SO WHAT'S NEW?

AN UPDATE ON ACHIEVING A 33% RENEWABLE ENERGY TARGET

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REPORT GOAL

- *“Assess how to accelerate and expand the current 20% RPS and related programs to achieve the Governor’s goal of meeting 33 percent of statewide electric power supply with renewable energy by 2020”*

Data Collected Fall 2005

- Primarily a *scoping document* looking at the technical and economic feasibility of moving from 20% to 33% RPS target

- We did **not** use a computer model – we used spread sheets

RESULTS

- Meeting a 33% RPS target was **both** technically and economically feasible
- This would likely result in net savings to CA electricity customers over a twenty year period
- Under the assumptions used, there would be a small negative ratepayer impact 2011 to 2020 – **(-0.57%**)
- But more than offset by longer term ratepayer benefits (2011 to 2030 – Net savings of **$175 Million**)

Data Uncertainties

- Two most critical variables:
  - Renewable Energy Cost Forecast
  - Natural Gas Forecast
- Most other variables affect all generation technologies

SO WHAT'S NEW?

- RE costs ↑ by more than anticipated:
  - Wind ~ 30%
  - Geothermal ~ 50%
  - Solar ~ 25%
  - Biomass – Uncertain

On average 36% RE cost increase above study

BUT. . .

- Capital cost of NG plants ↑ by 100%
- Natural gas price forecast ↑ significantly (+30%?)
- The cost of RE compared to the total costs of all other generation options is more cost competitive today than in 2005

We believe a redo of the analysis with today's data will provide similar net results to those of 2005

What else is new?

- CA is off target in meeting its 20% RPS
- Impact: Though the relative cost of RE gets lower, the longer it takes, the more new supply will cost CA consumers

Big Change in Context

- GHG goals for 2050 indicate the electricity sector will need to make major changes:
  - changes in supply & structure not just reductions in emissions from existing fossil

  [The longer we wait, the more it will cost consumers]

- The 33% report did **not** include GHG allowance costs for NG plants to meet GHG targets

What are the AB 32 Options?

- More natural gas?
  - Fuel price volatility risk, overall NG cost, unbalanced portfolio, GHG allowances – all add substantially to the resource costs
- Nuclear?
  - Present estimates $6000 to $10,000/kw
- Transportation – Plug-in hybrids, hydrogen?
- Buildings – Ground source Heat pumps?

The last options require a clean electricity supply

Options (cont.)

- For the next 10 years:
  - Energy Efficiency/Conservation
  - Renewable Energy

Regardless of your **future** technology preferences

Key RE Implementation Issues

- Transmission line construction & administration
  - We have gained some momentum on transmission issues and need to keep that momentum going.
- Streamline RPS procurement process
  - CA is in competition with other western state's RPS programs
- Clarify impacts of RPS non-compliance
  - If non-compliance costs utilities nothing, delay is inevitable

SUMMARY

1. Since 2005 the cost of **all** supply technologies have risen as much or more than the costs of RE have risen
2. The state has been slow to achieve the 20% RPS
3. Neither factor provides a reason for **not** moving to 33% RPS.

RE is as good or better an investment today than in 2005

CONCLUSION

- The longer we wait, the more it will cost CA electricity consumers

The High Cost Path is to have **no** 33% RPS

[everything else is just detail]

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