

# Issue buckets

- Nexus of resource and transmission planning
- GHG paradigm shift?
- Breakthrough technology wish list
- Integration of renewables
- Consumer response to EE / DR initiatives
- Other issues

# Resource and transmission planning nexus

- Transmission and generation timelines don't match up
- 10 and 20 year transmission plans of little use in near-term (5 year) resource acquisition decisions
- Foundational list of transmission is important in resource planning decisions
- Under FERC's NOPR, transmission plans drive cost allocation. How can resource planners better inform transmission plans?
- Determining type and location of new generation from IRPs difficult for utilities with broad competitive generation solicitations
- Who is going to evaluate grid reliability impacts of coal plant shutdowns?
  - How is this info fed back into resource planning decisions?
  - Should the default assumption be that the site is repowered with gas or a radial line is constructed to the site?

# GHG paradigm shift?

- Is the shift certain?
  - Will significant nationwide GHG limits become a reality and when?
  - As we become less rich, will public policies shift from environmental protection to lower costs?
  - Even if today's regulators are convinced, will future regulators agree?
- Focus has shifted from new coal acquisition to management of existing coal fleet
  - Transmission planners won't get clear message from resource planners on coal retirement schedule
  - State and EPA policies will affect retirement plans; the pancaked nature of emission requirements complicates economics
  - Not counting on coal with CCS before 2030
- Carbon price assumptions
  - \$20 a reasonable starting point (sweet spot), but look at impact of high and low carbon prices
  - Be aware of impact of price escalation assumptions
- “Complementary” policies (e.g., RPS) can be expensive

# Breakthrough technology wish list

- Like to see a fully dispatchable renewable technology
- Email Tom Carr ([tcarr@westgov.org](mailto:tcarr@westgov.org)) your suggestions on the most important breakthrough technologies to be considered in WECC 2010 study

# Integration of renewables

- Integration of renewables keeps many resource planners up at night
  - Need reform of scheduling and related business practices (e.g., ADI, intra-hour scheduling, dynamic scheduling)
  - Need liquid capacity market
  - At present, there is not a liquid market for regulating reserves
  - Better mesh with gas scheduling
  - Little info on PV integration
  - Transmission overbuild helps some on integration
  - Better info on coal plant cycling is coming
- Operational concerns now a greater part of resource planning
- Missing an understanding on the “big” picture on integrating variable generation – plan for the unexpected
- Higher operating reserves are coming with more variable generation (planning reserves may disappear)
- Is there a need for PUCs to change regulatory structure to accommodate uncertainties in operational issues results from variable generation

# Consumer response to EE / DR initiatives

- How will consumers respond to utility efficiency and demand response programs?
  - New uncertainty in planning
- Loads are now part of supplies/reserves
  - But DR programs are limited in number of hours they can be called on

# Other challenges

- Gov't mandates (e.g., RPS, carbon, DSM) not coordinated, incremental and subject to change
- State policies on RECs and out-of-state generation raise operating and planning uncertainties
  - Tradable RECs may provide efficiencies in the near-term
  - In longer-term, REC market will rapidly hit variable generation integration wall in the generation area

# Other challenges (cont'd)

- Renewable tax incentives
  - Really important for decisions on CSP
  - Do influenced wind acquisition timing
  - Drop in PV costs more important than future tax policy
- A lot of capital is needed to make system changes
- Vicious circle of more renewables, more gas, more carbon, needing more renewables...
- Wait and see on nuclear renaissance

# Next steps

- Staff will summarize key points (concerns/issues) and ask resource planners to review and identify useful next steps
- Resource planners respond to:
  - WECC survey on efficiency/demand response embedded in load forecast
  - LBNL matrix of resources for your company
- Follow-up email asking for further advice on:
  - How to structure low carbon scenario
  - Breakthrough technologies should be considered
- As WECC study process proceeds, briefing on assumptions in transmission studies
  - Do resource planners want a briefing on the assumptions in the transmission study cases?
    - Do the assumptions pass the resource planners' laugh test?
  - Timing of briefings?
- WREZ 3
  - Survey regulators and utilities - Identify barriers to resource development in REZs and potential solutions; collect procurement schedules
  - Discussions among utilities and regulators interested in the same renewable areas
- September CREPC meeting
  - Resource planners advise regulators/policy makers on what is needed to make the future work
- Other????