

Clean Energy & Jobs Oakland



Campaign Briefing Packet

1. Description of Clean Energy & Jobs Oakland Campaign

A one-page introduction to the campaign.

2. Campaign Vision and Principles

A one-page description of our 2020 energy vision for Oakland and the principles underlying a Community Choice program to realize that vision.

3. Frequently Asked Questions

Responses to questions about an East Bay Community Choice energy program: how it can provide community benefits, how it can be structured, how it can be financed, how it can be governed, and other issues.

4. Oakland Community Choice 2020 Development Plan

High-level description of an eight-year integrated energy resource development plan for Oakland under a Community Choice energy program.

5. Lower Electricity Bills Possible With Community Choice

Explanation of how development of local renewable energy assets is key to providing electricity bills lower than PG&E's

6. Additional Resources (not included in this packet)

Community Power: Decentralized Renewable Energy in California

Explains the benefits to California communities of the decentralized renewable energy model
by Al Weinrub
(<http://communitypowerbook.com>)

Bay Area Smart Energy 2020, Executive Summary

A roadmap to rapid, cost-effective conversion to clean energy that relies on local Bay Area resources
by Bill Powers
(http://pacificenvironment.org/downloads/BASE2020_summary.pdf)



For more information on the Clean Energy & Jobs Oakland campaign, see
<http://www.localcleanenergy.org/policy-platform/campaign2012>.

Clean Energy & Jobs Oakland



*Join us in calling on Oakland City Council to support development of
an East Bay Community Choice energy program.*

Community Choice energy, provided for by AB 117 (2002), enables cities and other jurisdictions to choose where the electricity provided to their residents and businesses will come from. This means that local communities can decide to procure their electricity from renewable energy sources: either by purchasing renewable electricity on the market, or more importantly, by developing local renewable energy resources in the community. Under a Community Choice energy program, the incumbent utility company (PG&E) continues to deliver electricity and service customers.

Greenhouse Gas Reductions, Jobs, and Community Benefits

Community Choice energy is a way to reduce greenhouse gas emissions and address the impact of climate change by cutting energy consumption, switching to renewable energy sources, and building local renewable electricity generation. By developing local clean energy resources, Community Choice programs can spur local economic development in the community, provide good local clean energy jobs, offer competitive electric utility bills and price stability, reduce pollution, and provide other community benefits.

Now is the Time

The East Bay is ripe for a Community Choice energy program. Marin's program is up and running and Sonoma County and San Francisco have recently taken steps to make Community Choice a reality. The mayors of Berkeley, Albany, and Emeryville, as well as Mayor Quan, have expressed an interest in exploring a partnership to establish an East Bay Community Choice energy program. A strong expression of support by Oakland, which represents about a quarter of the electricity use in the East Bay, is essential to move this forward.

The Clean Energy & Jobs Oakland campaign has the goal of establishing, in conjunction with other East Bay cities, a Community Choice energy program for Oakland that provides to residents of our city the community benefits mentioned above. The campaign is currently focusing on reaching out to community organizations and to City Council members about the benefits of a Community Choice program. Now we are building momentum toward our goal.

Join the campaign! Visit www.facebook.com/Cleanenergyandjobs

This campaign is being organized by the Local Clean Energy Alliance and the Energy Committee of the Oakland Climate Action Coalition (OCAC), as part of the OCAC's efforts to reduce greenhouse gas emissions and pollutants and help Oakland adapt to climate change through sustainable economic development.



For more information on the Clean Energy & Jobs Oakland campaign, see
<http://www.localcleanenergy.org/policy-platform/campaign2012>.

Clean Energy & Jobs Oakland



Our 2020 Energy Vision for Oakland

By 2020 we see Oakland beginning to establish an equitable, sustainable economy that provides green jobs and ownership opportunities to local residents. Smart energy use and the development of local renewable energy resources are resulting in increased community health and resilience and in the reduction of greenhouse gas emissions.

We see a Community Choice energy program as a key vehicle for local energy resource development, economic growth, and clean energy jobs. By putting the procurement of electricity under public control, it allows our community to use in-city renewable energy development to generate local wealth and use that wealth to benefit our community. We see all sectors of our community as stakeholders in that process. As a result, Oakland residents—and low-income communities, in particular—are better prepared for the impacts of climate change.

Our Principles for a Community Choice Energy Program

1. **Social Justice and Equity:** An effective Community Choice energy program is rooted in social justice and equity.
2. **Green Jobs and Livelihoods:** An effective Community Choice energy program creates local jobs, new businesses, and new ownership opportunities. It helps businesses improve the environment and restore our communities.
3. **Workforce Development:** An effective Community Choice energy program includes a commitment to workforce development programs that create good prevailing wage jobs for local residents, especially for those most vulnerable to poverty and pollution.
4. **Sustainability:** An effective Community Choice energy program respects the limits of nature and its fragile balance, while creating the environmental conditions needed to support future generations.
5. **Healthy Communities:** An effective Community Choice energy program provides the electricity to support locally resilient, healthy foods systems; affordable, reliable, and accessible public transportation; clean air; clean water; and safe, efficient, affordable housing.
6. **Energy Democracy:** An effective Community Choice energy program depends on shared leadership and decision-making authority that involves all stakeholder communities.
7. **Climate Adaptation:** An effective Community Choice energy program strengthens vulnerable communities to prepare for disaster, adapt to the effects of climate change, and build community resilience.
8. **Social Safety Net:** An effective Community Choice energy program makes special provisions for those people unable to afford energy services at normal rates.



For more information on the Clean Energy & Jobs Oakland campaign, see <http://www.localcleanenergy.org/policy-platform/campaign2012>.

Clean Energy & Jobs Oakland



Frequently Asked Questions

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<http://www.localcleanenergy.org/policy-platform/campaign2012>.

1. What is a Community Choice energy program?

Community Choice energy, provided for by AB 117 (2002), enables cities and other jurisdictions to choose where the electricity provided to their residents and businesses will come from. This means that local communities can decide to procure their electricity from renewable energy sources: either by purchasing renewable electricity on the market, or more importantly, by developing local renewable energy resources in the community. These resources can be demand reduction assets (for example, energy efficiency) or new renewable electricity generation. Under a Community Choice energy program, the incumbent utility company (PG&E) continues to deliver electricity and service customers.

2. What are the main benefits of a Community Choice energy program?

Community Choice energy is a way to reduce greenhouse gas emissions and address the impact of climate change by cutting energy consumption, switching to renewable energy sources, and building local renewable electricity generation. By developing local clean energy resources, Community Choice programs can spur local economic development in the community, provide good local clean energy jobs, offer price stability and competitive electric utility bills, reduce pollution, and provide other community benefits. Community Choice can serve as a significant step towards a more sustainable community.

3. What other communities have established a Community Choice energy program?

The first Community Choice program in California, Marin Clean Energy, was established over two years ago. More than a dozen other cities or counties are establishing or investigating Community Choice energy. In the Bay Area, San Francisco is expecting to launch its program early in 2013 and Sonoma County plans to roll out its program in mid-2013. In addition to the East Bay, Community Choice is being investigated in San Jose, San Luis Obispo, Davis, Monterey County, and San Diego.

4. Why are local renewable energy resources preferable to market-purchased renewables?

Market-purchased renewables are generally sourced from remote industrial-scale solar power plants or wind farms. These large power plants are often destructive of sensitive ecosystems, take many years to come on line, require long, inefficient transmission lines, are prone to system failure, and most noteworthy, provide little or no local economic benefits to our communities. In fact, the centralized energy generation that these power plants represent results in a transfer of wealth out of our communities to large energy corporations. Market-purchased renewables are also subject to the price instability and volatility of the energy markets.

By contrast, development of local renewables is an investment in the community, creating wealth from local resources, providing local clean energy jobs, price stability for ratepayers, lower utility bills over the long term, and other community benefits. And local resource development includes building energy efficiency assets, which reduce electricity demand, and pave the way for more energy independent and resilient communities.

[Read More: See [*Community Power: Decentralized Renewable Energy in California*](#)]

5. Why couldn't PG&E develop local renewable energy resources?

PG&E actually *could* develop renewable resources in our communities; however, it is not likely it will. Local renewable energy development does not fit PG&E's business model, which is based on profits from investments in energy infrastructure.

Accordingly, PG&E promotes remote centralized energy generation, which requires the building of extensive transmission lines to bring electricity to load centers. As a regulated utility, PG&E gets a state-guaranteed rate of return of 10-11% on investments in this infrastructure; it is not supposed to profit from the sale of electricity. Investments in a decentralized network of local renewable resources in our communities would erode the company's control and not be as profitable as investments in large, remote power plants and long transmission lines.

[*Read More:* See Question # 19]

6. Under a Community Choice energy program do utility customers have the option of staying with their utility?

Yes. Before the launch of a Community Choice energy program, affected customers must be given ample opportunities to "opt out" of the Community Choice program and remain with their incumbent utility (such as PG&E). A Community Choice program must therefore be attractive to utility ratepayers to be successful: participants can opt out of the Community Choice program at any time they feel the incumbent utility is offering a better deal.

7. What does a Community Choice energy authority do?

Administration of a Community Choice program generally includes the following functions:

- Procuring electricity for participants in the program.
- Setting electricity rates for various classes of residential and commercial customers in the program.
- Designing a local build-out program of demand reduction (energy efficiency) and renewable electricity generation that meets community needs.
- Issuing requests for proposals for the local build-out program and any open market purchases needed, signing contracts, and assuring deliverables.
- Financing the build-out program with revenue bonds and other financial instruments.
- Interfacing with the incumbent utility for delivery of electricity and for billing and servicing.
- Marketing the Community Choice program to electricity customers.
- Reporting progress to government institutions and community stakeholders and involving them in setting policies, programs, and priorities.

8. How can a Community Choice energy program have electricity bills competitive with or lower than PG&E's?

By developing local renewable resources a Community Choice energy program can become competitive with and have electricity bills lower than PG&E. For more than a decade PG&E rates have increased at a rate of 7% per year and are expected to continue rising at an even higher rate in the future. Renewable assets built by a Community Choice program, however, have a fixed cost basis. In addition, a Community Choice energy program can leverage the relatively low cost of energy efficiency to reduce consumption and lower electricity bills.

Similar to the way residential and commercial property owners can perform energy upgrades and solar energy installations to reduce utility bills, a Community Choice program can develop energy resources

that optimize local electricity generation and thereby lower system-wide electricity costs. (Note that energy efficiency upgrades also save on natural gas consumption and on gas bills.)

The savings in electricity costs possible with a Community Choice program can result in competitive electricity rates and overall lower utility bills compared to PG&E.

[*Read More:* See the document called [Lower Electricity Bills Possible With Community Choice.](#)]

9. What size revenue stream would an East Bay Community Choice energy program generate in Oakland?

The revenue stream from the sale of electricity by a Community Choice energy program to all Oakland ratepayers would be about \$200 million per year. (This estimate is based upon Oakland's rate of energy consumption of about 2 billion kWh per year at a retail price of about \$0.11 per kWh.) This revenue would be used to pay the expenses of the Community Choice program and to support development of new renewable energy assets. For purposes of comparison, Oakland's annual budget is just under \$1 billion. [See [http:// www.scribd.com/doc/58042320/City-of-Oakland-Budget-Facts-2011](http://www.scribd.com/doc/58042320/City-of-Oakland-Budget-Facts-2011)]

10. What startup costs would be required to get an East Bay Community Choice program established?

The main costs associated with starting a Community Choice program for cities in the East Bay would be:

- The organizational and legal costs of establishing a Joint Powers Authority among the participating cities (approximately \$500,000)
- The legal, business, and staffing costs of establishing an authority to administer the Community Choice program (approximately \$500,000)
- The costs of conducting necessary studies and creating an Energy Resource Development Plan (approximately \$500,000)

If an existing public utility or agency that already serves East Bay cities were to administer a Community Choice energy program, a good deal of the initial startup costs would be averted. Startup costs constitute a very small investment in a program that would generate hundreds of millions of dollars of revenues for the program per year, as well as provide economic development, jobs, and other benefits to the community.

11. Are there significant financial risks that a Community Choice energy program would pose for the City of Oakland?

Funds for administering a Community Choice program come from revenue generated by sale of electricity to customers, not from Oakland's general funds. In fact, the creation of a Community Choice energy authority shields the City of Oakland from any financial risk in the operations of the Community Choice energy program. If the Community Choice program for any reason were to go belly up, the City would be immune from the liabilities of such a failure.

However, there *are* startup costs associated with the establishment of a Community Choice program, depending on how it is structured. For example, having an existing agency serve as the administrator of a Community Choice program would reduce startup costs considerably. There are also costs associated with designing an energy resource development plan for the Community Choice program, some of which

might be borne initially by participating cities. While investments to establish the Community Choice program would be paid back through revenues generated from the sale of electricity, these investments could be lost should the Community Choice program fail, and therefore would represent a small risk to the City of Oakland.

12. How would development of local energy resources be financed under a Community Choice program?

There are a number of ways that a Community Choice energy program can finance investments in new local energy resources. The mechanisms for financing the development of energy efficiency and local renewable energy generation projects depend on the nature of the projects and who owns the resulting assets. For example, these projects can range from public development projects to projects undertaken by individual property owners, and the financing can range from public revenue bonds to private debt financing.

The renewable energy projects result in assets that will generate a predictable return on investment, based on the electricity rates established by the Community Choice program. The rates can be set to guarantee adequate returns on investment while keeping utility bills as low as possible. The Community Choice program itself does not need to generate any net profit.

Here are some of the kinds of financing mechanisms that a Community Choice program can implement without requiring any change in California law:

- **Municipal revenue bonds:** This financing is best used for public works projects like installation of a large solar or wind facility on public land or buildings, such as the airport, brownfields, public rights-of-way and so forth. The interest rates on the financing are generally low, and the facility, once built, is publicly owned.
- **Feed-in Tariff:** This is a standard offer contract offered by the Community Choice program to anyone who builds an electricity generating facility. The price paid for the electricity is set for twenty years at a rate that guarantees a return on investment to the developer. This kind of program has resulted in a phenomenal growth of local power generation facilities in Germany and other parts of Europe.
- **Solar Shares:** This is a program in which the Community Choice program lets electricity customers buy a share of the electricity generated by a facility, or a share of the facility itself, or both, and thereby get electricity at a fixed long-term price and/or possibly a share of the facility ownership.
- **Power Purchase Agreement:** This is a contract by which the Community Choice program buys electricity from a developer at a negotiated price and terms. The developer lines up the financing for building the facility.
- **Property Assessed Clean Energy (PACE) Financing:** This is a mechanism by which private property owners can finance energy upgrade or generation projects by paying off a loan through an assessment on their property taxes. This helps property owners who do not have the up-front cash needed for an energy upgrade. It also protects them against liability if the property is sold, because the loan payoff is tied to the property tax and not to the property owner.
- **Excess Net Metering Payments:** This is a way the Community Choice program encourages property owners to maximize the size of their solar PV installations, the program buys the excess electricity generated at attractive rates.

Most of these mechanisms encourage private financing for energy resource development, though a Community Choice program can elect to emphasize public ownership of assets. Many of the above financing mechanisms have been blocked at the state level by large corporate interests opposed to local energy resource development, but a Community Choice program gives us the ability to implement them at a local level.

13. Who would create the energy resource development plan for a Community Choice energy program?

The Energy Resource Development Plan needed to establish a Community Choice energy program would probably be developed by consultants familiar with creating such plans. The goals of the plan would be set by participating cities and community stakeholders, in collaboration with the Community Choice energy authority, were it already established. The plan would specify the energy resource development program and the projects to be rolled out over time, including financing, environmental impacts, workforce development needs, and so forth.

The involvement of community stakeholders might be similar to the involvement of a 75-member stakeholder group that provided input to the Port of Oakland's Maritime Air Quality Improvement Plan in 2009. [See the [Maritime Stakeholder Group Outreach Report](#), pg 48.]

14. Where does the Oakland Community Choice 2020 Development Plan in the campaign slide presentation come from?

The 2020 development plan in the slide presentation is a suggested eight year integrated energy resource plan for Oakland. Its goal is to develop energy efficiency and local renewable generation assets by 2020 that could assure the initial economic viability and community benefits required of a successful Community Choice program. It also includes an estimate of jobs that would be created by the development program.

The Oakland Community Choice 2020 Development Plan was developed by the Clean Energy & Jobs Oakland campaign as a high-level projection based on the 2008 *Community Choice Business Plan* prepared by Navigant Consulting for the cities of Oakland, Berkeley and Emeryville, and modified to incorporate findings in the *Bay Area Smart Energy 2020* report written by Bill Powers, the energy efficiency study prepared by Oakland City Staff as part of Oakland's *Energy and Climate Action Plan*, and relatively conservative 2020 targets for local renewable development.

[*Read More:* For a full description, see the [Oakland Community Choice 2020 Development Plan](#).]

15. How would a Community Choice program be held accountable to the public?

A Community Choice program is governed by a public board. Our collective experience tells us, however, that a public board is not a guarantee in itself that all stakeholders in a community are equitably represented in a public program. A Community Choice energy program, to serve the needs of the community it serves, will need a governance structure that ensures that participating East Bay cities and their communities are truly represented. The Community Choice governance structure must therefore include mechanisms to hold the board accountable to community interests.

The Clean Energy & Jobs Oakland campaign calls for the building of a broad stakeholder alliance of organizations to participate in the development of a Community Choice program. That alliance must represent the social sectors whose interests lie in creating an equitable, sustainable economy. A governance structure, yet to be defined, is needed to enable those sectors to hold a Community Choice energy authority accountable.

A Community Choice program is just a starting point for democratizing energy decisions; continued public involvement and advocacy and organized public pressure are needed to see that community needs are met.

16. How does the Community Choice program promote good clean energy jobs?

Good clean energy jobs will depend in large measure upon which stakeholders are involved in shaping the Community Choice program: unions, minority businesses, social justice organizations, and so forth.

Local hire, prevailing wage, workforce development, union apprenticeship, and career pathways are key aspects of assuring good clean energy jobs. The Community Choice program's energy resource development plan would need to include conscious efforts and appropriate policies to achieve good jobs objectives.

For example, efforts can be made to reach project scales that facilitate high labor standards. This might include aggregating projects of individual property owners and small businesses, encouraging public projects financed through the Community Choice program itself, and creating financing mechanisms that have living-wage and local hire policies attached to them.

Project labor agreements are currently a popular approach to balancing the needs of various constituencies in the community. For example, the Port of Oakland's [Marine Aviation Project Labor Agreement](#) (MAPLA) is an example of such an approach, as is the recent agreement for development of the Oakland Army Base.

17. Is East Bay MUD a potential Community Choice energy authority?

A number of cities, including Oakland, had expressed interest in exploring such a possibility. However, East Bay MUD's Board of Directors voted on December 11, 2012 to expend no funds and exercise no leadership in the establishment of an East Bay Community Choice energy program.

Nevertheless, East Bay MUD has some of the characteristics desired in an administrative agency:

- It has technical expertise. It already has experience with energy projects—producing, selling, and procuring electrical power.
- It has experience and a good track record as a public utility. It is well-respected for its conservation programs and its environmental programs.
- It has a service territory that already encompasses the East Bay corridor.

18. Why shouldn't Oakland wait to see if other cities establish an East Bay Community Choice energy program and join once it is working?

Oakland is critical to establishing a Community Choice program in the East Bay. A strong expression of support by Oakland, which represents about a quarter of the electricity consumption in the East Bay, is essential to ensuring the scale and breadth of resources needed to make such a program viable.

More importantly, if Oakland is to realize the potential benefits of a Community Choice program, then Oakland communities must be involved in shaping that program right from the start to meet their needs: this requires advocacy for economic development, good clean energy jobs, and other community benefits.

19. Why does PG&E oppose Community Choice energy programs?

PG&E has been a strong opponent of Community Choice energy programs, opposing them in every community where they have been proposed, and spending \$50 million on Prop 16 in June 2010 to squash Community Choice on a state-wide level. One can conclude that the company sees the development of Community Choice programs as contrary to its long-term interests and profitability.

PG&E is one of the largest investor-owned utility corporations in the U.S. It has a state-mandated monopoly over electricity in its service territory. Community Choice energy, by putting procurement of electricity in public hands, erodes PG&E's monopoly control over the energy system. By so doing, Community Choice threatens PG&E shareholder profits and the company's power to dominate state regulatory agencies.

PG&E makes money through infrastructure investments like the building of long-distance transmission lines, for which it gets a state-guaranteed rate of return of 10-11%. Accordingly, the company promotes remote centralized energy generation, which requires the building of new transmission lines and other infrastructure needed to bring electricity to customers in urban areas.

Even though PG&E, as a regulated utility, is not supposed to profit from the purchase and sale of electricity—only from the delivery of that electricity—its business model hinges on continually growing electricity demand. That's how it can justify massive investments in transmission and distribution infrastructure. Community Choice energy threatens this model: it is a vehicle for reducing energy demand and for local generation of electricity.

20. Why not establish a municipal utility company like Alameda Municipal Power instead of a Community Choice program?

It would be a very difficult, uphill battle to establish a municipal utility in Oakland. In order to do so, the existing, aging electricity distribution network would have to be purchased from PG&E or a new one built from scratch. Either option would be very costly. One of the greatest advantages of a Community Choice program is enabling public control of energy procurement while letting PG&E worry about the electricity distribution system.

The same issues arise in joining an existing municipal utility; that utility would have to purchase the existing electricity distribution network from PG&E or build a new one.

21. Under a Community Choice program, to whom would I sell excess electricity generated by solar panels on my home or business?

Electricity being placed on the grid by a producer is sold to whoever is the electric service provider, which in the case of a Community Choice program participant would be the Community Choice energy authority. The Community Choice program, in order to encourage residential solar development, would want to make it economically advantageous for its customers to provide electricity to the grid. For example, Marin Energy Authority buys excess electricity from net metering customers at retail rates that are more than double the 4-5 cents/kWh paid by PG&E. Again, these programs and rates are determined by the Community Choice energy authority as part of its overall program.

Clean Energy & Jobs Oakland



Oakland Community Choice 2020 Development Plan

By putting the procurement of electricity under public control, a Community Choice energy program can be a key vehicle for local energy resource development, economic growth, and clean energy jobs.

This document describes, at a very high level, an eight year integrated energy resource development plan for Oakland under a Community Choice energy program. The development plan is mindful of the need to develop in-city renewable energy assets in order to assure the economic viability and community benefits required of a successful Community Choice energy program.

The plan starts with the current portfolio of electrical energy resources and phases in over subsequent years increasing amounts of demand reduction¹ and local renewable generation.

Hence, the plan projects a changing portfolio of energy resources capable of meeting Oakland's electricity needs while at the same time reducing greenhouse gas emissions. In shaping Oakland's electricity mix the plan assumes readily achievable goals for implementing demand reduction and new local renewable electricity generation.

This plan does not propose specific energy resource development projects or programs for achieving its objectives. That level of granularity in the actual design of the Community Choice program requires investigation of Oakland's demand profile, study of its renewable energy resource potential, formulation of proposed development scenarios, assessment of the environmental and jobs impacts of proposed scenarios and projects, and exploration of financing mechanisms and financing programs for developing new resources.

The approach taken in this Oakland Community Choice 2020 Development Plan represents about the same level of detail as that adopted by San Francisco in its 2007 CleanPowerSF ordinance and implementation plan, which called for the building of 210 MW of in city renewable energy assets within three years and a 150 MW wind facility outside the city proper. It also called for development of 51% in-city and regional renewables by 2017.²

This 2020 Development Plan is based on the general approach taken by the East Bay Cities Community Choice Aggregation Business Plan of September 2008 prepared by Navigant Consulting, Inc.³ The Navigant plan had the following characteristics:



For more information on the Clean Energy & Jobs Oakland campaign, see <http://www.localcleanenergy.org/policy-platform/campaign2012>.

- It assumed a business-as-usual growth in electricity demand of 1.5% per year.
- It would achieve 50% renewable energy supply in 8 years, by 2020.
- It would build 125 MW of regional wind generation capacity.
- It would implement the program in three customer rollout phases within the first two years.

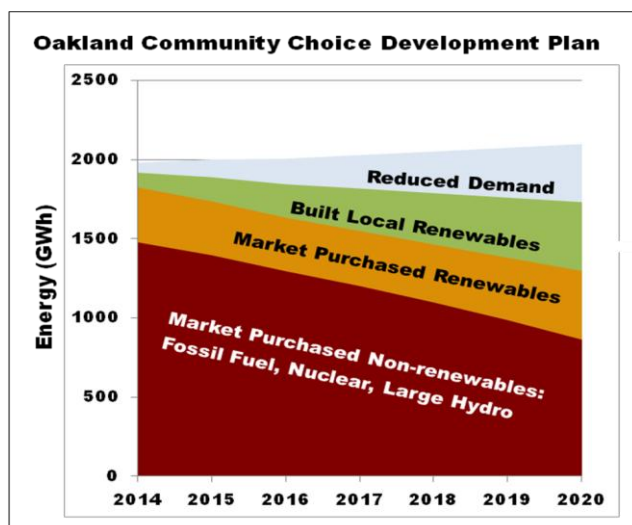
In addition, the Oakland Community Choice 2020 Development Plan utilizes a number of subsequent studies. For example the City of Oakland, as part of its Energy and Climate Action Plan, projected the development of building energy efficiency resources by 2020 that would result in an average yearly increase in demand reduction of approximately 2.1%.⁴ This figure has been recently corroborated by Bill Powers' *Bay Area Smart Energy 2020* report.⁵

Dave Room of the Local Clean Energy Alliance, in a 2010 letter to Oakland City staff, cited the following shortcomings of the Navigant Plan: "Since 2005 we have developed a much better understanding of the following issues: the changes that are needed with respect to our energy system if we are to stabilize the climate, the local imperative for reductions in greenhouse gas emissions (AB32), the need for sustainable green economic development in Oakland, the importance of green jobs as pathways out of poverty, and best practices for power sourcing in a Community Choice program. The [Navigant] business plan does not adequately address these issues."⁶

In other words, the Navigant plan did not reflect either the climate or economic imperatives faced by our communities, and the need for a Community Choice plan to develop demand reduction and local renewable generation assets. Based on these imperatives, the Oakland Community Choice 2020 Development Plan has been fashioned to meet the following additional criteria:

- It would result in an additional 0.5% yearly demand reduction through conservation and demand response.⁷
- It would achieve 50% of the *renewable* energy supply through local resources in 8 years, by 2020. This would be achieved by increasing local renewable generation by 3.2% per year.⁸ The remaining renewable energy will be provided by regional wind and purchase of electricity on the open market.

Based on the 2008 Navigant plan with the characteristics, modifications, and criteria enumerated above, The Oakland Community Choice 2020 Development Plan would result in the following development profile.



The energy model upon which the preceding graph is based is shown below. (Note: these figures are for a combined Emeryville, Berkeley, Oakland projection. 73% is Oakland's share.)

Energy Model and Demand/Generation Balance for Oakland Community Choice 2020 Development Plan

| Proposed Energy Balance | | | | | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | | | | | | | | | |
| Ten Years: 2012 Through 2022 | | | | | | | | | | | |
| Demand (GWh) | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Retail Demand | | 909 | 2540 | 2578 | 2,616 | 2,656 | 2,695 | 2,736 | 2,777 | 2,819 | 2,861 |
| Conservation/Demand Response | | -5 | -17 | -30 | -43 | -56 | -70 | -84 | -98 | -112 | -126 |
| Energy Efficiency | | -19 | -72 | -127 | -182 | -237 | -294 | -351 | -410 | -469 | -529 |
| Transmission Losses | | 63 | 175 | 166 | 134 | 126 | 118 | 109 | 101 | 93 | 85 |
| Retail Demand plus losses | | 972 | 2715 | 2744 | 2750 | 2782 | 2813 | 2845 | 2878 | 2912 | 2946 |
| Net Demand | | 948 | 2625 | 2587 | 2525 | 2488 | 2449 | 2410 | 2371 | 2332 | 2291 |
| Demand reduction (%) | | 3% | 4% | 6% | 9% | 11% | 14% | 16% | 18% | 21% | 23% |
| Supply (GWh) | | | | | | | | | | | |
| Renewable Resources | | | | | | | | | | | |
| Generation (Regional Wind) | | 0 | 0 | 0 | 322 | 322 | 322 | 322 | 322 | 322 | 322 |
| Local Generation | 16 | 46 | 129 | 210 | 290 | 368 | 445 | 521 | 596 | 669 | 741 |
| Power Purchase Contracts | | 144 | 470 | 462 | 137 | 151 | 176 | 215 | 269 | 339 | 427 |
| Total Renewable Resources | | 190 | 599 | 672 | 748 | 841 | 943 | 1058 | 1186 | 1330 | 1490 |
| Generation (%) | | 24% | 21% | 31% | 82% | 82% | 81% | 80% | 77% | 75% | 71% |
| Local Generation (%) | | 24% | 21% | 31% | 39% | 44% | 47% | 49% | 50% | 50% | 50% |
| Conventional Resources | | | | | | | | | | | |
| Generation | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Power Purchase Contracts | | 759 | 2027 | 1915 | 1777 | 1648 | 1506 | 1352 | 1184 | 1001 | 801 |
| Total Conventional Resources | | 759 | 2027 | 1915 | 1777 | 1648 | 1506 | 1352 | 1184 | 1001 | 801 |
| Total Supply | | 948 | 2625 | 2587 | 2525 | 2488 | 2449 | 2410 | 2371 | 2332 | 2291 |
| Renewable (%) | | 20% | 23% | 26% | 30% | 34% | 39% | 44% | 50% | 57% | 65% |
| Assumptions | | | | | | | | | | | |
| Energy Efficiency makes cumulative X% reduction in energy demand per year | | | | | | | | | | 2.1% | |
| Conservation/demand response makes cumulative X% reduction in energy demand per year | | | | | | | | | | 0.5% | |
| Distributed generation increase X% per year | | | | | | | | | | 3.2% | |
| Starting amount of distributed generation in Oakland (MWh) | | | | | | | | | | 16 | |
| Renewable percent starts at 20% and scales up to 50% by 2020 | | | | | | | | | | 114% | |
| Power loss percentage | | | | | | | | | | 7.0% | |

Oakland Job Estimates Based on 2020 Development Plan

The demand reduction and local renewables built between 2013 and 2020 (over eight full years) will generate new clean energy jobs. The following table shows the estimated average number of people employed per year in Oakland based on the 2020 Development Plan.⁹

| | Energy Efficiency (42 MW) | Local Renewable (218 MW) | Total |
|--|------------------------------|-----------------------------|-------|
| Direct Jobs | 47 | 530 | 577 |
| Total Jobs: Direct + Indirect + Induced | 465 | 954 | 1419 |

Direct jobs represent employment in designing and building assets, indirect jobs represent employment by suppliers, and induced jobs are employment due to increased local spending. In other words, 577 people would be employed in installing energy efficiency and new renewables, but a total of 1419 people would be employed by the overall economic activity.

End Notes

¹ Electrical demand can be reduced through a number of approaches: conservation (turning off electrical appliances when not needed), energy efficiency (using appliances and buildings that make more efficient use of energy), substitution (using natural processes instead of electrical appliances, for example skylights), demand response (using smart grid technologies to shift or lower demand based on the state of energy supply), and adopting designed-to-last products (which reduces the energy waste associated with unnecessary production).

² <http://www.local.org/sfccaip2007.pdf> Section 2.7.4 on page 46 of the Implementation Plan, 2007.

³ <http://www.energy.ca.gov/2008publications/CEC-500-2008-091/CEC-500-2008-091-APH.PDF>, starting on page 80, 3 September 2008.

⁴ <http://www2.oaklandnet.com/oakca1/groups/pwa/documents/policy/oak026496.pdf>, starting on page 31, March 2011.

⁵ <http://pacificenvironment.org/-1-87>, starting on page 88, March 2012.

⁶ Conveyed to Garrett Fitzgerald of Oakland's Environmental Services Division, September 29, 2010.

⁷ This can be achieved with ratepayer education and demand response technologies such as smart meters.

⁸ This could include urban solar, biomass, clean co-generation, and urban wind. Stopwaste.org thinks this level of solarization can be achieved with a comprehensive solar program that includes financing, outreach, and workforce development. In its *21st Century Energy Greenprint for the East Bay* the Local Clean Energy Alliance estimates that Oakland could generate over two-thirds of its electricity needs with rooftop on all suitable buildings. (http://www.localcleanenergy.org/files/The_21st_Century_Energy_Greenprint_Full_Report.pdf)

⁹ A study commissioned by Local Power found that San Francisco could generate between 107-175MW of clean co-generation power from the waste heat of the 50 largest boilers in the city, amounting to more than one-sixth of their peak load. An industrial city like Oakland may have even greater capacity for clean co-generation.

⁹ The methodology and job intensities used in these estimates are documented at: <http://www.localcleanenergy.org/files/CleanPowerSFJobsEstimate.pdf>.

Clean Energy & Jobs Oakland



Lower Electricity Bills Possible With Community Choice

A Community Choice program needs to be competitive with PG&E to be economically viable, that is, so that customers do not opt out of the Community Choice program for cheaper PG&E electricity bills. This document shows how development of local renewable energy assets is key not only to economic health and clean energy jobs in a community, but also to providing electricity bills lower than PG&E's.

Here are some of the main points:

- It's very hard to compete with PG&E by purchasing renewable energy on the market
- Building local renewable electricity sources results in predictable, stable costs
- Energy efficiency and demand reduction are much cheaper than generating electricity
- Reducing energy demand reduces electricity bills
- Cutting peaks in demand cuts the cost of electricity

Economics of Market Purchased Electricity

A Community Choice program would have an extremely difficult time competing with PG&E on the basis of buying renewable energy on the open market. In this case, the Community Choice program is generally trying to purchase a richer renewable portfolio of energy than that supplied by PG&E. California certified renewable energy is significantly more expensive than the electricity sourced by PG&E from large hydro facilities, (heavily-subsidized) nuclear power plants, and aging gas-fired power plants.

If the Community Choice program is using a third-party broker to purchase renewable energy, the brokerage fee adds to the difficulty of matching PG&E rates.

Hence, it is very difficult for a Community Choice program to purchase electricity at rates that can meet or beat PG&E's. This is true even if PG&E might be paying a higher price for the renewable 20% of its portfolio than what the Community Choice program might be able negotiate for its renewable energy.

For example, the San Francisco Public Utilities Commission estimated that in 2012 the average rate of a 20% renewable portfolio purchased through Shell Energy North America for its CleanPowerSF program would be \$0.097/kWh compared to PG&E's estimated rate of \$0.07/kWh. (Nevertheless, for the last two years, Marin Energy Authority has had rates through Shell Energy roughly at parity with PG&E's, according to recent presentations. It's not clear how this parity has been achieved.)



For more information on the Clean Energy & Jobs Oakland campaign, see <http://www.localcleanenergy.org/policy-platform/campaign2012>.

The competitive position of a Community Choice program is challenged by a charge called the Power Charge Indifference Adjustment (PCIA) that Community Choice customers have to pay to reimburse PG&E for stranded assets. Stranded assets are investments PG&E made on behalf of customers that it has lost to a Community Choice program. The PCIA rates are set by the California Public Utilities Commission. The rates decrease to zero over a period of about seven years, but have a significant impact on Community Choice utility bills in the early years of a Community Choice program.

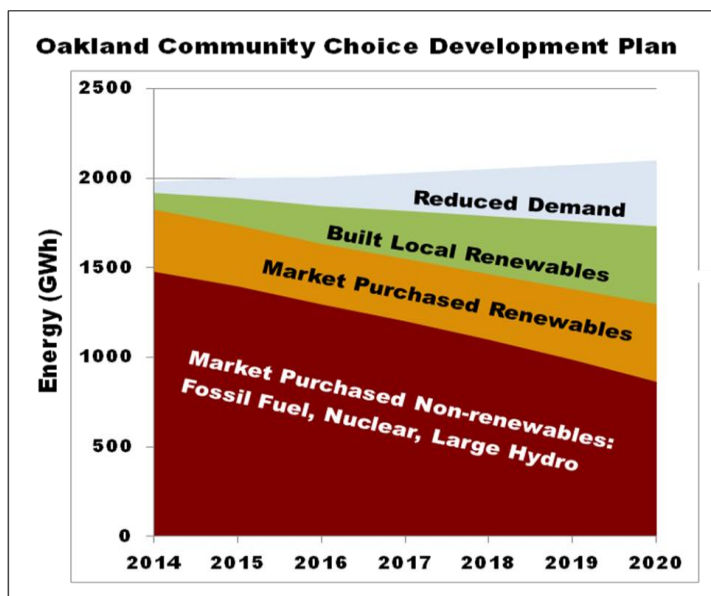
Economics of Locally-Built Energy Resources

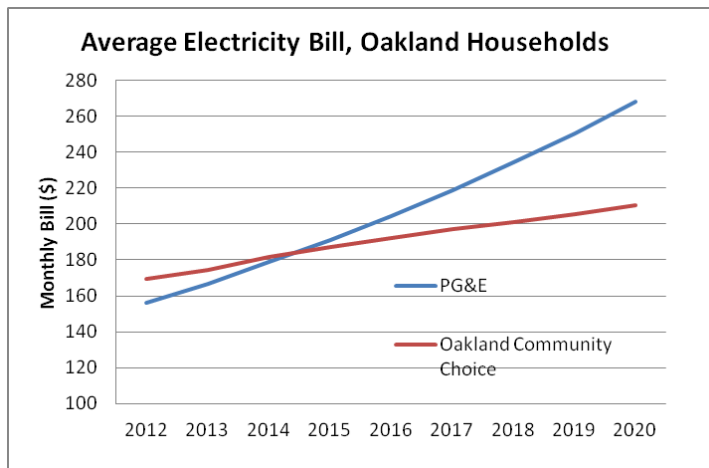
The key to being competitive with PG&E rests with renewable energy assets that are built by the Community Choice program over time.

For example renewable electricity generating assets have constant costs over their lifetime (20 to 30 years) compared to the historical 7% per year price increases of PG&E, which are expected to increase in the near future. For a Community Choice program as a whole, the installation of electricity generation capacity is similar to installing renewables on a single rooftop: it provides electricity at a levelized cost per kWh (the cost of design, equipment, labor, financing, and so forth amortized over the lifetime of the equipment) that is constant over time, and which therefore is soon cheaper than PG&E power, even if it is not cheaper on day one.

Even more significant are energy efficiency assets that reduce electrical energy consumption. Energy demand reduction has a levelized cost of about one-fourth to one-half that of new renewable energy generation. This means that investments in energy efficiency have big payoffs that reduce the size of utility bills. Demand reduction is a therefore key aspect of a Community Choice program, while of little importance to an energy supplier (like PG&E).

Let's look at the impact on electricity bills of the Oakland [Community Choice 2020 Development Plan](#). The plan calls for electricity demand reduction reaching 18% by 2020. It also calls for a 50% renewable portfolio by 2020, half of which is supplied local renewable assets. The following two graphs show the projected energy mix of the 2020 Development Plan and its effect on electricity bills.





The second graph compares two scenarios: the monthly electricity bill for an average 600 kWh PG&E customer as it would change over time to 2020 and the monthly electricity bill for an average 600 kWh Community Choice customer as demand reduction and new local renewables are implemented according to the Oakland Community Choice 2020 Development Plan out to the year 2020.

The graph shows that even if on day one of a Community Choice program (before any local energy resources have been built) the electricity bills are higher than PG&E's, that over time, as demand reduction and local generation assets are built, Community Choice bills will become increasingly competitive with PG&E's.

The calculation for this graph starts with a typical Marin Energy Authority Community Choice ratepayer's bill for a 600 kWh per month household. The bill demonstrates the breakdown of charges on a Community Choice bill: in this case, generation charges (\$61), distribution charges (\$96), and the PCIA charge (\$12). Because Marin Energy Authority generation rates are currently at parity with PG&E rates (an average of \$0.10/kWh in this rate class), a PG&E customer would pay \$156 and an MEA customer would pay \$169 (due mostly to the PCIA charge).

These numbers are the starting point for projecting electricity bills to the year 2020 assuming two scenarios: the PG&E scenario (which would be the same in Oakland as in Marin) and the Oakland Community Choice 2020 Development Plan scenario. The calculation is shown in the Appendix.

To calculate the PG&E case, the bill simply increases by 7% each year. This is the average rate of increase per year for PG&E electricity rates over at least the last 10 years

To calculate the Oakland case, the following assumptions are made:

- That we reach 18% energy demand reduction by 2020 (per the 2020 plan)
- That the levelized cost of energy efficiency is about \$0.04 per kWh
- That the levelized cost of renewable electricity (both locally developed and purchased) will remain constant over the next 8 years at about 10% higher than PG&E's average 2012 rate of \$0.10 per kWh (probably a high estimate because renewable electricity costs have been steadily dropping over the last decade)
- That the cost of non-renewable electricity on the market will increase at 7% per year, the same as PG&E's historical rate increase of 7% per year

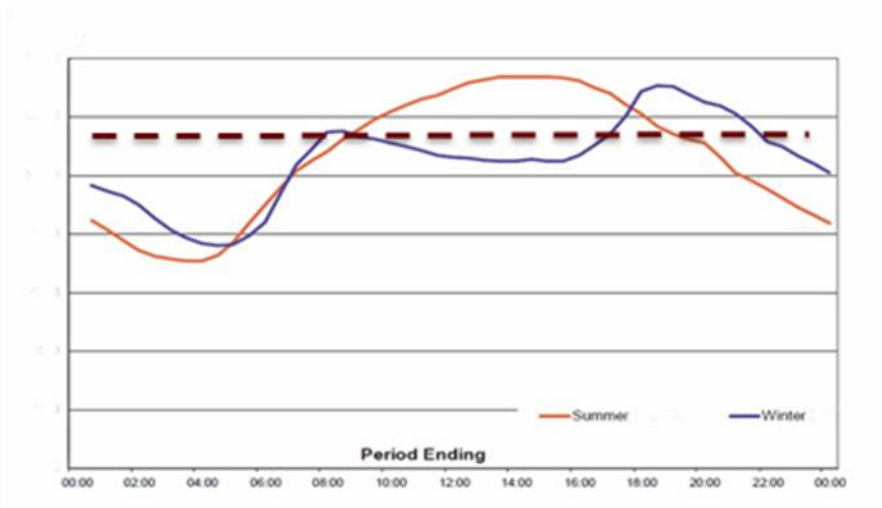
- That electricity distribution charges for all ratepayers would increase by PG&E's 7% per year
- That the PCIA charge diminishes to zero in seven years (a conservative estimate, it might decrease quicker)

Under the very minimal Oakland Community Choice 2020 Development Plan, the average utility bill starts out a bit higher than PG&E before the start of the program in 2012 (about 3%), *but very soon becomes lower than PG&E and becomes increasingly less expensive as time goes on*. This graph shows the power of energy efficiency savings and fixed cost renewable generation to lower electricity bills even without any more sophisticated optimizations.

Additional System Optimizations

The previous section shows how reducing energy use through energy efficiency and building local renewable energy generation can lead to reduced utility bills compared to PG&E. However, a Community Choice program, when properly designed, can go yet farther to optimize the energy system, and reduce costs.

For example, demand reduction technologies can be used to reduce peak loads, as illustrated in the following illustration.



The illustration shows how electricity demand varies throughout the day in a typical Northern California city. In summertime the peak load occurs in mid afternoon when air conditioners are in heavy use. In wintertime the peak shifts into the early evening when people are typically turning on the lights.

To meet peak load conditions requires generating capacity that might sit idle during other parts of the day. This unused capacity increases the overall cost of electricity. Matching generating technology to load and reducing peak loads means we can more efficiently use less generating capacity. For example, shaving off the peak demand, as shown by the dotted line, means we need less generating capacity to serve the community.

Energy efficiency, energy storage, demand response (modifying demand to match supply conditions), and other demand reduction assets can be used to shape and reduce peak load. In this way, an integrated and optimized Community Choice energy program (as opposed to a simple market purchase program) can lower the overall price of electricity. These savings can, in turn, be passed on to ratepayers through lower electricity rates and lower bills.

Appendices

The graph of comparative energy bills in this document is based on the following sources.

- Breakdown of costs on a 600 kWh per month 2012 Community Choice energy bill from MEA
- Spreadsheet calculation of bill costs out to 2020.

Breakdown of a Community Choice Electricity Bill

This chart, taken from a Marin Clean Energy presentation, June 2012, shows basic generation rate parity between MCE Light Green and PG&E


| Residential Electric Fees | MCE Light Green | PG&E | Cost Difference |
|--|-----------------------------------|-----------------------------------|-----------------|
| Generation | \$37.26 | \$38.21 | (\$0.95) |
| Transmission, Distribution & Other Charges | \$51.45 | \$51.45 | - |
| PG&E Exit Fees | \$4.80 | - | \$4.80 |
| Total Cost | \$93.51 (50% Renewable) | \$89.66 (20% Renewable) | \$3.85 |

This section of a 601 kWh electricity bill for MEA shows a PG&E distribution charge of \$96.85 and a PCIA charge of \$11.54. The average distribution rate across tiers is \$0.161/kWh (\$96.85/601).

ELECTRIC ACCOUNT DETAIL

| | | | | | | |
|---|----------------|-------------------|-------------------|-------------------|-----------------|----------------|
| Service ID #: | 1234567890 | | | | | |
| Rate Schedule: | E-1 | | | | | |
| Billing Days: | 31 days | | | | | |
| | | Prior | Current | | Meter | |
| <u>Serial</u> | <u>Meter #</u> | <u>Meter Read</u> | <u>Meter Read</u> | <u>Difference</u> | <u>Constant</u> | <u>Usage</u> |
| | 123456 | 0 | 0 | 0 | 1 | 601 Kwh |
| <u>Charges</u> | | | | | | |
| 04/09/2011 - 05/09/2011 | | | | | | |
| Electric Charges | | | | | \$73.94 | |
| Baseline Quantity | | 215.60000 Kwh | | | | |
| Baseline Usage | | 215.60000 Kwh | | | | |
| 101-130% of Baseline | | 64.680000 Kwh | | | | |
| 131-200% of Baseline | | 150.92000 Kwh | | | | |
| 201-300% of Baseline | | 169.80000 Kwh | | | | |
| CRS | | | | | 22.71 | |
| Franchise Fee Surcharge | | | | | .20 | |
| Net Charges | | | | | | \$96.85 |
| The net charges shown above include the following component(s). | | | | | | |
| Please see definitions on Page 2 of the bill. | | | | | | |
| Transmission | | | | | \$9.76 | |
| Distribution | | | | | 54.60 | |
| Public Purpose Programs | | | | | 9.19 | |
| Nuclear Decommissioning | | | | | .39 | |
| DWR Bond Charge | | | | | 3.03 | |
| 2011 Vintage Power Charge Indifference Adj. | | | | | 11.54 | |
| Ongoing CTC | | | | | 5.30 | |
| Energy Cost Recover Amount | | | | | 2.84 | |
| Franchise Fee Surcharge | | | | | .20 | |
| TOTAL CHARGES | | | | | | \$96.85 |

This section of the same 601 kWh electricity bill for MEA shows generation charges of \$62.52 plus an additional charge of \$6.01 for the “deep green” option, totaling \$68.53. The average generation rate across tiers is \$0.10/kWh (\$62.52/601 kWh).



Pacific Gas and
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MARIN CLEAN ENERGY

781 LINCOLN AVE STE 320

SAN RAFAEL CA 94901

(888) 632-3674

THIRD PARTY ELECTRIC DETAIL

Service ID #: 1234567890

ESP Customer Number: 1234

Billing Days: 31 days

| | Prior Meter Read | Current Meter Read | Difference | Meter Constant | Usage |
|--|---------------------|-----------------------|------------|-------------------|---------|
| | 0 | 0 | 0 | 1 | 601 Kwh |
| Charges | | | | | |
| Rate Schedule: RES-1 | | | | | |
| 04/09/2011 - 06/08/2011 | | | | | |
| DEEP GREEN - TOTAL | | 601.00000 Kwh | @ \$0.010 | | 6.01 |
| BASELINE - TOTAL | | 215.60000 Kwh | @ \$0.037 | | 7.98 |
| 101-130% OF BASELINE - | | | | | |
| TOTAL | | 64.68000 Kwh | @ \$0.045 | | 2.91 |
| 131-200% OF BASELINE - | | | | | |
| TOTAL | | 150.92000 Kwh | @ \$0.134 | | 20.22 |
| 201-300% OF BASELINE - | | | | | |
| TOTAL | | 169.80000 Kwh | @ \$0.165 | | 31.41 |
| Net Charges | | | | | \$68.53 |
| MCE charges for clean, renewable energy replace PGE electric generation charges. PG&E still charges for delivering electricity to you. There are no new or increased charges. Questions? Call 888-632-3674 or visit marincleanenergy.com | | | | | |
| Taxes and Other | | | | | |
| Energy Surcharge | | | | | \$0.17 |
| TOTAL CHARGES: Marin Clean Energy | | | | | \$68.70 |

Projected Electricity Bills to 2020

The following spreadsheet shows the calculation of electricity bills yearly to the year 2020, starting with PG&E prices and rates for distribution charges in 2012 on a 600 KWh monthly bill, as well as the PCIA charge for such a bill. Assumptions of the calculation are discussed in the document.

Electric Utility Bills Comparison*

Note: The percentages for different parts of the bill are taken from the Oakland Community Choice 2020 Development Plan

[illegible]

