

Key Assumptions and Policy Issues

RAAC Steering Committee
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Assumptions and Issues

1. Out-of-Region Imports
2. In-Region Market (IPPs)
3. Market Friction
4. Intertie Capability
5. Standby Resources
6. Counting Resources
7. Gas Supply Limitations
8. Within-hour Balancing
9. Capacity and Energy Values for Wind/Solar
10. Special Scenarios

1. Out-of-Region Imports

- **Current Assumptions**
 - **Spot Market:** purchase during hour of need
 - Winter: 2,500 MW HLH only
 - Summer: zero MW all hours
 - **Purchase Ahead:** 3,000 MW all LLHs
 - No southern Idaho imports
- **Options**
 - Make winter spot market available all hours
 - Review max import assumptions (via contract?)
 - Make imports a random variable
 - Add Southern Idaho imports for 3-node analysis

2. In-region Market

- **Independent Power Producers**
- **Current assumptions**
 - Winter: full availability ~ 3,200 MW
 - Summer: 1,000 MW max
- **Options**
 - Add adjustment for market friction (see next slide)
 - Revisit winter and summer values

3. Market Friction

- **Current Assumption – not modeled**
- **Options**
 - Out-of-region imports: apply more severe limits to max available
 - In-region: Reduce availability of IPPs
 - Apply reduction as a function of severity of potential shortfall

4. Intertie Capability

- **Current Assumptions**
 - Fixed south-to-north 3,400 MW
 - No forced outages
 - Model will counter-schedule
- **Options**
 - Seasonal fixed values
 - Add intertie outage as random variable

5. Standby Resources

- **Current Assumptions**
 - New DR (DR not in actual load records)
 - Emergency generators that are not modeled explicitly but are available
 - Banks Lake (hydro capacity only)
 - Backup generators are NOT included
- **Options**
 - Include all DR (not just new DR)
 - Reasoning: little effect on load forecast

6. Counting Resources

- **Current Assumptions**
 - Thermal: must be sited and licensed
 - Wind/solar: must be sited and licensed
 - EE: use 6th plan targets
- **Options**
 - Thermal, wind and solar:
Sited, licensed & under construction/contract
 - Use RPS targets for wind and solar

7. Gas Supply Limitations

- **Current Assumption: no gas limitation**
- **Options**
 - **Reduce gas availability (gas-fired generation) by fixed amount when NW temperatures are extreme**
 - **Make gas-fired generation availability a function of NW temperature**

8. Within-hour Balancing

- **Current Assumptions**
 - **For BPA BA only**
 - **Carried by federal hydro**
- **Options**
 - **Extrapolate BPA need to entire region**
 - **Incorporate INC/DEC requirement directly into assessment of peaking capability**
 - **Develop method to use thermal resources to carry remaining balancing reserves**

9. Capacity/Energy Values for Wind and Solar

- **Current Assumptions**
 - Wind Energy = 30%
 - Wind Capacity = 5%
- **Options**
 - Calculate Energy ELCC for wind
 - Calculate Capacity ELCC for wind
 - Use “critical wind year” for energy value
 - Use zero for capacity value
 - Do the same for solar (if data is available)

10. Special Scenarios

- **Additional coal retirement**
- **High wind/solar penetration future**
- **Different EE acquisition future**

Additional Slides Summary Tables

- **New and Standby Resources**
- **Market Supplies**
- **Within-hour Balancing Reserves**

New and Standby Resources

Assumptions	2017	2019
Thermal	Sited and licensed	Sited and licensed
Wind	Sited and licensed (e.g. not RPS)	Sited and licensed (e.g. not RPS)
Existing demand response	In load forecast	In load forecast
New demand response	In standby resources	In standby resources
Standby resources energy	83,000 MW-hours	40,800 MW-hours
Standby resources capacity	660/720 MW winter/summer, where winter = Oct-Mar, summer = Apr-Sep	623/833 winter/summer where winter = Oct-Mar, summer = Apr-Sep
Energy Efficiency magnitude	Council 6 th plan targets	Council 6 th plan targets
Energy Efficiency shape	Same as load	Same as load

Market Supplies

Assumptions	2017	2019
NW market winter, where winter = Nov-May	3,451 MW (full IPP)	3,467 MW (full IPP)
NW market summer, where summer = Jun-Oct	1,000 MW	1,000 MW
BC market	0 MW	0 MW
Southern Idaho market	0 MW	0 MW
SW market winter on-peak	1,700 MW	2,500 MW
SW market winter off-peak	3,000 MW (purchase ahead)	3,000 MW (purchase ahead)
SW market summer on-peak	0 MW	0 MW
SW market summer off-peak	3,000 MW (purchase ahead)	3,000 MW (purchase ahead)
Maximum SW import limit	3,200 MW	3,400 MW

Within-hour Balancing Reserves

Assumptions	2017	2019
Fed Hydro balancing reserves	900 MW INC 1100 MW DEC	900 MW INC 1100 MW DEC
Non-Fed Hydro reserves	Not modeled	Not modeled
Non-hydro balancing reserves	Not modeled	Not modeled
New balancing reserves	Not modeled	Not modeled
Energy Imbalance Market	Not modeled	Not modeled
Borrowed hydro	1000 MW-periods	1000 MW-periods