

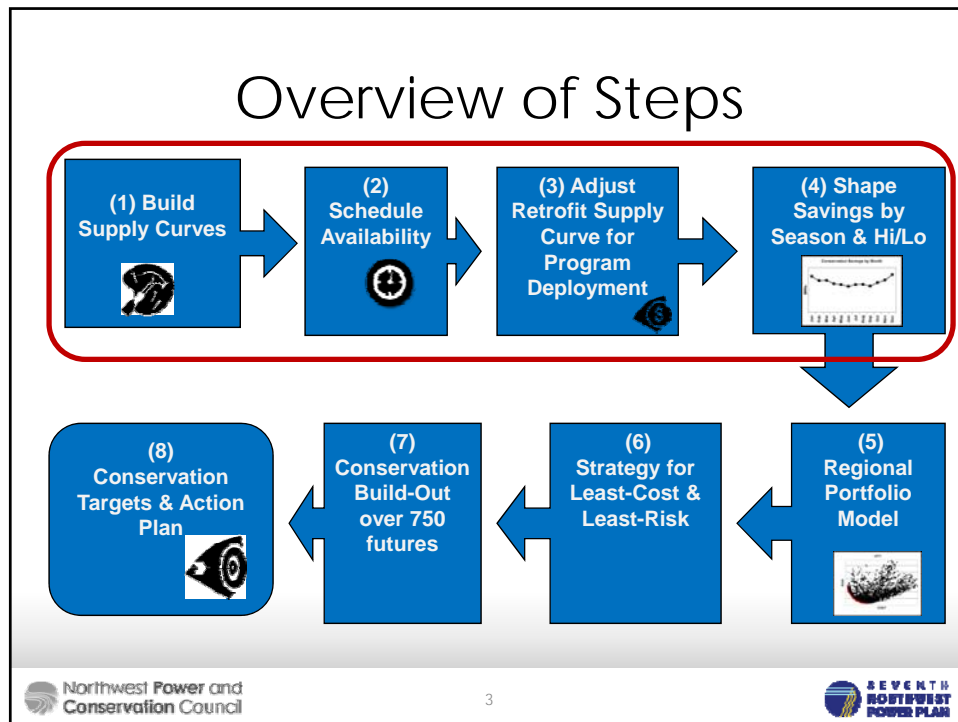
RPM Approach to Conservation in the Seventh Power Plan

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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



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”

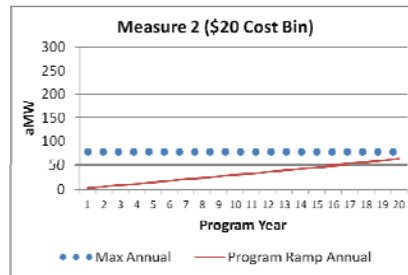
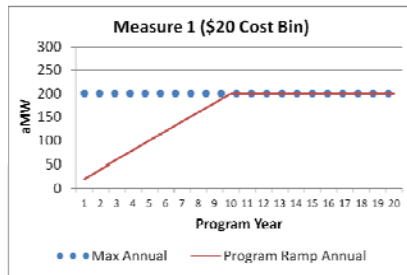
Conservation Availability Over Time

- **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)

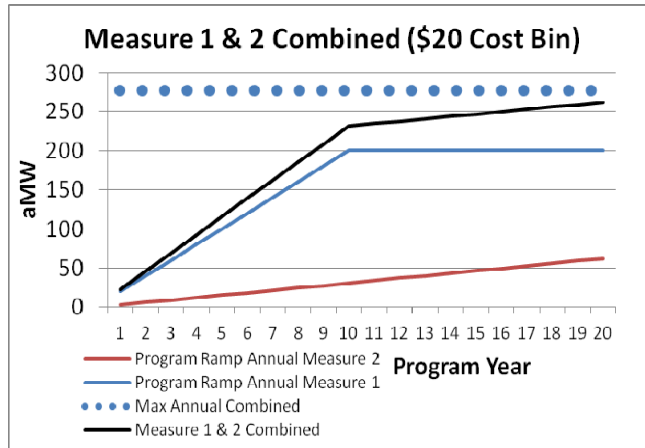
Example

- 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



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

Overview of Steps

