RPM Approach to Conservation in the Seventh Power Plan
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Regional Portfolio Model (RPM)

- What it is
- Tests resource strategies against many futures
- Measures cost & risk of each resource strategy
- Conservation one of the resources among the resource strategies
- RPM tests conservation avoided cost levels as a decision variable
Overview of Steps

1. Build Supply Curves
2. Schedule Availability
3. Adjust Retrofit Supply Curve for Program Deployment
4. Shape Savings by Season & Hi/Lo
5. Regional Portfolio Model
7. Conservation Build-Out over 750 futures
8. Conservation Targets & Action Plan

Conservation Potential Assessment

- Two critical components for RPM
  1. Cost
  2. Availability of energy over time
- Other important components
  - Shape of energy savings
  - Impact on coincident peak
Cost of Conservation

- Levelized cost per kWh
  - Total Resource Cost
  - Net of Regional Act Credit
  - Levelized over 20-year forecast period
  - Levelized cost normalizes different measure lives
- For RPM: Combine all conservation measures into cost tiers
  - Each tier a collation of measures in that cost bundle
  - Separate lost-opportunity & retrofit sets
  - Tiers are NOT “programs”

Conservation Availability Over Time

- Three key time parameters passed to RPM for each cost bin
  1. Annual maximum
  2. Total not to exceed over 20-year period
  3. Ramp rate year-to-year
- These factors driven by
  1. Units forecast & stock turnover models
  2. Program ramp rates
  3. Load forecast (future load level)
Example

Measure 1:
• Total Available 1000 aMW
• Turnover 5 years
• Fast Program Ramp

Measure 2:
• Total Available 700 aMW
• Turnover 9 years
• Slow Program Ramp

Example

Measure 1 & 2 Combined ($20 Cost Bin)

Total Not to Exceed
1000 aMW M1
700 aMW M2
1700 aMW Comb
Conservation Availability Over Time (2)

- Better reflect availability of fast-turnover lost-opportunity measures
  - We don't know what EE will be cost-effective
  - RPM tests conservation avoided cost decision rules against hundreds of future market prices & load levels
  - Supply curves must reflect availability without foreknowledge of if or when RPM might acquire
- Fast-turnover measures re-present as opportunities in later years, if not acquired in earlier years

Possible Impact

- More fast-turnover measures available through term of planning period than 6P
- May reduce premium for lost-opportunity
  - It’s not all lost forever
Retrofit Conservation Logic

- Same three parameters describe retrofit conservation availability
  1. Annual maximum
  2. Total not to exceed over 20-year period
  3. Ramp rate year-to-year
- RPM logic for retrofit to be similar
- RPM purchases from all bins up to cost tested
- May supersede need for 160 aMW max from 6P

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