Dear Customers, Commissioners and Stakeholders,

The city of San Francisco depends upon the SFPUC’s Power Enterprise to provide 100% greenhouse gas-free power for all of its municipal facilities. Our power supply is one of the cleanest in the nation, and that has enabled us to become a leader in carbon emission reduction.

It is an exciting time for the Power Enterprise. We are now serving clean Hetch Hetchy electricity to residential and commercial customers in the Hunter’s Point Shipyard, creating the very first greenhouse gas-free community in San Francisco.

Our legacy began in 1913, when the Raker Act granted the city of San Francisco the right to build and operate the Hetch Hetchy Water & Power System. Since its completion, this system has benefited San Francisco with a steady supply of clean water and power. It serves the same benefits to the Modesto and Turlock Irrigation Districts.

Electricity sales supported the cost of initial construction and ongoing build out of the joint water and power system. The Power Enterprise has gone on to provide significant additional city benefits which have helped to increase energy efficiency and diversify our power portfolio.

Nevertheless, the existing Power business model is functionally and operationally out of balance. Our sales cannot support the increasing costs of maintaining our infrastructure. We are at risk of losing our highest-value customers unless we ensure a level playing field with PG&E and prioritize investment in distribution infrastructure in San Francisco.

Supplies exceed customer demand. Transmission redundancies, distribution cost uncertainties, and operational inefficiencies are leaving market opportunities untapped, putting long-term financial stability and critical City energy programs at risk.

This Power Business Plan recommends six operational strategies to provide lasting, long-term financial stability. These recommended strategies are designed to ensure the Power Enterprise continues to provide high-quality service to current customers, while positioning the Enterprise to grow our customer base. Simply, we need to add new customers while containing costs to achieve financial security.

As communities worldwide struggle with the impacts of climate change, maintaining the fiscal strength of our clean energy portfolio is crucial in addressing these challenges in San Francisco. While other utilities move toward cleaner energy, Hetchy Power has already accomplished this goal. Our mandate is to protect the long-term financial stability of this vital source of power for San Franciscans while ensuring our investments support our local economy.

Harlan L. Kelly, Jr.
General Manager

Barbara Hale
Assistant General Manager, Power Enterprise
Six Priority Strategies

Foremost, we must secure and maintain affordable access to PG&E’s distribution grid. This strategy is fundamental to our success. Given our geographical overlay with PG&E’s distribution assets, affordability relies on using PG&E’s distribution grid and paying our fair share for usage of the PG&E grid, rather than building our own duplicative facilities. This will ensure we can continue to serve our existing customers and to pave the way for growth. Our long-term agreement, established in 1987, dictates the cost and conditions for our usage of PG&E’s distribution system, but this agreement expired July 1, 2015. PG&E has proposed new terms that will result in new costs that are higher than what we believe is allowed by law. We have placed our concerns before Federal regulators to work things out with PG&E through a settlement process.

Our success will avoid unprecedented rate increases, cost cutting, and reductions in service in the short term. In the long term, we will invest strategically to build up the Power Enterprise’s distribution assets, but this will be discussed in further detail in the fifth strategy.

Second, we must sell service to more customers and stabilize revenues. This will achieve maximum Hetch Hetchy value for San Francisco since our current supply exceeds demand. Not all customers are alike. As the Power services vary across four types of customers, so do the earned revenues and the incurred costs. The highest value segment, and the core of our current business, is our Full Pay Full Service customers (see Fig. 1), where we provide 100% of our customers’ electricity needs.

Table 1: The six priority strategies recommended in this business plan.

**Six Priority Strategies**

**PROTECT OUR BASE**

1. **Distribution:** Ensure affordable access to PG&E’s distribution grid

**STRENGTHEN OUR POSITION**

2. **Customers:** Grow sale to maximize Hetch Hetchy value for San Francisco

3. **Supply:** Pace spending with customer growth

4. **Transmission:** Streamline spending

5. **Distribution:** Invest strategically to reduce costs and ensure customer stability

**Operational Excellence**

6. **Cross Functional:** Invest to ensure commercial speed and high levels of service

Discretionary Revenue Varies: Full-Pay Full-Service is Highest

There is large potential for increasing Full Pay Full Service sales in the long term, primarily by serving more City properties and facilities providing City services, and by serving redevelopment areas. Sales growth will balance sales with supplies. Full Service growth provides benefits, allowing us to diversify our portfolio, spread fixed costs, and more closely match the supply strategies of most of our fellow utilities. Our current supply portfolio is “net long” in which generation exceeds demand. Most of our sister public electric utilities are “net short” in which demand exceeds generation. This is in line with the worldwide energy markets facing declining wholesale power rates with the oversupply of energy. Our growth strategy will make us “net short” like our peers.

Additionally, the Full Pay Full Service margin has room to cover most market price uncertainties. Where our full-service offering is not the best fit, our soon-to-be-launched CleanPowerSF program provides robust service for San Francisco. The CleanPowerSF program allows us to bring 100% renewable, greenhouse gas-free (GHG-free) power to any and all San Franciscans that choose it. CleanPowerSF’s Green product will be 33-50% renewable and will meet California’s strict Renewable Portfolio Standards. CleanPowerSF’s SuperGreen product will be 100% California-certified renewable energy. Thus, CleanPowerSF, alongside our core Full Service business, is the only viable pathway to reach our goal of 100% renewable electricity supplies for San Francisco by 2030 (see Fig. 2).
In the meantime, we are pursuing short- and mid-term wholesale contracts to provide power to other public entities, to fill revenue gaps and funding needs as the Full Service portfolio grows. There will be increased staffing needs and system upgrades, but these operational risks can be easily mitigated since staff and system are scalable as the sales grow.

Third, we must reprioritize our spending, reducing spending on Hetchy supplies until sales grow to fully utilize supply capacity. This will pace spending with customer growth. Currently, half of our spending in the ten-year financial plan is to operate and maintain our Hetch Hetchy supply and transmission assets (see Fig. 3).

![Diagram showing power projections for 2015 and 2025]

Figure 2: This is a comparison of the greenhouse gas-free power provided to San Francisco across the City’s power providers in 2015 and then projected in 2025.

10 Year Operating & Capital Budget

We maintain 380 MW of supply and transmission lines to serve 150 MW of demand (see Fig. 4). The result is excess capacity and redundancies well beyond what is needed to provide reliable service.

$2.2B in spending over 10 years
- 50% to maintain Hetchy system

![Pie chart showing budget allocation]

Figure 3: This chart illustrates the Power Enterprise’s 10-Year Operating & Capital Budget. The dark black line shows the 50% of the budget dedicated to maintaining the Hetchy system.
Business Model

The Hetchy system is expensive to maintain at full capacity. It is aging; has limited operating flexibility due to prioritizing water customer needs above power needs; demands funding from Power that increases costs above alternatives; and results in a poorly diversified supply portfolio (see Fig. 5).

Figure 4: This illustration of the Power Enterprise business model shows the 380 MW generated at the powerhouses serving the 150 MW customer demand.

Supply Cost Comparisons by Powerhouse

Power’s share of Mountain Tunnel costs makes Moccasin supplies uncompetitive with renewable and non-renewable alternatives.

While more than half of the spending goes to Moccasin, only about 20% of our Hetchy supplies come from Moccasin, making those supplies expensive compared to alternatives. Spending to generate our Hetchy supplies and get them to the grid totals $1 billion over our ten-year plan. This current spending is also planned regardless of the type of customer we serve, and is largely fixed, regardless of how much electricity is generated. Planned spending on Hetchy supplies puts their costs above the cost of alternatives, and this spending cannot be supported without significant Full Service sales growth. We have to pace our spending on the Hetchy Power System with sales growth.

Our implementation for this strategy is to reduce or defer supply spending until our Full Service sales grow to bring supply costs more in line with available alternatives.

Fourth, we must streamline spending by reducing redundancies in our transmission system. The cost of using PG&E’s transmission lines to transmit a kilowatt hour of electricity from one place to another is the same, regardless of the distance between the two points, so we pay twice when we use both our own transmission assets and the CAISO grid to deliver power to customers (see Fig. 6).

Figure 5: This chart illustrates the Power Enterprise costs by Powerhouse. The Hetchy system, especially Mountain Tunnel, is very expensive to maintain.
Spending on Transmission Segments Redundant to CAISO

Most of our transmission assets are used to get our Hetchy supplies to the CAISO grid. We spend an additional $45 million on our transmission assets to deliver Hetchy supplies to the Districts. We spend an additional $16 million to maintain transmission lines that get our supplies to Newark and closer to our customers, but using this longer pathway on our own system does not reduce our costs for use of the transmission grid to complete delivery. While these lines provide multiple partial pathways, these lines are redundant, providing no cost savings and little or nothing in the way of reliability benefits.

Figure 6: This chart illustrates the Power Enterprise transmission lines and their redundancies to the CAISO transmission grid.

Our transmission options are (1) to ensure that our costs specific to the Districts are recovered in those contracts, (2) to cut back on the use and cost of our lines that are redundant to the CAISO grid, (3) to extend our own system to stay off the CAISO grid, and (4) to share use and costs of our assets by becoming a Participating Transmission Owner (joining the CAISO grid) or partnering with others. Cutting back usage of our own lines reduces costs and looming upgrade requirements, and cutting back on usage of the CAISO grid requires substantial investment. Building out our transmission system could be cost-effective as our needs grow, or if we are able to partner with others to share costs and ownership responsibilities. We are currently determining if the Districts are willing to cover the costs of maintaining the District connections. From there, we will develop a plan for cutting back on our use of the Newark and District Connections until our revenues grow or we are able to partner to justify the costs of needed upgrades.

Fifth, we must increase investment in local distribution assets (see Fig. 7) to further reduce costs and to reduce our reliance on PG&E for delivery of our supplies to our customers. Because our customers are side-by-side with PG&E’s customers, it is cost-efficient for PG&E and Power to share the costs of building and maintaining a single distribution system. We avoid redundancies and duplicate facilities, but there is a significant drawback. Since that single distribution system is controlled by PG&E, we are reliant on PG&E and FERC as its regulator to establish fair usage and cost sharing rules. The most cost-effective areas to invest in distribution and reduce our need for PG&E’s grid are redevelopment areas, where our interconnections with PG&E’s grid are currently concentrated, and where we are planning for sales growth, primarily along the eastern waterfront and mid-market areas. Building and maintaining our own lines, even if duplicative, reduces our reliance on PG&E, reduces our costs for PG&E distribution service, and avoids disputes with PG&E in the long term. Nevertheless, we have to be strategic by targeting Power’s distribution investments in areas that are both cost-effective and promotive of reduced reliance on PG&E.
**Distribution Investment Opportunities**

**Target Area:** Redevelopment areas and high customer concentrations

- **Existing Customer Interconnection Points (small - medium - large)**
- **Existing CAISO Interconnections (PG&E owned)**

Sixth and finally, we must focus on achieving operational excellence so we can act with commercial speed and efficiency to execute all of these strategies successfully. We have several agency and City-wide constraints that burden our abilities to implement our strategies. While most operating platforms are scalable, our customer-facing programs are tailored to our current customer base. Additionally, Power’s role as the City’s electric service provider is not well known or understood. The Power Enterprise, and the SFPUC more broadly, is working to improve or, in some cases, overhaul operating practices and procedures to ensure we can reduce or eliminate such threats as these to commercial speed and responsiveness.

As an integrated plan, these six strategies will result in tangible, measurable improvements to Power’s financial strength and success in achieving business goals (see Fig 8).

**Financial Results (Ten Years)**

The service growth strategy will grow the core services to better match sales with supplies, bringing more Hetchy supplies to San Francisco and increasing the strongest service offerings while decreasing the weakest service offerings. This growth strategy will both increase and stabilize revenues significantly, bringing even more in qualitative long-term benefits such as greater customer stability and affordability, growing the reach of service within San Francisco, and investing locally in Power’s distribution network. This value translates into increased revenues, reduced unfunded cost exposures, and long-term financial stability (see Table 2).

**Figure 7:** This map shows distribution investment opportunities, emphasizing the redevelopment areas and high customer concentrations.

**Figure 8:** Illustration of the financial benefits of implementing these six recommended strategies.
Success in implementing these strategies will require intensive City and SFPUC support and investment. The Power Enterprise will initiate near-term activities, such as identifying staffing to support business strategies, particularly customer growth and new programs. Near-term revenue growth targets are being identified to create an action plan.

Then distribution investment can be matched to customer growth opportunities, and an asset management process will be created to identify roles and responsibilities for the growing Enterprise. We will assess and prioritize our capital needs for Supply/Transmission/Distribution/City Programs based on a set of agreed upon criteria. All these plans will be incorporated into the Biennial Budget and the Ten-year Capital and Financial Plans. This will facilitate proactive collaboration with Business Services on rate design, and partnership with the Department of Planning and the OCII to drive awareness and sales growth.

Simultaneously, we will focus on longer-term activities. We will establish customer growth plans and ensure distribution investments align with near- and long-term customer growth strategies. We will develop an integrated resource plan to guide supply investment decisions. We will evaluate different transmission options. We will focus on organizational excellence by partnering with other City Departments to drive sales growth and improve cost transparency. The Enterprise will continue to manage risks through our Enterprise Risk Management (ERM) process, and we will report regularly to the Commission on progress and recommended plan adjustments.

While the potential gains are large, we will need to invest dollars, time, and resources to successfully translate these activities into concrete and productive results. These investments are critical to ensuring that the Power Enterprise can continue to be the clean energy backbone of San Francisco.

### Table 2: Summary of the six recommended strategies and the projected value each strategy will bring the City of San Francisco.

<table>
<thead>
<tr>
<th>Protect Our Base</th>
<th>Contain Costs</th>
<th>1. Distribution Access</th>
<th>$100-$600 million</th>
<th>Customer Stability</th>
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<td>Increase Revenue</td>
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<td>More Hetchy Supplies to SF</td>
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<tr>
<td>Contain Costs</td>
<td>3. Pace Supply Spending</td>
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<td></td>
<td>4. Streamline Transmission Spending</td>
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<td>Competitiveness</td>
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<td></td>
<td>5. Invest in Distribution</td>
<td>Reduced Operating Liabilities</td>
<td>Local Investment</td>
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Our Mission

To provide our customers with high-quality, efficient and reliable water, power and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care.