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# **SB100 Non-Energy Impacts Workshop: Balancing Social Goals and Energy Affordability**

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Question from CEC:

How do you think about balancing affordability and societal co-benefits of investments into California's electric system?  
What are tools the state should explore to maximize both?

Most cost-effective is mix of resources and grid investment that comply with SB100, maintain reliability, at least cost.\*

Multiple resources can pass BCA from a broader social point of view but could still be cost-ineffective for the electric sector.

- Second or third best relative to other alternatives.

SB 100 compliance will result in significant avoided economic and social costs, and benefits

- Reduction in GHGs
- Reduction in pollution
- Avoided damages from less fossil gas extraction
- Job creation to get to goals, etc.

## Key questions:

- What additional NEI are being sought?
- What is the most cost-effective way to attain them?
- How to pay for that additional action?
- What are the tradeoffs? E.g., local versus global?
  - Valuing tradeoffs isn't easy. E.g., a pathway mostly reliant on distributed solar + storage pathway will reduce land pressure for renewable development but may require more transmission to balance inter-regional demand, and may require more global mineral extraction to build excess solar and storage capacity.

How these additional initiatives are funded have serious implications on feasibility of and distributional impacts of the clean energy transition.

- Funding more initiatives through electric rates than you would otherwise do for SB100 compliance means higher electric costs.
- Even though going after these additional NEI may be cost effective from a global societal point of view.
- Higher electric rates mean higher bills, and it also means electricity is more expensive relative to fossil fuels.

## Alternate sources of funding additional social objectives would lead to better outcomes:

- Funding through general budget or tax revenue is the most progressive source but requires legislative will.
- A fee on fossil fuels (e.g., more expensive cap and trade allowances) for funding would make fossil fuels more expensive than electricity, however distributional impact may need to be kept in check.
- Whether or not funding additional initiatives is prudent via electric rate base also depends on the current price of electricity. I.e., you may justify additional spending to attain broader social goals if electricity is priced at \$0.15 per kWh (closer to true social marginal cost) rather than \$0.40 per kWh (the reality today in many regions).



How much the state should pay to avoid a social cost is not the same as the cost of social damage.

- Per EPA's new ruling SC-GHG is around \$190 per ton.
  - This does not mean you have to pay \$190 to avoid carbon emissions, it means that \$190 is the highest payment justified by economics for reducing one ton of carbon.
- Paying \$190 per ton for any action that reduces carbon would lead to illogical conclusions:
  - Much more expensive RPS contracts.
  - Would you pay more efficient fossil fuel power plants because they emit less carbon dioxide than less efficient an extra payment at \$190 per ton to displace peakers?

Example: If you are very sensitive to sun, what price would you pay for sunscreen? \$5 or so for SPF 50 Banana Boat or the avoided cost of reducing risk for skin cancer (possibly many! \$1000s)?

Attaining SB100's goals will result in avoiding a lot of local and global social damage. And provide direct benefits for many Californians.

More social damage could still be avoided.

Be prudent about what additional impacts to go after, how much to pay, and how to pay for them.

At the end of the transition, household energy bill = household electric bill. A fair and progressive transition requires (1) electricity price to be lower than alternative fuels and (2) progressive distribution of benefits and costs.

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