



# Agenda Report

January 31, 2022

**TO:** Honorable Mayor and City Council

**THROUGH:** Municipal Services Committee (January 25, 2022)

**FROM:** Water and Power Department

**SUBJECT: ADOPT AND APPROVE PASADENA WATER AND POWER 2021  
POWER INTEGRATED RESOURCE PLAN UPDATE**

## **RECOMMENDATION:**

It is recommended that the City Council:

1. Find that the proposed actions are statutorily exempt from the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines sections 15262 and 15271; and
2. Approve and adopt the 2021 Power Integrated Resource Plan ("IRP") Update.

## **BACKGROUND:**

Pasadena Water and Power ("PWP") has prepared a Power IRP or similar document to guide long-term power resource procurement strategies every three to five years since the early 1990s. Most recently, Power IRPs were developed in 2009, 2012, 2015, and 2018.

PWP's 2021 Power IRP Update is a revision of Pasadena's long-term power resource plan adopted in 2018 by City Council, with the objective of identifying a portfolio of power supply resources to provide a sustainable balance of system reliability, environmental stewardship, and competitive and stable rates. This 2021 Power IRP Update is for Pasadena's reference only, and is not required by Senate Bill 350 ("SB 350"). The purpose of this 2021 Power IRP Update is to continually optimize its portfolio of power resources, reflective of current laws, regulations, market conditions and community preferences. Because it is a voluntary action, the 2021 Power IRP Update is not required to conform to the prescriptive requirements of the CEC. However, the analytical process in the 2021 Power IRP Update is similar to that used in the 2018 IRP.

SB 350 mandates that a process be established for adopting a new Power IRP at least once every five years. A comprehensive IRP, which will include a full stakeholder process, is expected to be developed in 2022-23 and submitted to the City Council for adoption in late 2023, to meet the filing deadline of April 30, 2024 at the California Energy Commission ("CEC").

The 2021 IRP Update process includes briefings to the Environmental Advisory Commission ("EAC") in July 2021 and January 2022, and the Municipal Services Committee ("MSC") in July 2021 and December of 2021.

The recommendations of the 2021 Power IRP Update include:

- Affirming that there will be no new long-term commitments for fossil-fueled power resources;
- Achieving a 60% Renewable Portfolio Standards ("RPS") by 2030, using a combination of long- and short-term procurement contracts, to comply with SB 100;
- Achieving 100% zero carbon electricity supply by 2045 objective to comply with SB 100;
- Maintaining existing local gas-fired generation to meet peak demands and ensure local reliability through the planning period;
- Purchase at least 70 MWs of firm resources by 2025 to ensure power supply reliability and comply with California Independent System Operator ("CAISO") Resource Adequacy ("RA") capacity requirements:
  - *The IRP model indicates that a combination of bulk energy storage, solar plus storage, geothermal resources, and demand-response programs appear to be the most cost-effective resource additions to achieve reliability, RPS, and greenhouse gas ("GHG") reduction goals;*
  - *A total of 120-170 MW installed "nameplate" capacity (depending on the resource mix) may be necessary to deliver 70 MW firm capacity.*

Pasadena does not need to update its RPS Procurement Plan and RPS Enforcement Program at this time, but expects to do so in 2022-23. All new resource or program procurement recommendations will be subject to future City Council approval.

### **PWP's RPS AND GHG PROGRESS TO DATE**

PWP has made significant progress towards implementing the recommendations in the 2018 IRP, including:

- procurement of additional renewable resources;
- opting out of the Intermountain Power Project gas repowering project;
- local power plant repair projects to enhance power supply and local grid reliability; and
- meeting energy efficiency goals.

The combined result was a 56% reduction in GHG emissions versus 1990 levels in 2020. PWP has also achieved a targeted 40% RPS in calendar year 2020, compared with the state-mandated RPS target of 33%.

PWP continues to implement its strategic procurement plan for all future long-term resource commitments with the Coso Geothermal purchase, executed in January 2021, which will start delivering renewable energy to PWP in 2025.

### ***SUGGESTED NEAR-TERM ACTIONS BY PWP***

1. Look closely at increasing near-term procurement considerations in best-fit, least cost methods for complying with increased RPS and CAISO RA requirements
2. Investigate energy storage options for capacity requirements and local reliability
3. Continue efforts toward 60% RPS by 2030 and net-zero carbon by 2045
4. Examine alternative fuel sources for local reliability resources (Glenarm)
5. Refine forecasted growth of electric vehicle charging in Pasadena

### ***PWP's 2021 POWER IRP UPDATE PROCESS***

To prepare the 2021 Power IRP Update, PWP retained Alliance for Cooperative Energy Services Power Marketing LLC ("ACES") and Northwest Economic Research LLC ("NWER") to advise staff and perform analyses and modeling. The update process included briefings to the EAC and MSC, and recommendations by the MSC.

PWP worked with ACES and NWER to define two portfolios of power resources: the "2018 Refresh" portfolio and the "2021 Update" portfolio. The 2018 Refresh portfolio includes only those new renewable resources adopted in the 2018 IRP. The 2021 Update portfolio includes new renewable resources and expands the demand-side management programs. As a result, the components of the 2021 Update portfolio are materially different from the 2018 Refresh portfolio.

Based on the 2021 Power IRP Update analysis, staff recommends the City Council adopt a new energy portfolio plan that will enable PWP to achieve 60% RPS by 2030 and a projected 88% reduction in GHG emissions by 2030 from 1990 levels. The recommended portfolio (labeled "2021 Update Portfolio" in the 2021 Power IRP Update Report) meets or exceeds all of PWP's current legal, reliability and environmental requirements, provides flexibility to respond to changing conditions, and complies with current state regulatory and CAISO tariff requirements.

### **CITY COUNCIL POLICY CONSIDERATION:**

The 2021 Power IRP Update will support the City Council's strategic goals for a sustainable economy and to sustain natural environmental resources for the use of future generations, and at the same time, contribute to the reduction of GHG emissions and impacts on climate change.

## **ENVIRONMENTAL ANALYSIS:**

On March 11, 2009, March 5, 2012, June 22, 2015, and December 10, 2018, the City Council found that the adoption of the 2009, 2012, 2015 and 2018 Power IRPs were exempt from review pursuant to State CEQA Guidelines Sections 15262 (Feasibility and Planning Studies) and 15271 (Early Activity Related to Thermal Power Plants). CEQA exempts from its application those projects that involve "only feasibility or planning studies for possible future actions, which the agency, board or commission has not approved, adopted, or funded..." and which do not have a legally binding effect on later activities (State CEQA Guidelines §15262). To fall under this exemption, however, the lead agency is required to consider environmental factors.

Like the 2009, 2012, 2015 and 2018 documents, the 2021 Power IRP Update is a guidance document which does not commit the City to undertake any particular project. Furthermore, it does not serve as a legally binding plan with which subsequent activities must be consistent or adhere to.

The 2021 Power IRP Update is drafted with consideration of environmental factors. One of the primary goals of the 2021 Power IRP Update is to reduce the environmental impact of the City's overall energy portfolio, particularly with regard to GHG emissions. Further, any specific construction project undertaken pursuant to the 2021 Power IRP Update will be subject to full CEQA review, at the appropriate time.

## ***GREENHOUSE GAS EMISSIONS***

The 2021 Update portfolio results in combined GHG emissions that are substantially below historical levels and that meet or exceed the minimum GHG reduction planning targets established by the California Air Resources Board ("CARB"). PWP's GHG reduction planning target is at least a 75% reduction from 1990 levels. The preferred portfolio in this Update leads to emission reductions of 88% compared with PWP's 1990 levels.

**FISCAL IMPACT:**

Approval and adoption of the 2021 Power IRP Update will have no immediate fiscal impact, because PWP will seek City Council approval of each individual new resource or program separately. The 2021 Power IRP Update recommendations will, however, establish the policy guidance and framework to evaluate power supply resource and program choices that may result in higher future electric energy costs than the lowest-cost solutions that would meet minimum compliance standards.

Over the study period, implementation of the recommended power resource portfolio may result in an estimated 2.7% average annual rate increase, compared to current rates, taking into account cost reductions in power supplies as current contracts expire. Rates are expected to increase further due to increased costs to maintain customer and distribution system infrastructure, regional transmission costs, and inflation, but may instead decrease due to potentially substantial charging of new electric vehicles and electrification of fossil-fuel end-uses (e.g., water heating). This increase does not include the increased costs associated with electric distribution, transmission, and customer service functions.

Respectfully submitted,

  
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Attachment: 2021 Power IRP Update Report