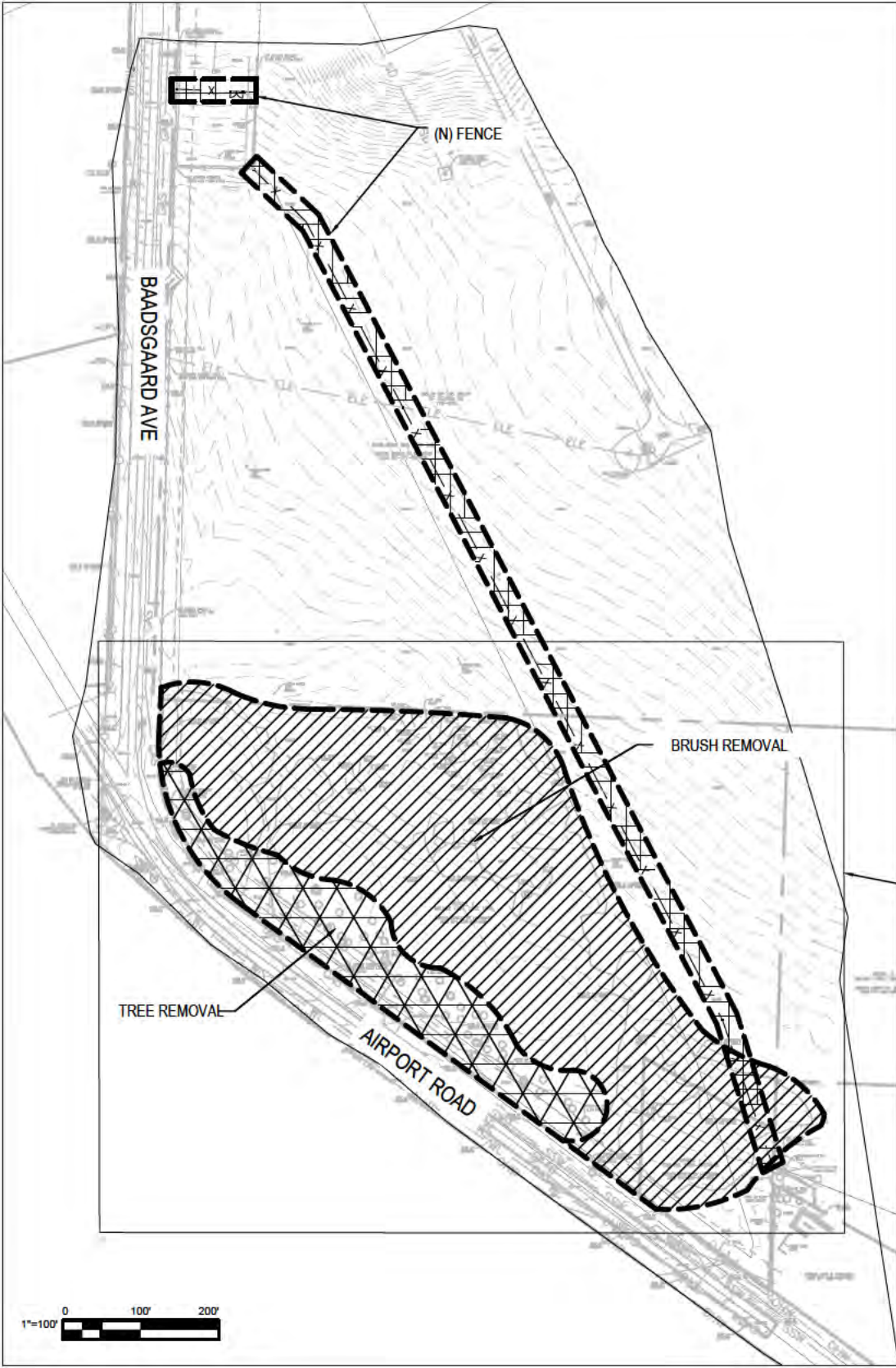
1. Authorize staff to issue a request for proposals for removing trees along the southern boundary of the microgrid project site at the California Redwood Coast - Humboldt County Airport.

## ATTACHMENTS

1. ACV Tree Removal Area of Potential Effects Map

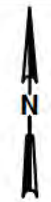
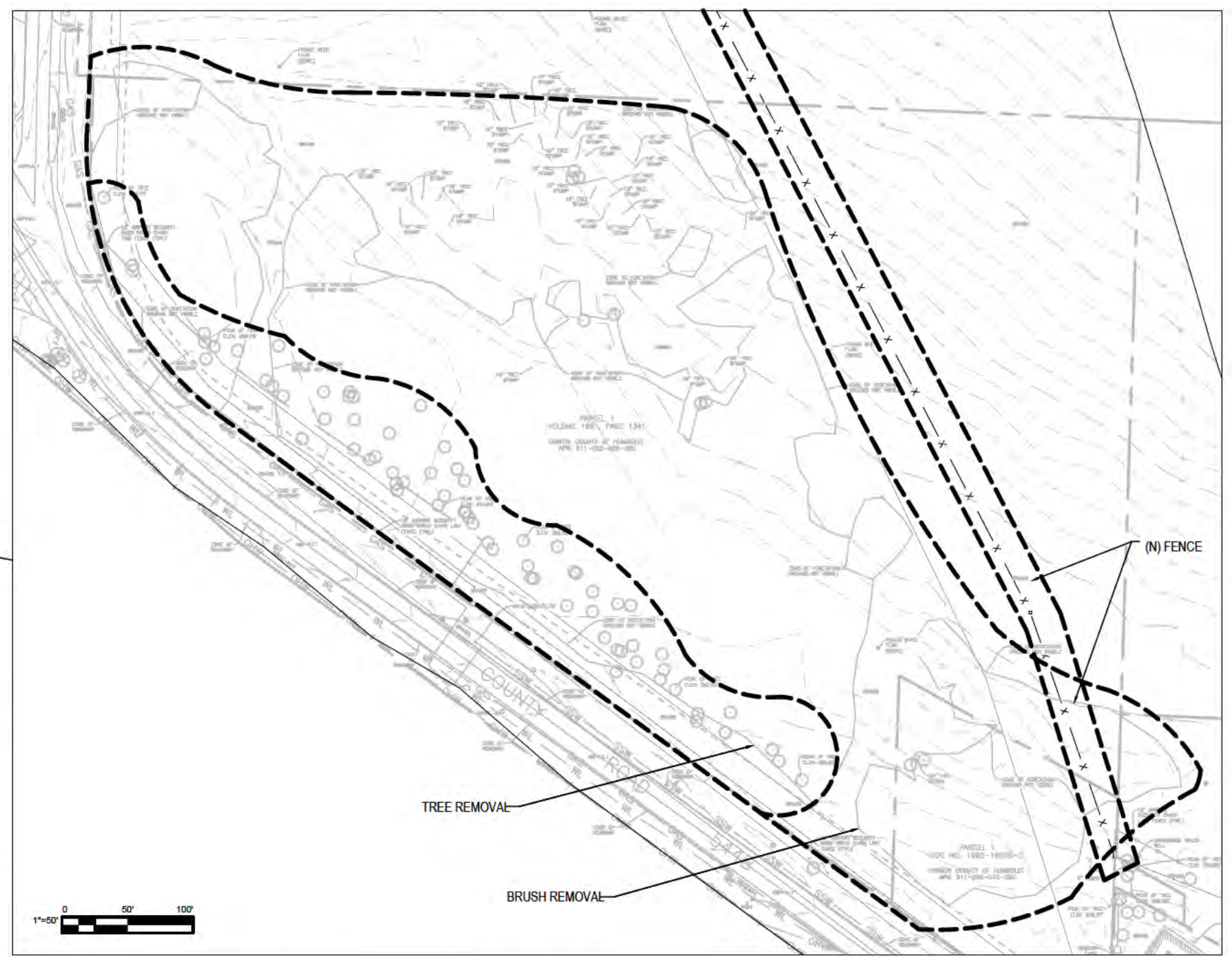




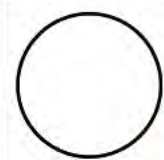


**SHEET NOTES:**

1. TOPOGRAPHIC SURVEY DATED 5/20/2019 BY BRAIN L. SAUZA PLS NO. 7917
2. FENCE INSTALLATION: 160 POSTS, 3.25' DEEP, 1' DIAMETER, 1.77 FT<sup>3</sup> PER HOLE
3. BRUSH AND TREE REMOVAL NOT EXPECTED TO DISTURB SOIL BELOW 12"



**PRELIMINARY**  
**NOT FOR CONSTRUCTION**



STAMP

REV	DATE	DESCRIPTION
1	9/25/2019	INITIAL RELEASE FOR THPOs

**REDWOOD COAST AIRPORT**  
**MICROGRID**

**SITE PREPARATION**  
**APE**

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**STAFF REPORT**  
**Agenda Item # 7.1**

AGENDA DATE:	October 24, 2019
TO:	Board of Directors
PREPARED BY:	Richard Engel, Director of Power Resources
SUBJECT:	Energy Risk Management Quarterly Report

**BACKGROUND**

The RCEA Board of Directors adopted an Energy Risk Management Policy in December 2016 in order to establish functions and procedures to manage the risks associated with the Community Choice Energy program's power procurement activities. In accordance with this policy, a quarterly update on activities and projected financial performance is presented to the Board during regularly scheduled meetings.

**SUMMARY**

TEA Client Services Specialist Jaclyn Harr and RCEA staff will provide an Energy Risk Management quarterly program update.

**RECOMMENDED ACTION**

Accept Energy Risk Management Quarterly Report.

**ATTACHMENTS**

Energy Risk Management Quarterly Report slides will be presented at the meeting.

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Materials Received  
After Packet  
Publication



# RCEA Energy Risk Management Plan Quarterly Report

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October 2019

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# Outline

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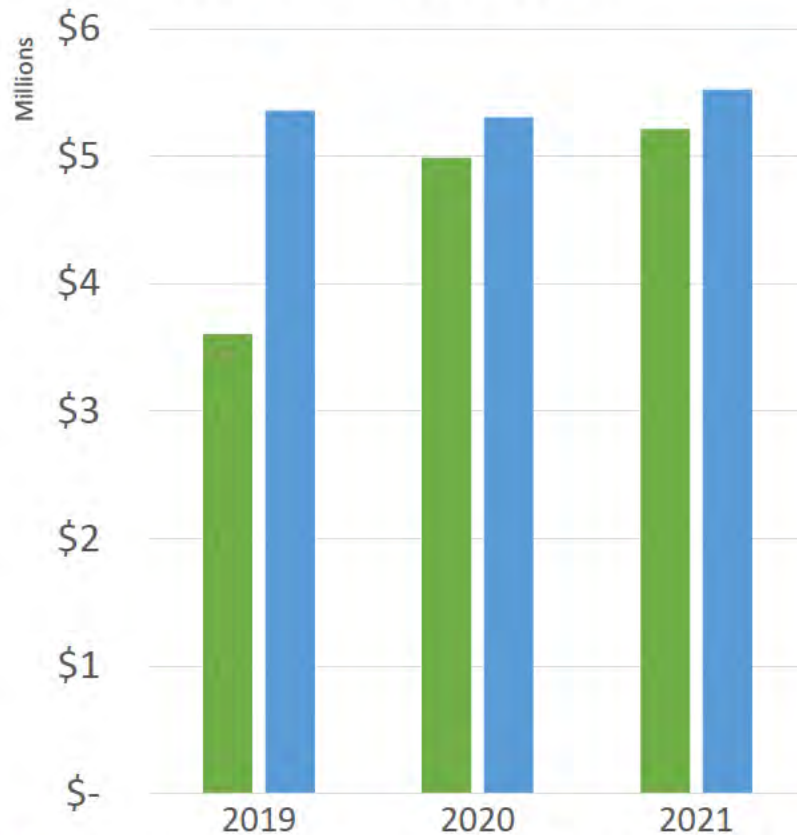
# Overall Outlook

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- NP15 forward energy prices dropped \$5 - \$6/MWh in 2019, 2020, and 2021 relative to the June forecast
- Increased net energy cost in 2019 due to long-hedged position, but reduced forecast net energy cost in 2020 and 2021 (not yet fully hedged)
- PG&E rate adjustment in 2019 and adjusted forecast for 2020 and 2021 reduced forecasted revenues for RCEA
- Largest impacts in 2021, sufficient to counteract move in energy forward price
- Net revenues decreased \$1.7M in 2019, and ~\$300k in 2020 and 2021

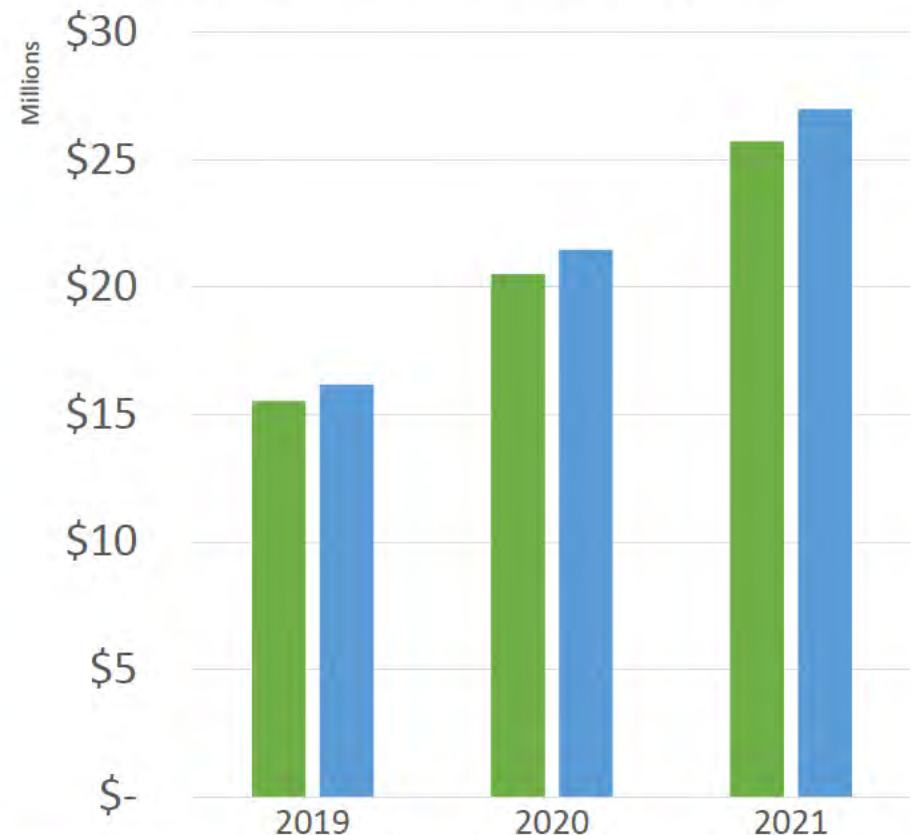
# RCEA Annual Net and Cumulative Revenues

RCEA Annual Net Revenue



■ Current	\$3,605,189	\$4,989,172	\$5,210,166
■ June	\$5,354,119	\$5,303,522	\$5,518,956

RCEA Annual Cumulative Revenue



■ Current	\$15,518,407	\$20,507,579	\$25,717,745
■ June	\$16,162,210	\$21,465,732	\$26,984,688

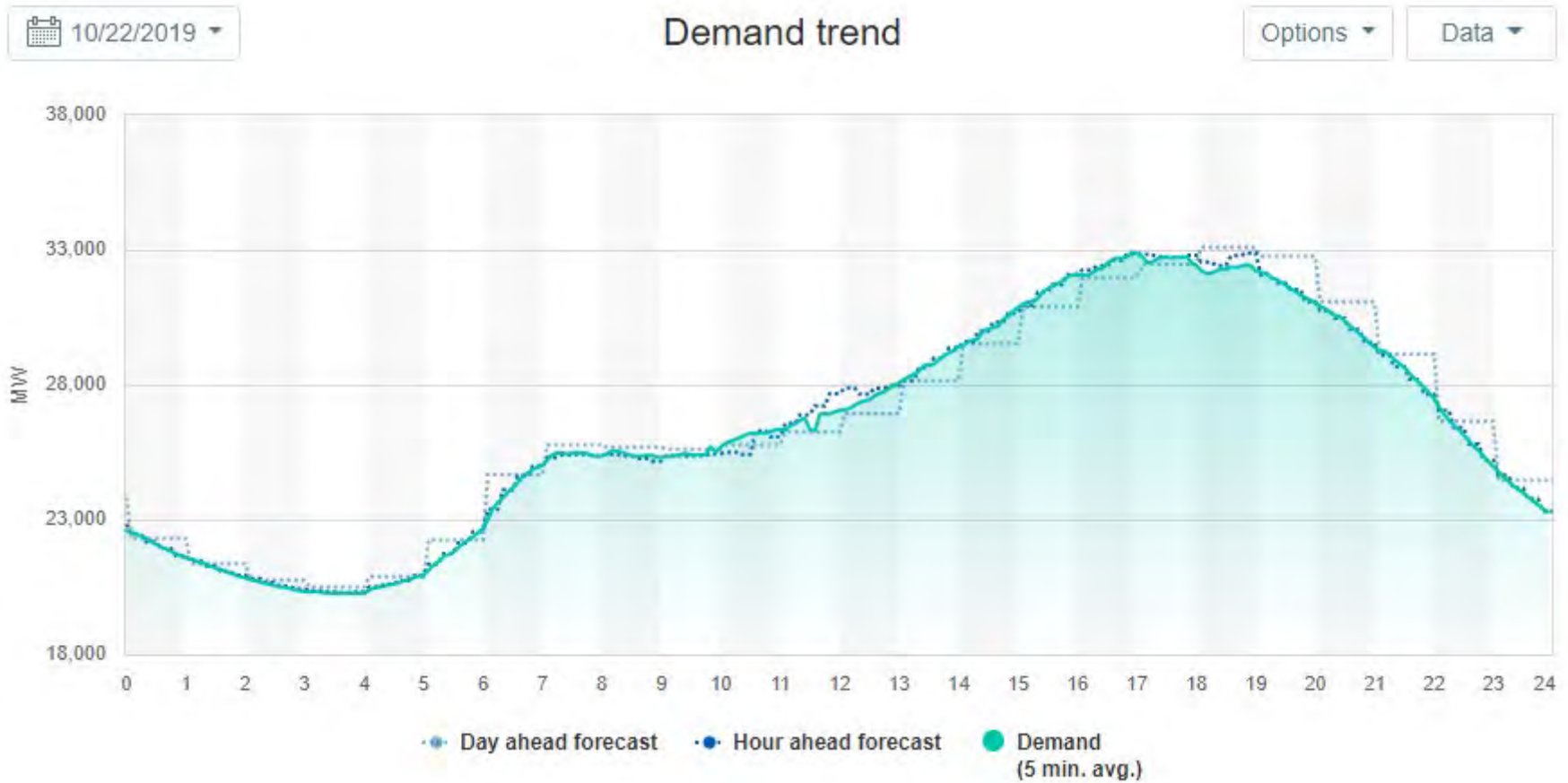
# October 2019 Public Safety Power Shutoff - Overview



# October 9 2019 PSPS – TEA Response

Action/Information Available to TEA During a PSPS	TEA Response on 10/8 – 10/9	RCEA Financial Impact
Adjust RCEA Load scheduled into CAISO Day-Ahead Market (by 10 am day before)	<ul style="list-style-type: none"> <li>- TEA scheduled 100% of load for 10/9 on morning of 10/8; ~0% of load online</li> <li>- After discussion with RCEA staff, TEA scheduled 5% of normal load for 10/10 on the morning of 10/9; ~100% of load online</li> </ul>	TBD due to still pending CAISO data; expected to be relatively minor financial impact due to market-wide price stability during PSPS
Monitor outages on RCEA's generation resources	CAISO placed transmission-related outages due to the PSPS on RCEA's two biomass units; resources returned to operation midday 10/10	TBD due to still pending CAISO data; expected to be relatively minor financial impact due to market-wide price stability during PSPS and ability to schedule generation in the real-time market
Monitor system-level impacts on CAISO markets	TEA saw no significant price deviations in Northern California	--

# PSPS Market Impact – Typical Day



# PSPS Market Impact – October 9 2019



# Carbon-Free Market Update

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- Procurement Update for 2019 ACS Power
- Carbon-Free Market Outlook for 2020+



# 2019 ACS Power Procurement

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- TEA prepared to procure at this time
  - Procurement Team (Bellevue Trading Floor) reviewed RCEA's ACS procurement goals and understand cost and risk constraints
  - TEA Risk and Compliance sign-offs complete as is system implementation for procurement tracking
- Unfortunately, there is very limited liquidity in daily market for 2019 ACS delivery at this time
  - Likelihood of procurement in November and December uncertain

# Carbon-Free Market Prices

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- Market Price Changes Forecasted Over the Past Year
  - Renewables: modest (2 – 5%) increases in pricing for near-term (2019 – 2021) PCC1 and PCC2 products with similar pricing expected for both products in the mid-2020s
  - Carbon-Free: **astronomical (~250%) increases in pricing for near-term carbon-free products**, with pricing remaining high into the mid-2020s

# Carbon-Free Market – Fundamentals

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- Limited supply depends on the Pacific NW Hydro Year
  - 2018 – 2019 was slightly below average
  - 2019 – 2020 unlikely to be above average
- Sharp increase in demand
  - Addition of several large CCAs, all with aggressive carbon-free goals
- Bilateral market decreases price visibility and efficiency/liquidity of the market

# Carbon-Free Procurement Alternatives

	Renewable Energy Generation	Counts as CF on New Power Content Label	Incremental Environmental Benefit	Directly Benefits Humboldt Community	Cost/Effort Compared to CF
Build New Renewable Generation (PCC1)	✓	✓	✓	?	↑
Procure Out-of-State PCC2 Renewables	✓	✗	✗	✗	~
Procure ACS Power	✗	✓	✗	✗	↓
Invest in Local Energy-Related Environmental Programs (e.g. EV incentives, EV infrastructure)	?	✗	✓	✓	↑