Do We Need Resource Planning to Achieve 2030/2050 GHG Goals?

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Several 2030/2050 GHG Studies Indicate...

- It appears possible to achieve a “straight-line” emissions trajectory to meet 2050 GHG goal, if GHG reduction efforts are increased
  - Not to many different pathways to achieve 2050
- Three pillars critical to success of long-term GHG goals:
  1. Energy efficiency (in buildings & vehicles)
  2. Low-carbon electricity (e.g., 50% renewables in 2030 in CA)
  3. Fuel-switching away from fossil fuels (electric vehicles, and electrification of buildings, or low-carbon produced fuels like hydrogen or synthetic renewable fuels)
- All solutions require considerable infrastructure investment
  - Need to consider role of IOUs vs. market when building infrastructure
- Solutions span multiple sectors of economy
  - Coordination across agencies and sectors will be key
Understanding Interactions Between Sectors is Critical

- Measures need to be coordinated across sectors and deployed in the right sequence to maximize GHG reductions and reduce costs.
- Electricity decarbonization without aggressive efficiency requires greater investment, plant siting challenges, environmental impacts, transmission.
- Electrification without smart charging leads to higher costs, greater peak demand challenge.
- **Greater electric sector and inter-sector planning & coordination is required.**
Resource Planning for 2030/2050?

• How we do resource planning today:
  – Focuses only on reliability (system, local, flex)
  – Doesn’t focus on cost or value – assumes a competitive procurement process will identify the cheapest resource.
  – Does bottoms-up residual planning – adds up the MWs from the CPUC programs and plans for residual procurement need to ensure reliability
  – Doesn’t assess if MWs procured in CPUC programs are needed to serve a system need or are cost-effective relative to other resources that could meet the system need

• Resource planning for 2030/2050 will need to consider:
  – Mix of resources to meet higher RPS/GHG goals will have significant portfolio level impacts
  – How to balance policy/infrastructure risk
  – Impact on reliability, net cost, rates
  – Deal w/ long-term uncertainty associated w/ planning and cross-sector coordination
Discrete Programs or All-source: How to Fit the Pieces Together?

- There are several ways that the coordination and deployment of CPUC supply/customer-side programs could be achieved:
  - **Status Quo**: siloed programs/residual PUC resource planning
  - **Clean Energy Standard**: no mandates/ IOU procurement based on GHG intensity, cost, and reliability
  - **Centralized Integrated Resource Planning**: top-down PUC planning
  - **Hybrid approach**: top down PUC planning w/ greater IOU flexibility
    - Will need multi-sector interagency planning process

- How do the different planning approaches inform CPUC programs?
- How does determination of IOU compliance, enforcement, penalties, and incentives change with different planning approaches?
- How do the different planning approaches facilitate, or not, the significant mkt transformation and infrastructure investment needed?