

Power Task Force Agenda Number 2.



Task Force Charter

- Review the post-NGS power strategy approved by the Board in October 2015
- Provide guidance to staff for a post-NGS power portfolio regarding:
 - Diversification
 - Risk

(February 2, 2017 Board meeting)

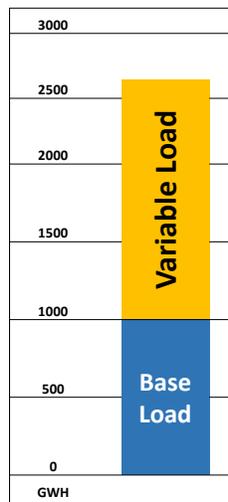


Board Approved Post-NGS Strategy

- When NGS is no longer available, CAP will assemble a diversified energy portfolio to meet its pumping needs
 - No single generation source or contract should provide more than 15-20% of CAP energy needs
- CAP will pursue those power resources that offer the lowest levelized cost of ownership while still meeting CAP pumping needs and Board strategy



CAP Energy Needs

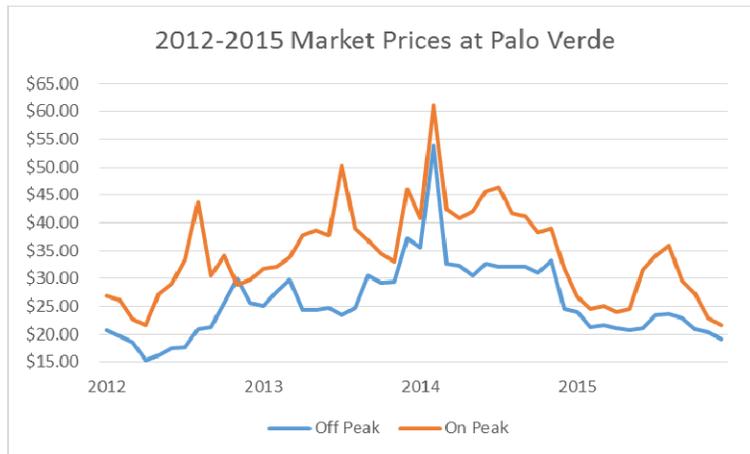


Variable Load at Mark Wilmer Pumping Plant can be shaped daily and seasonally to take advantage of changes in the power market, allowing CAP to optimize pumping to lower energy costs

Base Load, at pumping plants downstream of Mark Wilmer, is driven by customer deliveries and is fairly predictable, requiring more certain resource supplies

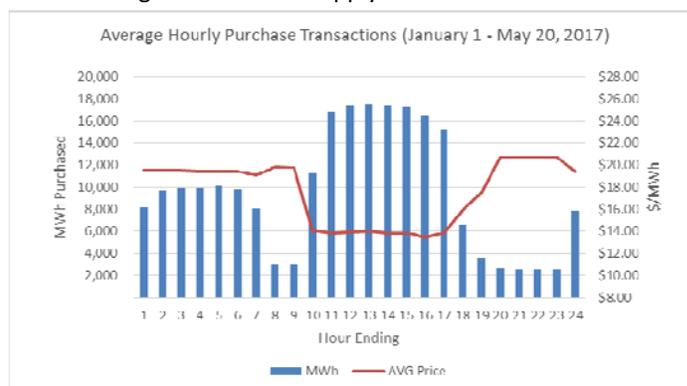


Review of Historical Trends



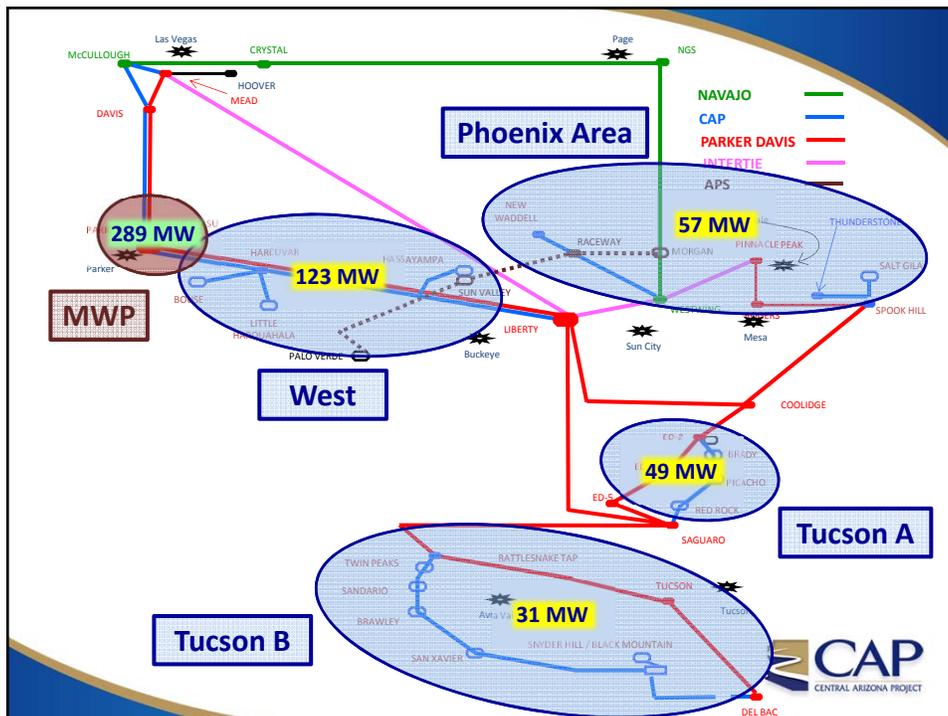
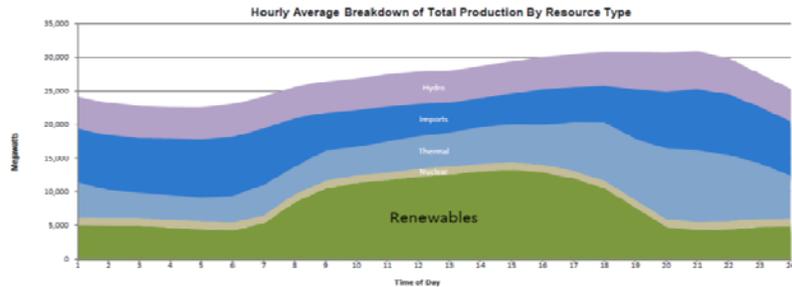
2017 Power Purchases

CAWCD purchased approximately 130,000 MWh of energy during the 9 am to 4 pm hours which coincides with the excess energy generally available from renewable generation oversupply.



Source of Purchased Power

- Market transactions do not identify the source of generation
- But CAP's low-cost, mid-day purchases are made possible by the oversupply of renewable generation



Diversification

- Current Board strategy provides that no single generation source or contract should provide more than 15-20% of CAP energy needs
- Diversification reduces overall risk and promotes price stability, especially during periods of uncertainty



Risk

- *Source* risk is managed through diversification
- *Price* risk can be managed through hedging—i.e., the forward purchase of physical electricity
 - Ensures steady pricing and reliable supply
 - Hedging is independent of market prices
 - Hedging agreements could have staggered terms



RFP Objectives

CAP's objectives for the Request for Proposal (RFP) process are to effectively evaluate and potentially select proposals that will provide a reliable, stable, and cost competitive energy supply

- Electrical capacity and energy options
- Flexibility in supply to facilitate variable water demand
- CAP receipt of energy at existing switchyards as defined
- Accessing specialized market expertise in the development of reliable energy solutions for CAP's consideration
- Conducting a fair, transparent, and competitive process

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Solicitation Process

The solicitation process will be tiered and will include a request for proposal phase, a price negotiation phase, and a contractual approval phase

- In the proposal phase, CAWCD will evaluate candidates based on their submissions and defined criteria; CAWCD will evaluate proposals, conduct due diligence, evaluate ability of candidates to deliver the energy to the CAP loads and select one or more finalists
- The second phase will be the price, or price methodology, negotiations phase and ultimately result in the development of an agreement between the parties
- The final phase will be the contractual approval phase in which the Board will consider staff's recommendation(s) and approve an award to one or more companies

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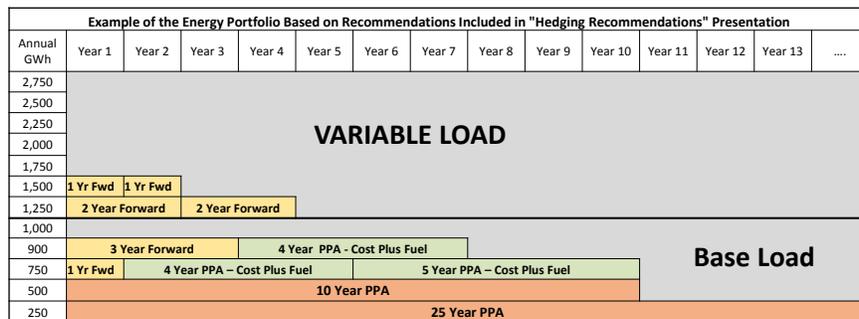


Evaluation Criteria

- Functional Capabilities and Experience
- Relevant Market Expertise
- Financial Strength
- Proposed Energy Supply and Delivery
 - What CAP facilities candidate is proposing to supply and ability to supply these facilities
 - Generation technology and plant/fleet size that will be utilized to serve the CAP load
 - Fuel(s) hedging
 - Delivery point for the energy
- Indicative Pricing



Sample Hedged



Forward Purchase
PPA - Cost Plus Fuel
Market Purchases/No Hedges
PPA - Cost Plus Fuel/Unit Entitlement

Total annual load is 2,600 GWh
 Base Load is 1,000 GWh, 900 GWh are hedged, 100 GWh are Market Purchases
 Variable Load is 1,600 GWh, 500 GWh are hedged, 1,100 GWh are Market Purchases



Staff Recommendation 1 – Diversification

Retain current strategy—no single generation source or contract should provide more than 15-20% of CAP energy needs



Staff Recommendation 2 – Base Load

Hedge 75% to 90% of CAP's base load energy needs prior to the delivery year

- Base load demands (primarily at re-lift plants) are dictated by water deliveries
- CAP has little to no ability to shape or adjust this load
- Forward-purchases and longer terms will promote stable pumping energy rates and limit market risk
- Base load needs could be served in geographic groups or as one aggregate load



Staff Recommendation 3 – Variable Load

Hedge up to 40% of CAP’s variable load energy needs prior to the year of delivery

- Variable load primarily at Mark Wilmer PP
- CAP has daily and seasonal flexibility to schedule this load in response to market conditions
 - Avoids exposure to market peaks and spikes
 - Takes maximum advantage of market lows
- Leaving most of this load unhedged will help keep CAP pumping energy rates as low as possible, but there may be opportunities to lock in savings



Staff Recommendation 4 – Renewables

Consider firming renewable energy proposals on an equal basis with non-renewable proposals

- Consistent with Board strategy to pursue power resources that offer the lowest levelized cost
- Firming resources are those backed by hydropower, gas, storage, etc.

Consider purchasing 30-35 MW of non-firming renewable energy

- Ability to incorporate non-firming renewable energy is limited by available Hoover capacity and energy



Summary of Staff Recommendations

1. Retain current diversification strategy: no single generation source or contract should provide more than 15-20% of CAP energy needs
2. Hedge 75% to 90% of CAP's base load energy needs prior to the delivery year
3. Hedge up to 40% of CAP's variable load energy needs prior to the delivery year
4. Consider firmed renewable energy proposals on an equal basis with non-renewable proposals
5. Consider purchasing up to 30-35 MW of non-firmed renewable energy

