

ACTION CALENDAR October 27, 2020

To: Honorable Mayor and Members of the City Council

From: Councilmember Harrison, Mayor Arreguín, Councilmembers Robinson and

Hahn

Subject: Adopt a Resolution to Upgrade Municipal Accounts to 100% Renewable Plan

RECOMMENDATION

- a. Adopt a Resolution to opt up Berkeley's municipal accounts to *Renewable 100* (100% renewable and 100% greenhouse gas-free) electricity service, and provide for yearly Council review of the City's default municipal, residential, and commercial plans.
- b. Refer the estimated annual increased cost of \$94,063 to the November 2020 budget process.

POLICY COMMITTEE RECOMMENDATION

On February 6, 2020, the Facilities, Infrastructure, Transportation, Environment & Sustainability Committee adopted the following action:

Action: M/S/C (Harrison/Robinson) to approve recommendations b and c, as revised in the supplemental report submitted by Councilmember Harrison, with a Positive Recommendation.

Revised recommendation:

- b. Opt up municipal East Bay Community Energy accounts to renewable 100 (100% renewable and 100% greenhouse gas-free) electricity service, and refer the estimated increased cost of \$100,040 to the June 2020 budget process; and,
- c. Providing for yearly Council review of the City's default residential, commercial and municipal plans.

Vote: All Ayes.

Action: M/S/C (Robinson/Harrison) to approve recommendation a, as revised in the supplemental report submitted by Councilmember Harrison, and send the item back to the City Council with a Positive Recommendation.

Revised recommendation:

a. Changing the service plan for current and new Berkeley residential Bright Choice accounts, except those enrolled in the California Alternate Rates for Energy Program, Family Electric Rate Assistance and Medical Baseline Allowance Program accounts, and all commercial East Bay Community Energy Bright Choice accounts to the Brilliant 100 (100% greenhouse gas-free) electricity service plan, effective [] for residential customers and [] for commercial customers. Customers will not lose the option of changing their plan or opting out of EBCE entirely

Vote: Ayes – Robinson, Harrison; Noes – Davila; Abstain – None.

BACKGROUND

A. Plan Options

Community Choice Aggregators (CCAs) like East Bay Community Energy (EBCE) were authorized by the state,¹ with the goal of buying less carbon intensive energy at competitive prices. CCAs appoint municipal leaders instead of private shareholders to oversee procurement and energy-related policy-making.

Until June 2018, the default provider of electricity in Berkeley was PG&E. Berkeley joined neighboring cities² to establish EBCE as the default electricity provider.³ The new agency offered significant advantages, including less carbon intensive energy at competitive prices and oversight by local jurisdictions instead of private shareholders. EBCE can reinvest profits into expanding carbon-free options, including through its Local Business Development Plan, and into electrification.⁴

EBCE still relies on PG&E to transmit and deliver its energy over the grid to customers. Therefore, customers receive bills that separately list EBCE electricity supply; PG&E electricity transmission and delivery; PG&E for natural gas; and pass-through charges representing long-term contract obligations for buying electricity entered into by PG&E (known colloquially as the "exit fee"⁵).

The following terms relate to the plans offered by East Bay Community Energy (EBCE):

¹ Migden, Chapter 838, Statutes of 2002; Leno, Chapter 599, Statutes 2011.

² The City of Alameda is not a member-jurisdiction of EBCE because it is has its own municipal utility. Newark and Pleasanton decided to join EBCE in 2019 and are scheduled to begin service in 2021.

³ A third category of electric service customer (primarily commercial) known as Direct Access are exempted from both PG&E and EBCE entirely for electricity generation services.

⁴ East Bay Community Energy Local Business Development Plan, https://ebce.org/local-development-business-plan/.

⁵ Officially known as the Power Charge Indifference Account – the PCIA.

- GHG-free: This is generation that emits zero (or in some cases minimal) GHGemissions. It includes renewable energy and nuclear power. Currently, nuclear power is not included in any of EBCE's energy portfolios, except as may occur in unspecified power under the *Bright Choice* plan.
- Renewable: These are a subset of GHG-free energy sources that are also renewable. They include hydroelectric, wind, solar, geothermal, and biomass.⁶

These definitions are carried over into the three current service offerings of EBCE:

Figure 1: Comparison of EBCE and PG&E Service Options and Respective Power Content*7

⁶ Although renewable, the California Air Resources Board (CARB) assigns nominal GHG-emissions to geothermal and for hydroelectric generation from the Pacific Northwest. Biomass does have significant GHG-emissions in combustion which are offset by reductions in GHGs in other parts of the cycle.

	Percent of Total Retail Sales (kWh)					
	East Bay	/ Communi	PG&E	PG&E		
Type of Energy	Bright Choice	Brilliant 100	Renewable 100	Standard Rate	Solar Choice	
Renewable & GHG-Free	41%	45%	100%	39%	100%	
- Biomass/ Biowaste	0%	0%	0%	4%	0%	
- Geothermal	1%	0%	0%	4%	0%	
- Eligible hydroelectric	0%	0%	0%	3%	0%	
- Solar	15%	20%	50%	18%	100%	
- Wind	25%	25%	50%	10%	0%	
GHG-Free, Not Renewable	59%	55%	0%	49%	0%	
- Large Hydroelectric	21%	55%	0%	13%	0%	
- Primarily Large Hydro: Unspecified Sources **	38%	0%	0%	2%	0%	
- Nuclear	0%	0%	0%	34%	0%	
Non-Renewable Natural Gas	0%	0%	0%	15%	0%	
Total	100%	100%	100%	100%	100%	

^{*} California Energy Commission Power Source Disclosure Program for EBCE and PG&E's 2018 Power Mix.
**Unspecified sources are not traceable to a specific facility, because traded through open market transactions. Unspecified sources of power are typically a mix of all types, and largely include GHG free sources. EBCE states that the primary source of its unspecified generation in *Bright Choice* is the North West Hydro system, which is carbon-free but not renewable large hydroelectric power.

Ideally, EBCE can purchase energy to meet its customer needs at rates lower than PG&E's (as it does for its *Bright Choice* program) or at parity with PG&E's rates (as with

Brilliant 100). In 2018, the EBCE Board of Directors⁸ established *Bright Choice* as the default product for residential and commercial customers.

Berkeley's initial city-wide default at enrollment for residential and commercial customers was EBCE's *Bright Choice*. The city's municipal accounts were enrolled in the middle tier, *Brilliant 100*.

By joining EBCE in 2018, the City has already realized greenhouse gas emission reductions. All of EBCE's plans have more renewable energy than PG&E's standard plan and while PG&E's basic offering includes natural gas, none of EBCE's plans do, except as may occur in unspecified power under the *Bright Choice* plan.⁹

There is currently uncertainty about whether the EBCE Board will include attributes from nuclear as part of the *Brilliant 100* plan, or whether the Board will vote to eliminate *Brilliant 100* altogether. The City of Berkeley has a long-standing policy on nuclear energy, including a statement of "oppos[ing] the nuclear fuel cycle as a whole." ¹⁰ If EBCE were to eliminate *Brilliant 100*, Berkeley's municipal accounts could revert to the more GHG-intensive *Bright Choice*.

B. Effect of this Legislation

This legislation would upgrade Berkeley's municipal accounts to *Renewable 100* and refer the additional cost to the November 2020 budget process. Doing so will support California's burgeoning solar and wind energy sector by increasing the share provided by each source from 15% and 25%, respectively, to 50% which has the potential to further offset electricity generated from natural gas and nuclear, for a relatively small premium. Additionally, the City of Berkeley can avoid uncertainty and would achieve enhanced environmental outcomes as compared to the status quo under *Brilliant 100*.

⁸ Composed of elected officials from each of the participating jurisdictions.

⁹ Except as may occur in unspecified system power.

¹⁰ Nuclear Free Berkeley Act, BMC 12.9.

Transportation 60%

Residential Natural Gas 12%

Residential Natural Gas 15%

Municipal Buildings 0.4%

Water Consumption & Water Consumption & Wastewater Treatment 3%

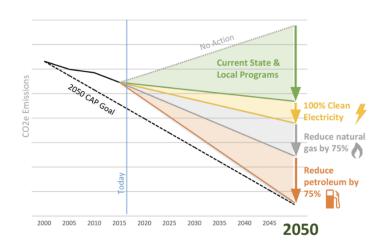
Wastewater Treatment 18

Figure 2: 2016 Community GHG Emissions Inventory

Figure 1: Pie chart of 2016 community-wide GHG emissions inventory, broken down by sector and fuel.

As seen in Figure 3 below, without accelerated efforts, the City will continue to be below its target of 80% GHG reduction by 2050. To reach the 80% goal, 100% GHG-free electricity, along with 75% reductions in natural gas and petroleum usage are needed.

Figure 3: City of Berkeley Strategies to Achieve 80% GHG reduction by 2050 (2017)¹¹
2050 Emissions Reduction Vision



¹¹ 2017 Berkeley Climate Action Plan Update, Office of Energy and Sustainable Development, December 7, 2017, https://www.cityofberkeley.info/Clerk/City_Council/2017/12_Dec/Documents/2017-12-07_WS_Item_01_Climate_Action_Plan_Update.aspx;

This resolution makes these changes on a rolling basis. The City's municipal accounts would be upgraded to *Renewable 100* as soon as possible, subject to the November 2020 budget adoption.

C. Cost and Environmental Impacts of Municipal Accounts at Renewable 100

Berkeley's municipal accounts represent about 2% of city-wide electricity usage. 12 The City's accounts are currently enrolled in carbon-free energy through *Brilliant 100*. Short of directly building generation facilities with City resources, the most effective way for Berkeley to support renewable carbon-free energy is to opt its municipal accounts to those sources poised for dramatic growth in the Bay Area and California: solar and wind. While upgrading to Renewable 100 will initially cost an additional \$94,063¹³ per year, doing so will encourage development of the solar and wind industries and help in bringing those costs down over time.

Economic and environmental advantages to investing in exclusively renewable electricity through *Renewable 100* include:

- Renewable 100 represents an important investment in green energy; enrolling in this plan represents an important commitment to combatting climate change.
- The cost to the City is minimal. Other such cities, such as 1/3 of those in Los Angeles County and the cities of Dublin and Piedmont have opted their municipal accounts to the greenest plan.
- The construction of new renewable energy provides an opportunity for significant new well-paid green jobs across California and potentially within Alameda County. Alameda County is well positioned for construction of new solar generation, but not hydroelectric.

An investment in the renewable sector will help to stimulate critical research and investment in advanced battery technology that can even the playing field between variable renewables and natural gas, nuclear and hydroelectric.¹⁴

^{12 11,834,276} kWh in 2018. See Fosterra, 100% Renewable Default Option Study for EBCE Communities, February 2018, https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3__Commissions/Commission_for_Planning/EC2018-2-

²⁸ Item%205b EBCE%20100%20GHG%20Opt%20In%20Study.docx.pdf.

¹³ EBCE staff provided cost estimate.

¹⁴ Lauren Sommer, "Why 100 Percent Clean Energy in California is Gonna Be Tricky," KQED, September 10, 2018, https://www.kqed.org/science/1930972/why-100-percent-clean-energy-in-california-is-gonna-betricky; See also, Emma Foehringer Merchant, "IRENA: Global Renewable Energy Prices Will Be Competitive with Fossil Fuels by 2020," Green Tech Media, January 16, 2018, https://www.greentechmedia.com/articles/read/irena-renewable-energy-competitive-fossil-fuels-2020.

FINANCIAL IMPLICATIONS

Upgrading Berkeley municipal accounts to *Renewable 100* is estimated to cost the City approximately \$94,063 more annually.

ENVIRONMENTAL SUSTAINABILITY

Reducing carbon emissions at an emergency and equitable pace is a necessary step to meet the goals of the Climate Action Plan and the Berkeley Energy Commission's Fossil Free Report.

CONTACT PERSON

Councilmember Kate Harrison, Council District 4, 510-981-7140

ATTACHMENTS

1. Resolution

RESOLUTION NO. ##,###-N.S.

ESTABLISHING EAST BAY COMMUNITY ENERGY'S RENEWABLE 100 AS DEFAULT ELECTRICITY SERVICE PLAN FOR MUNICIPAL ACCOUNTS

WHEREAS, fossil fuel extraction and combustion is a primary cause of the present climate emergency that threatens the well-being of all living things; and

WHEREAS, according to scientists and engineers, transitioning society to less greenhouse gas (GHG) intensive forms of energy, namely cleaner electricity, is fundamental to decarbonization: and

WHEREAS, the City of Berkeley has committed to a policy of decarbonization, including through Measure G (Resolution No. 63,518-N.S.) in 2006, calling for the City to reduce greenhouse gas emissions by 33% below 2000 levels by 2020, and 80% by 2050, the 2009 Berkeley Climate Action Plan (Resolution No. 64,480-N.S.), the Berkeley Climate Emergency Declaration (Resolution No. 68,486-N.S.), and the Fossil Free Referral; and

WHEREAS, Berkeley's Climate Action Plan identifies Community Choice Aggregation (CCA) agencies such as East Bay Community Energy (EBCE), which procure cleaner electric power from low-carbon sources on behalf of electricity customers, as a key strategy to meet local clean energy goals and greenhouse gas reduction targets; and

WHEREAS, on November 1, 2016, the City of Berkeley City Council adopted Resolution No. 67,730-N.S. authorizing Berkeley's participation in Alameda County's Community Choice Aggregation program known as East Bay Community Energy (EBCE) and subsequently appointed representatives to its Board of Directors; and

WHEREAS, on April 24, 2018, the City Council adopted Resolution No. 68,404-N.S., selecting the *Brilliant 100* (100% GHG-free) electric service plan for all municipal accounts; and

WHEREAS, EBCE's *Renewable 100* service plan is priced at a small premium to the standard Pacific Gas & Electric rate and features 100% GHG-free and 100% renewable electricity; and

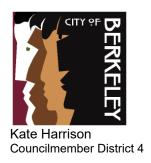
WHEREAS, because the energy sector, including the renewable industry, is rapidly evolving and the EBCE Board may decide to modify rate structures, it is prudent for the Berkeley City Council to reassess the default rate at regular intervals; and

WHEREAS, while Berkeley's municipal sector electricity is already 100% carbon-free, it is in the public interest to upgrade municipal accounts from *Brilliant 100* to *Renewable 100* in recognition of the importance of supporting California's expanding solar and wind energy sector, which has the potential to overtime offset electricity generated from natural gas and nuclear, for a relatively small premium.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is hereby authorized and directed to select *Renewable 100* as the

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electricity product for the City of Berkeley's municipal accounts, and that the Council shall review annually the City's default municipal, residential, and commercial plans in order to determine whether further adjustment is appropriate.



ACTION CALENDAR
October 27, 2020
(Continued from April 21, 2020)

To: Honorable Mayor and Members of the City Council

From: Councilmember Harrison, Mayor Arreguín, Councilmembers Robinson and

Hahn

Subject: Adopt a Resolution to Upgrade Residential and Commercial Customers to 100%

Greenhouse Gas Emissions-Free Electricity Plan and Municipal Accounts to

100% Renewable Plan

POLICY COMMITTEE

Facilities, Infrastructure, Transportation, Environment & Sustainability Policy Committee

RECOMMENDATION

Adopt a Resolution to:

- a. Opt up Berkeley's municipal accounts to *Renewable 100* (100% renewable and 100% greenhouse gas-free) electricity service, and refer the estimated increased cost of \$100.040 to the June 2020 budget process.
- b. Upgrade current and new Berkeley residential and commercial customer accounts from *Bright Choice* (>85% GHG-free) to *Brilliant 100* (100% GHG-free), except for residential customers in low income assistance programs.¹ The transition would be effective October 1, 2020 for residential customers and January 1, 2021 for commercial customers.
- c. Provide for yearly Council review of the City's default municipal, residential, and commercial plans.

POLICY COMMITTEE RECOMMENDATION

On February 6, 2020, the Facilities, Infrastructure, Transportation, Environment & Sustainability Committee adopted the following action:

Action: M/S/C (Harrison/Robinson) to approve recommendations b and c, as revised in the supplemental report submitted by Councilmember Harrison, with a Positive Recommendation.

¹ CARE and FERA are state discount programs; eligibility requirements are shown in the Appendix B. The Medical Baseline Program assists residential customers who have qualifying medical conditions with a lower rate on monthly energy bills and extra notifications in advance of a Public Safety Power Shutoff.

Revised recommendation:

- b. Opt up municipal East Bay Community Energy accounts to renewable 100 (100% renewable and 100% greenhouse gas-free) electricity service, and refer the estimated increased cost of \$100,040 to the June 2020 budget process; and,
- c. Providing for yearly Council review of the City's default residential, commercial and municipal plans.

Vote: All Ayes.

Action: M/S/C (Robinson/Harrison) to approve recommendation a, as revised in the supplemental report submitted by Councilmember Harrison, and send the item back to the City Council with a Positive Recommendation.

Revised recommendation:

a. Changing the service plan for current and new Berkeley residential Bright Choice accounts, except those enrolled in the California Alternate Rates for Energy Program, Family Electric Rate Assistance and Medical Baseline Allowance Program accounts, and all commercial East Bay Community Energy Bright Choice accounts to the Brilliant 100 (100% greenhouse gas-free) electricity service plan, effective [] for residential customers and [] for commercial customers. Customers will not lose the option of changing their plan or opting out of EBCE entirely

Vote: Ayes - Robinson, Harrison; Noes - Davila; Abstain - None.

BACKGROUND

A. Plan Options

Community Choice Aggregators (CCAs) like East Bay Community Energy (EBCE) were authorized by the state,² with the goal of buying less carbon intensive energy at competitive prices. CCAs appoint municipal leaders instead of private shareholders to oversee procurement and energy-related policy-making.

Until June 2018, the default provider of electricity in Berkeley was PG&E. Berkeley joined neighboring cities³ to establish EBCE as the default electricity provider.⁴ The new agency offered significant advantages, including less carbon intensive energy at competitive prices and oversight by local jurisdictions instead of private shareholders.

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³ The City of Alameda is not a member-jurisdiction of EBCE because it is has its own municipal utility. Newark and Pleasanton decided to join EBCE in 2019 and are scheduled to begin service in 2021.

⁴ A third category of electric service customer (primarily commercial) known as Direct Access are exempted from both PG&E and EBCE entirely for electricity generation services.

EBCE can reinvest profits into expanding carbon-free options, including through its Local Business Development Plan, and into electrification.⁵

EBCE still relies on PG&E to transmit and deliver its energy over the grid to customers. Therefore, customers receive bills that separately list EBCE electricity supply; PG&E electricity transmission and delivery; PG&E for natural gas; and pass-through charges representing long-term contract obligations for buying electricity entered into by PG&E (known colloquially as the "exit fee"6).

Customers can rejoin PG&E at any time by opting out of EBCE.⁷ The City of Berkeley boasts an impressive opt out rate of under 2% of customers returning to PG&E.

The following terms relate to the plans offered by East Bay Community Energy (EBCE):

- **GHG-free:** This is generation that emits zero (or in some cases minimal) GHG-emissions. It includes renewable energy and nuclear power. Currently, nuclear power is not included in any of EBCE's energy portfolios but EBCE is considering including it in its *Bright Choice* service offering.
- Renewable: These are a subset of GHG-free energy sources that are also renewable. They include hydroelectric, wind, solar, geothermal, and biomass.⁸

These definitions are carried over into the three current service offerings of EBCE:

⁵ East Bay Community Energy Local Business Development Plan, https://ebce.org/local-development-business-plan/.

⁶ Officially known as the Power Charge Indifference Account – the PCIA.

⁷ PG&E requires a one year waiting period to return to EBCE once a customer has opted out to PG&E.

⁸ Although renewable, the California Air Resources Board (CARB) assigns nominal GHG-emissions to geothermal and for hydroelectric generation from the Pacific Northwest. Biomass does have significant GHG-emissions in combustion which are offset by reductions in GHGs in other parts of the cycle.

Figure 1: Comparison of EBCE and PG&E Service Options and Respective Power Content*9

	Percent of Total Retail Sales (kWh)						
	East Bay	/ Communi	PG&E	PG&E			
Type of Energy	Bright Choice	Brilliant 100	Renewable 100	Standard Rate	Solar Choice		
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Total	100%	100%	100%	100%	100%		

^{*} California Energy Commission Power Source Disclosure Program for EBCE and PG&E's 2018 Power Mix.
**Unspecified sources are not traceable to a specific facility, because traded through open market transactions. Unspecified sources of power are typically a mix of all types, and largely include GHG free

transactions. Unspecified sources of power are typically a mix of all types, and largely include GHG free sources. EBCE states that the primary source of its unspecified generation in *Bright Choice* is the North West Hydro system, which is carbon-free but not renewable large hydroelectric power.

⁹ East Bay Community Energy 2018 Power Content Label, September 10, 2019, https://ebce.org/wp-content/uploads/ebce_PCL_091019_PRINT-small_compressed.pdf. See also, PG&E 2018 Power Mix, https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_clean-energy

Ideally, EBCE can purchase energy to meet its customer needs at rates lower than PG&E's (as it does for its *Bright Choice* program) or at parity with PGE's rates (as with *Brilliant 100*). In 2018, the EBCE Board of Directors¹⁰ established *Bright Choice* as the default product for residential and commercial customers. The *Brilliant 100* plan, was selected by Hayward and Albany for their businesses and residents.¹¹ Piedmont elected to enroll everyone in *Renewable 100* for residential customers, at a slight premium (See Appendix C).

Berkeley's initial city-wide default at enrollment for residential and commercial customers was EBCE's *Bright Choice*. The city's municipal accounts were enrolled in the middle tier, *Brilliant 100*.

By joining EBCE in 2018, the City has already realized greenhouse gas emission reductions. All of EBCE's plans have more renewable energy than PG&E's standard plan and while PG&E's basic offering includes natural gas, none of EBCE's plans do.¹²

B. Effect of this Legislation

This legislation would upgrade Berkeley's municipal accounts to *Renewable 100*. Doing so will support California's burgeoning solar and wind energy sector, which has the potential to further offset electricity generated from natural gas and nuclear, for a relatively small premium.

The resolution also upgrades residents and businesses to the carbon-free plan. This allows the City to move closer towards eliminating the vast majority of its electricity-based GHG emissions, ¹³ bringing it closer to its Climate Action Plan goal of reducing emissions by 33% by 2020. Berkeley's 2016 community-wide GHG emissions are approximately 15% below 2000 baseline levels; the City is approximately 18% behind its 2020 goal. ¹⁴ In 2016, residential and commercial electricity accounted for 3% and 7%, respectively, of 2016 city-wide emissions. ¹⁵

¹⁰ Composed of elected officials from each of the participating jurisdictions.

While renewable energy sources such as wind and solar are not consistently available all day and cannot be directly dispatched, rapid advances in battery storage are ameliorating those issues; East Bay Community Energy Board of Directors, Item 4 Approval of Minutes from February 7, 2018, February 20, 2018, https://ebce.org/wp-content/uploads/Item-4-EBCE_BOD_Draft-minutes_2_7_18-1.pdf; Hayward decided to keep their CARE and FERA customers at *Bright Choice*, while Albany and Piedmont decided to opt their CARE and FERA customers to *Brilliant 100*.

¹² Except as may occur in unspecified system power.

¹³ The latest available City of Berkeley data is from 2016. See 2018 Berkeley Climate Action Plan Update, Office of Energy and Sustainable Development, December 6, 2018, https://www.cityofberkeley.info/Clerk/City_Council/2018/12_Dec/Documents/2018-12-06_WS_Item_01_Climate_Action_Plan_Update_pdf.aspx.

¹⁴ In part, this is due to an 18% increase in population in that same time period.

¹⁵ These 2016 figures do not account for GHG reductions resulting from Berkeley's enrollment in EBCE's *Bright Choice* plan in 2018, changes in PG&E's power mix for large customers than remained with PG&E, minimal customer enrollment in *Renewable 100*, and other population and usage trends.

Figure 2: 2016 Community GHG Emissions Inventory

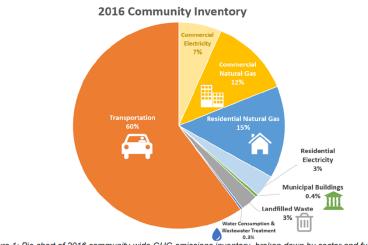
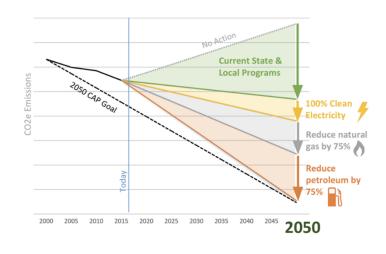


Figure 1: Pie chart of 2016 community-wide GHG emissions inventory, broken down by sector and fuel.

As seen in Figure 3 below, without accelerated efforts, the City will continue to be below its target of 80% GHG reduction by 2050. To reach the 80% goal, 100% GHG-free electricity, along with 75% reductions in natural gas and petroleum usage are needed.

Figure 3: City of Berkeley Strategies to Achieve 80% GHG reduction by 2050 (2017)¹⁶ 2050 Emissions Reduction Vision



¹⁶ 2017 Berkeley Climate Action Plan Update, Office of Energy and Sustainable Development, December 7, 2017, https://www.cityofberkeley.info/Clerk/City_Council/2017/12_Dec/Documents/2017-12-07_WS_Item_01_Climate_Action_Plan_Update.aspx;

EBCE estimates *Bright Choice* participation alone results in approximately 18,844 metric tons of carbon dioxide emissions each year. These emissions are equivalent to 4,001 passenger vehicles driven per year and would require 24,609 acres of forests to sequester. These 72,363 acres of forest are more than two times Berkeley's land area.

Figure 4: Carbon impact of Bright Choice Use in Berkeley

Per Hour 2018 Emissions from <i>Bright Choice</i>	Annual Total CO _{2e}		
101 lb-CO2e/MWh	18,844 metric tons		

Were all customers upgraded to *Brilliant 100* and remained there, these emissions would be entirely eliminated.

Moving to *Brilliant 100* would increase the use of solar from 15% to 20% of the power supply paired with eliminating unspecified sources of electricity from EBCE, which are from primarily from large hydroelectric. Total large hydroelectric power would be reduced from up to 59% to 55% and total unspecified power would be reduced from 38% to 0%.

In addition, the EBCE Board is currently considering whether to accept PG&E allocations of nuclear energy in the *Bright Choice* service plan. EBCE staff noted in a recent presentation that, under this scenario, customers could avoid paying directly for nuclear energy generation¹⁷ by opting up from *Bright Choice*: "Any individual customer or entire city can opt-up to *Brilliant 100* or *Renewable 100* to eliminate nuclear generation from their power mix." The City of Berkeley has a long-standing policy on nuclear energy, including a statement of "oppos[ing] the nuclear fuel cycle as a whole." The uncertainty surrounding the inclusion of nuclear power in *Bright Choice* would be eliminated as a result of this legislation.

Upgrading customer accounts would also insure that the energy purchased in Berkeley is significantly greener than that provided by PG&E. During the last couple of years, PG&E has also made its supply greener; in 2018, PG&E's least green plan offered 86% carbon-free electricity.²⁰

¹⁷ The exit fees charged pay for a portion of PG&E's nuclear generation.

¹⁸ Nick Chaset, East Bay Community Energy Executive Committee, PG&E Carbon-Free Allocations (Informational item), November 20, 2019, https://ebce.org/wp-content/uploads/ltem-5-PGE-Carbon-Free-Allocations.pdf.

¹⁹ Nuclear Free Berkeley Act, BMC 12.9.

²⁰ See PG&E 2018 Power Mix.

Finally and, most critically, using cleaner energy in Berkeley will realize significant, future long-term benefits, including mitigating the impact of increased electricity consumption as the community transitions towards all-electric buildings and vehicle charging infrastructure.²¹ Maximizing the climate benefits of building and transportation electrification requires the cleanest possible electric supply.²²

The Berkeley City Council, with approval from the EBCE Board, may revise default customer rate plans at any time. Market-based solutions to the climate emergency have and will likely continue to fail to deliver the necessary emergency reductions. EBCE customers have had the option to voluntarily enroll in greener plans but to date very few have done so. As of January 2020, less than 3% of Berkeley customers upgraded from *Bright Choice*.

	# of Total Customers	% of total
Bright Choice	52,113	97.06%
Brilliant 100	577	1.07%
Renewable 100	1,002	1.87%
Total Customers	53,692	100%

Figure 5: Current Enrollment in EBCE Service Plans

Upgrading customers while continuing to allow people to opt back down will yield substantially more benefits than the best marketing campaign aimed at encouraging customers to opt-up individually.

This resolution makes these changes on a rolling basis. The City's municipal accounts would be upgraded to *Renewable 100* in July, 2020, subject to budget adoption. EBCE's *Brilliant 100* would become the default plan for residential customers in it as of October 1, 2020 and commercial accounts as of January 1, 2021.²³ This timeline will allow for outreach through community workshops, on-line guidance and information and other forms of engagement, especially to low and moderate income community members and small businesses, in advance of enrollment in *Brilliant 100*.

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²¹ 2018 Berkeley Climate Action Plan Update, p. 10.

While wind and solar are not consistently available throughout the day and cannot be directly dispatched, rapid advances in battery storage technology are ameliorating those issues.

²³ See East Bay Community Energy, Rates, https://ebce.org/residents/ & https://ebce.org/residents/ & https://ebce.org/residents/ & https://ebce.org/residents/ & https://ebce.org/businesses/

C. EBCE Compared to other Regional CCAs

CCAs need to buy on the open market or create new sources of renewable energy. Other CCAs, even those that were recently formed, have been able to enroll all customers in GHG-free plans. 74% of Clean Power Alliance CCA in Southern California, formed in 2017, customers are on 100% GHG-free service plans and an equivalent opt out rate to EBCE (3.8% vs. 4.0%). Silicon Valley only has the two greener plans, with no equivalent to EBCE's *Bright Choice*. MCE, which offers a mixed carbon and carbon-free plan, has a higher opt out rate than EBCE. A transition across EBCE's service area to 100% GHG-free energy will support regional efforts to reduce emissions.

D. Cost Impacts of the Transition on Customers

The cost impact of *Brilliant 100* needs to be understood compared to PG&E rates and those of *Bright Choice*. Based on current pricing, *Brilliant 100* customers would pay the *same rate* as they would for PG&E generation service, but would benefit from 15% percent less carbon-intensive energy with no nuclear or natural gas. However, there will be a small price premium when compared to *Bright Choice*. All other things being equal, the average price increase for a residential customer due to the proposed upgrade is estimated to be \$0.63/month (see Appendix D) and for a small business \$2.63/month (see Appendix E).²⁴

Due to anticipated increases in exit fees, the cost of *Brilliant 100* compared to PG&E could increase. On average, exit fees represent a relatively nominal percentage (11%) of an EBCE bill.²⁵ On February 27, 2020,²⁶ the California Public Utilities Commission (CPUC) updated its calculation of the exit fees. In FY 2020-2021, CPUC has limited the increase in exit fees to ½ cent/kilowatt hour, about a 16% increase in the current exit fee and established a 7% cap for under collection set at for the same time period.²⁷ This net increase of 23% could result in a total increase of 2.82% over an average PG&E bill. An increase in the exit fees impacts all three of EBCE's rate plans.

For informational purposes only, Appendix D and E include calculations, all other things being equal, representing the marginal increase resulting from a 25% PCIA increase scenario.

²⁵ Generation accounts for 34% and PG&E transmission and delivery charges are 54% of an EBCE Bill.

²⁴ See Figure 4.

Decision Adopting Pacific Gas And Electric Company's 2020 Energy Resource Recovery Account Forecast And Generation Non-Bypassable Charges Forecast And Greenhouse Gas Forecast Revenue Return And Reconciliation, California Public Utilities Commission ALJ Final Decision, 2/28/2020, http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M328/K199/328199856.PDF.

²⁷ See PCIA Update, EBCE, February 19, 2020, https://ebce.org/wp-content/uploads/Item-10-PCIA-UPDATE-Informational-Item.pdf. See also, CPUC Decision 18-10-019, October 11, 2018 http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M232/K687/232687030.PDF.

The EBCE Board may choose from among various steps to mitigate potential PCIA-related financial losses, including raising rates. EBCE has indicated that they will likely preserve some differential in the *Bright Choice* option from PG&E's rates to keep customers from opting out, and increase *Brilliant 100* disproportionately to make up the difference.

Although the outcome of the PCIA is far from certain, EBCE estimates that the cost of *Brilliant 100* could increase from 1%-6% above PG&E's standard rate, as compared to the current price parity with PG&E.²⁸ Some of EBCE's \$120 million in cash and cash equivalents could be used to subsidize rates over the next year.²⁹ Using the middle of the range, or a 3.5% rate increase over PG&E, would bring the price differential from PG&E up slightly to \$3.12/month for residential customers and \$13.24 for commercial customers (See Appendices D and E). These estimates are largely consistent with exit fee estimates made by neighboring jurisdictions such as San Francisco. If none of EBCE reserves are used, the *Brilliant 100* percentage amount above PG&E rates could be greater.

As a result of the Resolution, customers receiving subsidies through the California Alternate Rates for Energy Program (CARE), Family Electric Rate Assistance (FERA), and Medical Baseline Allowance Programs will not be upgraded and will continue to receive their monthly discounts through PG&E under their current plan. This discount is already applied to the transmission and distribution charges on other customers' electricity bills pursuant to state law.

A change in customer rate plans does not bind customers; customers retain the choice to opt back down. They may also opt out, at any time for a one-time fee of \$5 for residential customers and \$25 for commercial customers.

E. Cost and Environmental Impacts of Municipal Accounts at Renewable 100

Berkeley's municipal accounts represent about 2% of city-wide electricity usage.³⁰ The City's accounts are currently enrolled in carbon-free energy through *Brilliant 100*. Short

²⁹ Fiscal Year 2019-2020 Second Quarter Financial Statements, February 19, 2020, https://ebce.org/wp-content/uploads/Consent-Item-7-Fiscal-Year-2019-20-Second-Quarter-Financial-Statements.pdf. The EBCE Board is considering whether to set aside approximately \$40.5 million towards its reserves, which could reduce available cash and cash equivalents to approximately \$80 million. See Reserve Fund Allocations from 2018-19 Fiscal Year Net Revenues (Action Item), December 18, 2019, https://ebce.org/wp-content/uploads/Item-14-Reserve-Fund-Allocations-from-2018-19-Fiscal-Year-Net-Revenues-Action-Item.pdf.

²⁸ See EBCE PCIA Update.

^{30 11,834,276} kWh in 2018. See Fosterra, 100% Renewable Default Option Study for EBCE Communities, February 2018, https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3__Commissions/Commission_for_Planning/EC2018-2-_

²⁸_Item%205b_EBCE%20100%20GHG%20Opt%20In%20Study.docx.pdf.

of directly building generation facilities with City resources, the most effective way for Berkeley to support carbon-free energy is to opt its municipal accounts to those sources poised for dramatic growth in the Bay Area and California: solar and wind. The City of Berkeley is well positioned to pay the 4% premium for *Renewable 100*, estimated at a cost of \$100,040³¹ per year.

Economic and environmental advantages to investing in exclusively renewable electricity through *Renewable 100* include:

- Renewable 100 represents an important investment in green energy; enrolling in this plan represents an important commitment to combatting climate change.
- The cost to the City is minimal. Other such cities, such as 1/3 of those in Los Angeles County and the cities of Dublin and Piedmont have opted their municipal accounts to the greenest plan.
- The construction of new renewable energy provides an opportunity for significant new well-paid green jobs across California and potentially within Alameda County. Alameda County is well positioned for construction of new solar generation, but not hydroelectric.

An investment in the renewable sector will help to stimulate critical research and investment in advanced battery technology that can even the playing field between variable renewables and natural gas, nuclear and hydroelectric.³²

F. Alternatives Considered

Enrolling residential and commercial customers in *Brilliant 100* represents the most reasonable, equitable and feasible step towards reducing GHG emissions. *Renewable 100* is currently on average \$4.22 (4%) per month more expensive than PG&E for residential customers; this increase could rise to \$6.53 over PG&E with exit fee increases. On the commercial side, *Renewable 100* is estimated to cost \$17.70 more per month for the average small business, and could increase to \$26.75/month with increases in the exit fees. This would represent an undue burden and would not further reduce greenhouse gas emissions (although it would move generation away from hydro-electric).

In addition, there is uncertainty about ongoing California Public Utility Commission regulatory proceedings to determine potential increases to exit fees. An unfavorable future CPUC decision could disproportionately impact rate hikes for those in the more

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³¹ EBCE staff provided cost estimate.

³² Lauren Sommer, "Why 100 Percent Clean Energy in California is Gonna Be Tricky," KQED, September 10, 2018, https://www.kqed.org/science/1930972/why-100-percent-clean-energy-in-california-is-gonna-betricky; See also, Emma Foehringer Merchant, "IRENA: Global Renewable Energy Prices Will Be Competitive with Fossil Fuels by 2020," Green Tech Media, January 16, 2018, https://www.greentechmedia.com/articles/read/irena-renewable-energy-competitive-fossil-fuels-2020.

expensive *Renewable 100*, especially inequitable for low-income residents. Opt downs and opt ups would also be more likely to increase.

However, because the energy sector, including the renewable industry, is rapidly evolving, and as the EBCE Board may decide to modify rate structures, this item also calls for yearly Council review of the default plan with respect to power mix sustainability and cost in order to determine whether further adjustment of the default or another community-wide change in service plan is warranted.

FINANCIAL IMPLICATIONS

Upgrading Berkeley municipal accounts to *Renewable 100* is estimated to cost the City approximately \$100,040 more annually.

In response to a referral adopted by City Council on January 21, 2020, staff is currently working to develop estimates regarding funding and capacity needed to increase community outreach and engagement related to climate action. These increased engagement presents an ideal opportunity to educate community members about East Bay Community Energy service plans as part of that effort.

ENVIRONMENTAL SUSTAINABILITY

Reducing carbon emissions at an emergency and equitable pace is a necessary step to meet the goals of the Climate Action Plan and the Berkeley Energy Commission's Fossil Free Report.

CONTACT PERSON

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ATTACHMENTS

- 1. Resolution
- 2. Appendix A: Current PG&E Rates
- 3. Appendix B: 2019-2020 CARE and FERA Income Eligibility
- 4. Appendix C: Default Enrollment Service for Jurisdictions Participating in EBCE
- 5. Appendix D: Residential Rate Scenarios
- 6. Appendix E: Commercial Rate Scenarios

Appendix A: PG&E Rates (2020)

CARE Income Guidelines

(good until May 31, 2020)

Number of People in Household	Total Gross Annual Household Income*			
1–2	\$33,820 or less			
3	\$42,660 or less			
4	\$51,500 or less			
5	\$60,340 or less			
6	\$69,180 or less			
7	\$78,020 or less			
8	\$86,860 or less			
Each Additional Person, add	\$8,840			

FERA Income Guidelines

(good until May 31, 2020)

Number of People in Household	Total Gross Annual Household Income*
1–2	Not Eligible
3	\$42,661-\$53,325
4	\$51,501-\$64,375
5	\$60,341-\$75,425
6	\$69,181-\$86,475
7	\$78,021-\$97,525
8	\$86,861-\$108,575
Each Additional Person, add	\$8,840-\$11,050

Appendix B: 2019-2020 CARE and FERA Income Eligibility (February 2020)³³

		Average Monthly Bill (\$)
	Standard Residential Rate	\$89
PG&E	Solar Residential Choice	\$92
	Standard Commercial Rate	\$378
	Solar Commercial Choice	\$386

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³³ PG&E, CARE (California Alternate Rates for Energy), https://www.pge.com/en_US/residential/save-energy-money/help-paying-your-bill/longer-term-assistance/care/care.page.

Appendix C: Default Enrollment Service for EBCE Jurisdictions

Jurisdiction	Residential Customers	Commercial Customers	Customers in FERA, and Medical Baseline Allowance Programs	
Albany	Brilliant 100	Brilliant 100	Brilliant 100	
Hayward	Brilliant 100	Brilliant 100	Bright Choice	
Piedmont	Renewable 100	Bright Choice	Brilliant 100	
All other jurisdictions, including Berkeley	Bright Choice	Bright Choice	Bright Choice	

Appendix D: Residential Price Scenarios

	Current Average Monthly Bill		25% Increase in Exit Fees ³⁴		Brilliant 100 Premium (Mid-Point 3.5%) ³⁵	
	Average Monthly Bill (\$)	Average Monthly Cost Compared to Bright Choice (\$)	Average Monthly Bill (\$)	Increase Compared to PG&E (\$)	Average Monthly Bill (\$)	Marginal Monthly Increase over PG&E (\$)
Bright Choice	\$88.58	-	\$91.31	-	-	-
Brilliant 100	\$89.21	\$0.63	\$91.94	\$2.94	\$92.33	\$3.12
Renewable 100	\$92.80	\$4.22	\$95.53	\$6.53	-	-
PG&E	\$89.21	\$0.42	-	-	-	-

³⁴ See CPUC Decisions 18-10-019 and 20-02-047.

³⁵ See PCIA Update, EBCE, February 19, 2020, https://ebce.org/wp-content/uploads/Item-10-PCIA-UPDATE-Informational-Item.pdf. pp. 3-4.

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Appendix E: Commercial Price Scenarios

		t Average thly Bill	25% Increase in Exit Fees ³⁶		Brilliant 100 Premium (Mid-Point 3.5%) ³⁷	
	Average Monthly Bill (\$)	Average Monthly Cost Compared to Bright Choice (\$)	Average Monthly Bill (\$)	Increase Compared to PG&E (\$)	Average Monthly Bill (\$)	Marginal Monthly Increase over PG&E (\$)
Bright Choice	\$375.79	-	\$387.06	-	-	-
Brilliant 100	\$378.42	\$2.63	\$389.69	\$2.63	\$391.66	\$13.24
Renewable 100	\$393.49	\$17.7	\$404.75	\$17.7	-	-
PG&E	\$378.42	\$2.63	-	-	-	-

³⁶ See CPUC Decisions 18-10-019 and 20-02-047.

³⁷ See PCIA Update, EBCE, February 19, 2020, https://ebce.org/wp-content/uploads/Item-10-PCIA-UPDATE-Informational-Item.pdf. pp. 3-4.

RESOLUTION NO. ##,###-N.S.

ESTABLISHING EAST BAY COMMUNITY ENERGY'S BRILLIANT 100 AS DEFAULT ELECTRICITY SERVICE PLAN FOR RESIDENTIAL AND COMMERCIAL ACCOUNTS AND RENEWABLE 100 FOR MUNICIPAL ACCOUNTS

WHEREAS, Fossil fuel extraction and combustion is a primary cause of the present climate emergency that threatens the well-being of all living things; and

WHEREAS, according to scientists and engineers, transitioning society to less greenhouse gas (GHG) intensive forms of energy, namely cleaner electricity, is fundamental to decarbonization; and

WHEREAS, according to City data from 2016, Berkeley's residential electricity sector accounts for 3% of city-wide emissions, the commercial electricity sector accounts for 7% of city-wide emissions, and another 27% and 60% of emissions are attributed respectively to natural gas appliances and fossil fuel-powered transportation that can be phased out through electrification fueled by 100% GHG-free electricity; and

WHEREAS, the City of Berkeley has committed to a policy of decarbonization, including through Measure G (Resolution No. 63,518-N.S.) in 2006, calling for the City to reduce greenhouse gas emissions by 33% below 2000 levels by 2020, and 80% by 2050, the 2009 Berkeley Climate Action Plan (Resolution No. 64,480-N.S.), the Berkeley Climate Emergency Declaration (Resolution No. 68,486-N.S.), and the Fossil Free Referral; and

WHEREAS, Berkeley's Climate Action Plan identifies Community Choice Aggregation (CCA) agencies such as East Bay Community Energy (EBCE), which procure cleaner electric power from low-carbon sources on behalf of electricity customers, as a key strategy to meet local clean energy goals and greenhouse gas reduction targets; and

WHEREAS, on November 1, 2016, the City of Berkeley City Council adopted Resolution No. 67,730-N.S. authorizing Berkeley's participation in Alameda County's Community Choice Aggregation program known as East Bay Community Energy (EBCE) and subsequently appointed representatives to its Board of Directors; and

WHEREAS, on February 7, 2018, the EBCE Board of Directors established a default 85% carbon free default service plan known as Bright Choice for the City of Berkeley and other participating jurisdictions; and

WHEREAS, on April 24, 2018, the City Council adopted Resolution No. 68,404-N.S., selecting the *Brilliant 100* (100% GHG-free) electric service plan for all municipal accounts; and

WHEREAS, Cities have the authority to designate greenhouse gas-free default electric service plans as the default plan for eligible residential and commercial customers and the City Councils of other EBCE participating jurisdictions such as Albany, Piedmont and

Hayward selected default service plans featuring 100% GHG-free electricity for their customers; and

WHEREAS, EBCE's *Brilliant 100* service plan costs the same as the standard Pacific Gas & Electric rate and features 100% GHG-free electricity; and

WHEREAS, given the present climate emergency and the fact that the City of Berkeley is behind its Climate Action Plan targets, establishing a new default for residential and commercial customers while retaining protections for price sensitive groups to cost-effective GHG-free default electric services will likely yield substantially more GHG savings than the best marketing campaign aimed at encouraging customers to opt-up individually; and

WHEREAS, it is in the public interest to position city-wide residential and commercial customers to take advantage of electricity service with the lowest emissions factor, best environmental profile and least cost by replacing *Bright Choice* with *Brilliant 100* as the default service plan; and

WHEREAS, as a result of the new default, customers receiving subsidies through the California Alternate Rates for Energy Program, Family Electric Rate Assistance, and Medical Baseline Allowance Programs will continue to receive their monthly discounts through the PG&E portion of their bill; and

WHEREAS, residential and commercial customers may opt out of *Brilliant 100* default at any time; and

WHEREAS, because the energy sector, including the renewable industry, is rapidly evolving and the EBCE Board may decide to modify rate structures, it is prudent for the Berkeley City Council to reassess the default rate at regular intervals; and

WHEREAS, EBCE's *Renewable 100* service plan is priced at a 4% premium to the standard Pacific Gas & Electric rate and features 100% GHG-free and 100% renewable electricity; and

WHEREAS, while Berkeley's municipal sector electricity is already 100% carbon-free, it is in the public interest to upgrade municipal accounts from *Brilliant 100* to *Renewable 100* in recognition of the importance of supporting California's expanding solar and wind energy sector, which has the potential to overtime offset electricity generated from natural gas and nuclear, for a relatively small premium.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that it hereby selects *Brilliant 100* as the default electricity product, effective October 1, 2020 for residential customers and January 1, 2021 for commercial customers, and establishes yearly Council review of the default plan in order to determine whether further adjustment of the residential and commercial defaults are appropriate.

BE IT FURTHER RESOLVED that the City Council authorizes and directs the City Manager to select *Renewable 100* as the electricity product for the City of Berkeley's municipal accounts.