



## Staff Report Item 11

TO: East Bay Community Energy Board of Directors  
FROM: Jim Dorrance, Power Resources Manager  
SUBJECT: East Bay Community Energy 2019 Emissions Factor (Informational Item)  
DATE: November 18, 2020

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### Recommendation

Receive a staff report on East Bay Community Energy's 2019 Bright Choice emissions factor.

### Background and Discussion

At the October 2018 Board of Directors (Board) meeting, the Board adopted a 2018 calendar year emissions factor target of 142 pounds of carbon-dioxide equivalent per mega-watt-hour (lb-CO<sub>2</sub>e/MWh) for the Bright Choice energy product using the methodology from the The Climate Registry (TCR) which includes the Electric Power Sector Protocol (EPS) as the device for reporting and verifying. Staff has applied this guidance to our 2019 emissions using both the adopted emissions benchmark and the reporting methodology. This report presents EBCE's 2019 Bright Choice emissions factor which is 135 lb-CO<sub>2</sub>e/MWh, below the Board adopted target.

**EBCE 2019 Bright Choice Emissions Factor:  
135 lb-CO<sub>2</sub>e/MWh**

The 2019 Bright Choice emissions factor is derived using the power sources on the Power Content Label (PCL) for the Bright Choice retail plan. Unspecified power, Asset Controlling Supplier (ACS) power and other sources from Bright Choice's content produce emissions. The amount of purchased electricity from these sources is multiplied by a measured and verified emissions factor by source to calculate the emissions and derive a total EBCE emissions factor. Both the Renewable 100 and the Brilliant100 energy products were also calculated and reported using the EPS. These products are both carbon-free and this was verified through TCR.

TCR is a non-profit organization that designs and operates a voluntary United States Green House Gas reporting program that is used by Pacific Gas & Electric and some California Community Choice Aggregators for reporting their emissions factors. The EPS protocol within

TCR mandates standardized reporting guidelines and was used by EBCE to report emissions for power delivered in 2019. TCR requires an independent verification of the emissions data before publicly releasing the report. The emissions factors for EBCE's three energy products have been verified and will be publicly available on TCR's website. The EPS report is included as an attachment (Attachment A).

The implementation of Assembly Bill (AB) 1110 which was passed in 2016 and modifies the reporting of the Power Source Disclosure Report, will impact retail sellers serving load in California. Included in AB 1110 is the requirement to report emissions only on the PCL starting with electricity purchases made during calendar year 2020, which would be reported in 2021. EBCE used TCR for our emissions calculation and reporting for the current year from the 2019 purchases but and under AB 1110, EBCE and other retail sellers are required to use the emissions calculation methodology from AB 1110 and can only report or market their emissions factor through the PCL and not on any third party platform. The expectation is that EBCE will not use TCR for our emissions reporting on 2020 purchases and Staff will bring an item to the board in the coming months to discuss future emissions reporting.

The methodology for reporting emissions through AB 1110 differs from EBCE's current reporting in TCR with the most significant change being the application of the associated emissions from firm and shaped Renewable Energy Credit (REC) purchases, also known as Portfolio Content Category (PCC) 2 RECs. PCC2 RECs are a California Renewable Portfolio Standard (RPS) renewable product that includes bundled energy that is not from the same source as the REC. The emissions reporting adopted through AB1110 will include emissions for the bundled energy of the PCC2 RECs. In addition to the changes in emissions reporting of the PCC2 RECs, the regulations also remove the emissions reduction from the purchase of PCC3 RECs, un-bundled RECs. Using PCC2 and PCC3 RECs as renewable content is an accepted practice within the RPS regulations and EBCE will continue to purchase these products to satisfy our renewable commitment to our customers.

Due to the reporting changes for emissions from AB 1110 and changes to power content targets, EBCE will likely report a material year over year increase in the emissions factor for the Bright Choice retail plan as EBCE and other retail sellers adopt the new emissions reporting methodology. Under our current retail plan design both the Renewable 100 and Brilliant 100 products will continue to remain emissions free.

### **Fiscal Impact**

There are no fiscal impacts related to the release of EBCE's 2019 Bright Choice Emissions Factor.

### **Attachments**

- A. EBCE's 2019 Electric Power Sector Report
- B. Emissions Factor Presentation

## Power Deliveries Metrics Worksheet - OPTIONAL

**Introduction:** Consumers of electric power are becoming increasingly interested in the carbon intensity of the power they purchase. Reporting power deliveries metrics is a way to provide information to your customers and have credible data that adheres to The Registry's standards and third-party verification requirements. The metrics reported here will be a valuable source of emission factors for your customers to use when calculating their own indirect emissions.

**Compiling Power Deliveries Data:** Reporting power deliveries metrics is **optional** under the EPS Protocol for Members that deliver power to wholesale or retail customers. However, if you choose to report these metrics, you must follow the methodologies outlined in sections 19.1 - 19.5 of the EPS Protocol and have the reported metrics third-party verified. Please read Chapter 19 in the EPS Protocol for a more detailed explanation of the power deliveries metrics.

**Developing Power Deliveries Metrics:** You must disclose total MWh (Column D) and corresponding anthropogenic CO<sub>2</sub> (Column B) from all power generated and purchased for delivery to customers. Refer to page 100, Section 19.1 in the EPS Protocol for further guidance on establishing customer categories and assigning power generation and purchases to specific customer categories. You should not include any emissions from non-power generation sources (e.g. mobile combustion, fugitive emissions, etc). Report only CO<sub>2</sub> emissions (not CO<sub>2</sub>e).

You must choose to either report according to Option A (Single System-Average) or Option B (by power product). If you choose to report according to Option B you must develop multiple metrics for the electricity delivered to distinct customer groups, e.g. "Green Pricing Program." You should aggregate the power and associated emissions for the power that flows to the customer groups you have defined and input the data in the table below to calculate the appropriate power deliveries metric.

If you purchase or sell "green power" certificates, e.g. RECs, TRCs, TRECs, etc., you may wish to report an adjusted emission metric for the power product to which the certificates are being applied. Accounting for RECs and special certificates will lower the GHG intensity of the electricity mix delivered to your customers. Making this adjustment to the metric is optional. Please reference Section 19.3 in the EPS Protocol for further guidance.

Optional power deliveries metrics can only be reported if you use the EPS IE-01: Energy Balance Method to calculate the indirect emissions associated with T&D losses. Please see Chapter 14 in the EPS Protocol for further guidance.

### Power Deliveries Metrics: Reporting for a Single System-Average (Option A)

**Row 21 :**

**Column B:** *Input tonnes of anthropogenic CO<sub>2</sub> emissions from electricity generation and purchases for all customers.*

**Column C:** *Input RECs and other special power certificates transactions delivered to all customers\**

**Column D:** *Input net megawatt-hour of electricity delivered to all customers.*

**Column E** *The single system-average metric is calculated automatically based on the inputs from B:22-D:22.*

**(OPTION A)**

### Report Single System-Average Metric

	t CO <sub>2</sub>	REC Adjustments*	MWh	Metric
Single System-Average Metric (Option A)				N/A

*Comments: Add any supporting explanation/clarification for your Verification Body (if applicable).*

*\* All RECs and special power certificates claimed here must meet the eligibility requirements laid out in Step 1 on page 108 of the EPS Protocol.*

### Power Deliveries Metrics: Reporting Separate Metrics for Wholesale, Special Power, and Retail (Option B)

**Row 42 :**

**Column B:** *Input tonnes of anthropogenic CO<sub>2</sub> emissions from electricity generation and purchases for the portion of electricity resold at the wholesale level.*

**Column D:** *Input net megawatt-hour of electricity delivered to wholesale customers.*

**Column E:** *The anthropogenic carbon intensity (CO<sub>2</sub> emissions per unit of output) of power delivered to wholesale customers will be calculated here.*

**Row 43:**

**Column B:** *Input tonnes of anthropogenic CO<sub>2</sub> emissions from electricity generation and purchases for the portion of electricity sold as a special product.*

**Column D:** *Input net megawatt-hour of electricity delivered to special power customers.*

**Column E:** *The anthropogenic carbon intensity (CO<sub>2</sub> emissions per unit of output) of power delivered to special power customers will be calculated here.*

**Row 44 :**

**Column B:** *Tonnes of anthropogenic CO<sub>2</sub> emissions from electricity generation and purchases for the portion of electricity delivered to retail customers.*

**Column D:** *Net megawatt-hour of electricity delivered to retail customers.*

**Column E:** *The anthropogenic carbon intensity (CO<sub>2</sub> emissions per unit of output) of power delivered to retail customers.*

**Rows 48-52 :**

These rows are intended for Members to optionally report metrics for self-defined customer categories (if applicable). For example, you may wish to develop multiple metrics for the electricity delivered to distinct customer groups of your wholesale power transactions or for separate special power products. Be sure to name the customer category in Column A according to your company records.

**(OPTION B)**

**Report Separate Metrics for your Wholesale Sales, Special Power Products, and/or Retail Sales**

	t CO <sub>2</sub>	REC Adjustments*	MWh	Metric
EPS Metric D-1 (Wholesale Electric Deliveries)		N/A		N/A
EPS Metric D-2 (Special Power Electric Deliveries)	299,594	N/A	5,821,428	5.15E-02
EPS Metric D-3 (Retail Electric Deliveries)		N/A		N/A

EPS Metric D-2 (Special Power Electric Deliveries) represents the total emissions for all electricity sold by East Bay Community Energy for 2019. These emissions are represented by three power products: Renewable 100, Brilliant 100, and Bright Choice. Further detail on the supply mix for each of the power products are shown on the worksheet for Additional Optional Information.

**Report Additional Wholesale and Special Power Delivery Metrics**

Name	t CO <sub>2</sub>	REC Adjustments*	MWh	Metric
Renewable 100		N/A	39,748	0
Brilliant 100		N/A	892,632	0
Bright Choice	299,594	N/A	4,889,048	6.13E-02
		N/A		N/A
		N/A		N/A

*Comments: Add any supporting explanation/clarification for your Verification Body (if applicable).*

### **Power Deliveries Metrics: Reporting Certificate-Adjusted Metrics**

#### **Row 73:**

**Column B:** *Tonnes of anthropogenic CO<sub>2</sub> emissions from electricity generation and purchases for the portion of electricity resold at the wholesale level (cell B50).*

**Column C:** *Input RECs and other special power certificates transactions delivered to wholesale customers.\**

**Column D:** *Net megawatt-hour of electricity delivered to wholesale customers (from cell D50).*

**Column E:** *The certificate-adjusted anthropogenic carbon intensity (CO<sub>2</sub> emissions per unit of output) of power delivered to wholesale customers.*

#### **Row 74:**

**Column B:** *Tonnes of anthropogenic CO<sub>2</sub> emissions from electricity generation and purchases for the portion of electricity resold at the special power level (from cell B51).*

**Column C:** *Input RECs and other special power certificates transactions delivered to special power customers.\**

**Column D:** *Net megawatt-hour of electricity delivered to special power customers (from cell D50).*

**Column E:** *The certificate-adjusted anthropogenic carbon intensity (CO<sub>2</sub> emissions per unit of output) of power delivered to special power customers.*

#### **Row 75:**

**Column B:** *Tonnes of anthropogenic CO<sub>2</sub> emissions from electricity generation and purchases for the portion of electricity resold at the retail level (from cell B52).*

**Column C:** *Input RECs and other special power certificates transactions delivered to retail customers.\**

**Column D:** *Net megawatt-hour of electricity delivered to retail customers (from cell D50).*

**Column E:** *The certificate-adjusted anthropogenic carbon intensity (CO<sub>2</sub> emissions per unit of output) of power delivered to retail customers.*

**Rows 81-85:**

These rows are

intended for Members that optionally reported self-defined customer categories above and want to calculate the certificate-adjusted metrics.

<b>Certificate-Adjusted Metrics</b>				
	<b>t CO<sub>2</sub></b>	<b>REC Adjustments*</b>	<b>MWh</b>	<b>Certificate-Adjusted Metric</b>
EPS Metric D-1 (Wholesale Electric Deliveries)	-		-	N/A
EPS Metric D-2 (Special Power Electric Deliveries)	299,594		5,821,428	5.15E-02
EPS Metric D-3 (Retail Electric Deliveries)	-		-	N/A

Comments: Add any supporting explanation/clarification for your Verification Body (if applicable).

\* All RECs and special power certificates claimed here must meet the eligibility requirements laid out in Step 1 on page 108 of the EPS Protocol.

<b>Additional Certificate-Adjusted Metrics</b>				
<b>Name</b>	<b>t CO<sub>2</sub></b>	<b>REC Reductions*</b>	<b>MWh</b>	<b>Certificate-Adjusted Metric</b>
Renewable 100	-		39,748	0
Brilliant 100	-		892,632	0
Bright Choice	299,594		4,889,048	6.13E-02
	-		-	N/A
	-		-	N/A

Comments: Add any supporting explanation/clarification for your Verification Body (if applicable).

### Additional Optional Information Worksheet - OPTIONAL

**Introduction:** On this worksheet, The Registry has provided a place for utilities to provide additional entity-level information about the power they purchase and generate.

**Note:** Information in this section is voluntarily provided by the participant for public information, but is not required and is not verified under the Climate Registry's protocols.

GENERATION & PURCHASED POWER INFORMATION	Renewable 100		Brilliant 100		Bright Choice	
	Amount (MWh)	CO <sub>2</sub> (tonnes)	Amount (MWh)	CO <sub>2</sub> (tonnes)	Amount (MWh)	CO <sub>2</sub> (tonnes)
<b>Owned Generation Total (Net)</b>	0.00	0.00	0.00	0.00	0.00	0.00
Fossil Generation (Net)	0.00	0.00	0.00	0.00	0.00	0.00
Biogenic Generation (Net)	0.00	0.00	0.00	0.00	0.00	0.00
Geothermal Generation (Net)	0.00	0.00	0.00	0.00	0.00	0.00
Other Renewable Generation (Net)	0.00	0.00	0.00	0.00	0.00	0.00
Zero Emission Generation (Net)	0.00	0.00	0.00	0.00	0.00	0.00
Co-generation (Net)	0.00	0.00	0.00	0.00	0.00	0.00
<b>Purchased Power Total (Net)</b>	39,748.00	0.00	892,632.00	0.00	4,889,048.00	230,257.00
Purchased Fossil Power (Net)	0.00	0.00	0.00	0.00		
Purchased Biogenic Power (Net)	0.00	0.00	0.00	0.00	251,533.00	13,365.00
Purchased Geothermal Power (Net)	0.00	0.00	0.00	0.00	598,968.00	69,337.00
Purchased Wind and Solar Power (Net)	39,748.00	0.00	669,473.00	0.00	1,940,346.00	
Purchased Large Hydro-Electric Power (Net)	0.00	0.00	223,159.00	0.00	685,052.00	
Purchased Co-generation Power (Net)	0.00	0.00	0.00	0.00		
Purchased Wholesale Power (Net)	0.00	0.00	0.00	0.00	1,413,149.00	230,257.00
<b>TOTAL FOSSIL GENERATION/PURCHASES</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL FROM BIOGENIC SOURCES</b>	0.00	0.00	0.00	0.00	251,533.00	13,365.00
<b>TOTAL FROM GEOTHERMAL SOURCES</b>	0.00	0.00	0.00	0.00	598,968.00	69,337.00
<b>TOTAL OTHER GENERATION/PURCHASES</b>	39,748.00	0.00	892,632.00	0.00	4,038,547.00	230,257.00
<b>TOTAL FROM ALL GENERATION/PURCHASES</b>	39,748.00	0.00	892,632.00	0.00	4,889,048.00	299,594.00
<b>TOTAL FROM RETAIL SALES</b>	39,748.00	0.00	892,632.00	0.00	4,889,048.00	299,594.00

**Comments:**

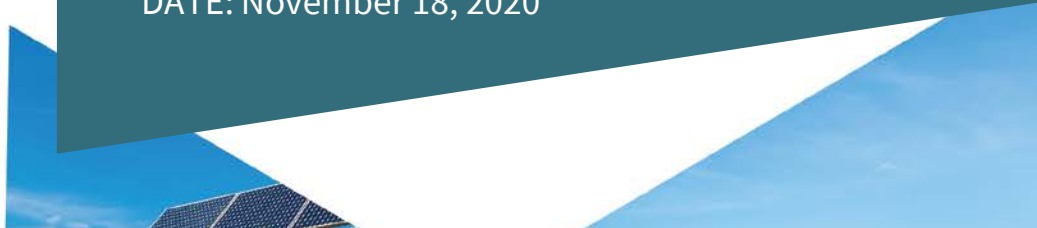




# 2019 Emissions Factor

PRESENTED BY: Jim Dorrance

DATE: November 18, 2020



# Overview

- The Climate Registry
- 2019 Emissions factor results
- AB 1110 reporting changes

# The Climate Registry

- Operates a voluntary, national GHG reporting program that assists organizations in measuring, reporting, and verifying emissions
- Used widely, including PG&E and other California CCA's
- A non-profit governed by US states and Canadian Provinces
- Contains specific protocol for the electric power sector



# Reporting and Verification Process

- Power transactions validated: review purchases, invoices, and billing
- Use purchases and sales to calculate an emissions factor, submitted to TCR
- Emissions factors are verified by a third-party auditor
- Review the calculations for the emissions factor, check accuracy, and review transactional data
- TCR conducts their own verification and when completed posts EBCE's emissions factor on their website

# 2019 Emissions Factor Results

- Board-Adopted Bright Choice Emissions Factor Target:
  - **142 lb-CO<sup>2</sup>/MWh** (0.064 MT-CO<sup>2</sup>/MWh)
- Bright Choice 2019 Emissions Factor:
  - **135 lb-CO<sup>2</sup>/MWh** (0.061 MT-CO<sup>2</sup>/MWh)
    - *101 lb-CO<sup>2</sup>/MWh in 2018*
- 2019 Emissions Factor for the aggregate of all three of EBCE's energy products:
  - **113 lb-CO<sup>2</sup>/MWh** (0.052 MT-CO<sup>2</sup>/MWh)
    - *83 lb-CO<sup>2</sup>/MWh in 2018*

# Power Content Reporting

- Historically the CEC Power Content Label (PCL) reports power content %'s and does not include emissions
- Eligible renewables include PCC1, PCC2, and PCC3 RECs acceptable products in CA Renewable Portfolio Standards
- Using power generation sources from the PCL and source specific emissions factors we calculate emissions using The Climate Registry emissions accounting methodology

East Bay Community Energy · 2019 Power Content Label · [ebce.org/documents-and-resources](http://ebce.org/documents-and-resources)

Energy Resources	Renewable 100	Brilliant 100	Bright Choice	2019 CA Power Mix
<b>Eligible Renewable<sup>1</sup></b>	<b>100.0%</b>	<b>75.0%</b>	<b>59.9%</b>	<b>31.7%</b>
Biomass & Biowaste	0.0%	0.0%	3.6%	2.4%
Geothermal	0.0%	0.0%	12.3%	4.8%
Eligible Hydroelectric	0.0%	0.0%	4.9%	2.0%
Solar	50.0%	37.5%	3.5%	12.3%
Wind	50.0%	37.5%	35.7%	10.2%
<b>Coal</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>3.0%</b>
<b>Large Hydroelectric</b>	<b>0.0%</b>	<b>25.0%</b>	<b>25.3%</b>	<b>14.6%</b>
<b>Natural Gas</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>34.2%</b>
<b>Nuclear</b>	<b>0.0%</b>	<b>0.0%</b>	<b>1.5%</b>	<b>9.0%</b>
<b>Other</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.2%</b>
<b>Unspecified sources of power<sup>2</sup></b>	<b>0.0%</b>	<b>0.0%</b>	<b>13.1%</b>	<b>7.3%</b>
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Percentage of Retail Sales Covered by Retired Unbundled RECs<sup>3</sup></b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>

<sup>1</sup> The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.  
<sup>2</sup> Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.  
<sup>3</sup> Renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled renewable energy credits (RECs) represent renewable generation that was not delivered to serve retail sales. Unbundled RECs are not reflected in the power mix or GHG emissions intensities above.

For specific information about this electricity product, contact:	East Bay Community Energy 1-833-699-EBCE (3223)
For general information about the Power Content Label, please visit:	<a href="http://www.energy.ca.gov/pcl/">http://www.energy.ca.gov/pcl/</a>
For additional questions, please contact the California Energy Commission at:	Toll-free in California: 844-454-2906 Outside California: 916-653-0237

# Assembly Bill (AB) 1110

- Regulations modifying power content and emissions reporting
- PCL emissions reporting starts with purchases in 2020 and will be first reported in 2021
- Requires load serving entities to:
  - Use the new AB1110 emissions accounting methodology for calculating emissions
  - Report and market emissions on the PCL and restricts disclosure through other accounting methodologies, e.g. TCR
  - Include emissions from PCC2 and PCC3 renewables
  - Not count PCC 3 (un-bundled) RECs towards content

# AB 1110 - Impacts

- EBCE does not anticipate using TCR for emissions reporting next year
- 2021 Reported emissions for 2020 content are likely to materially increase due to AB1110 emissions accounting changes and power content target changes for Bright Choice
- Does not affect Renewable 100 or Brilliant 100



# Questions ?