2022 Affordability Rulemaking En Banc: Evaluating Innovative Proposals for Cost Containment and Customer Protection

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Panel One: Environmental and Social Justice Considerations

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Environmental and Social Justice Focus on Affordability

- Electricity sector decarbonization
- Natural gas planning
- System wide vs. Locational and Individual affordability
- Importance of social and non-monetary benefits

Electricity Sector Decarbonization

Grid decarbonization study (2021)

How can California affordably and reliably decarbonize its electricity sector by 2045?

If wind and solar are pushed to do all the heavy lifting themselves, the system requires enormous excess generating capacity and storage (most of which is seldom used) to provide reliable electricity and completely drive out greenhouse emissions. This strategy ends up being much more expensive and much more demanding of land and infrastructure than other possible pathways

- *Leads to conclusions on the need for clean firm power and transmission, among others*

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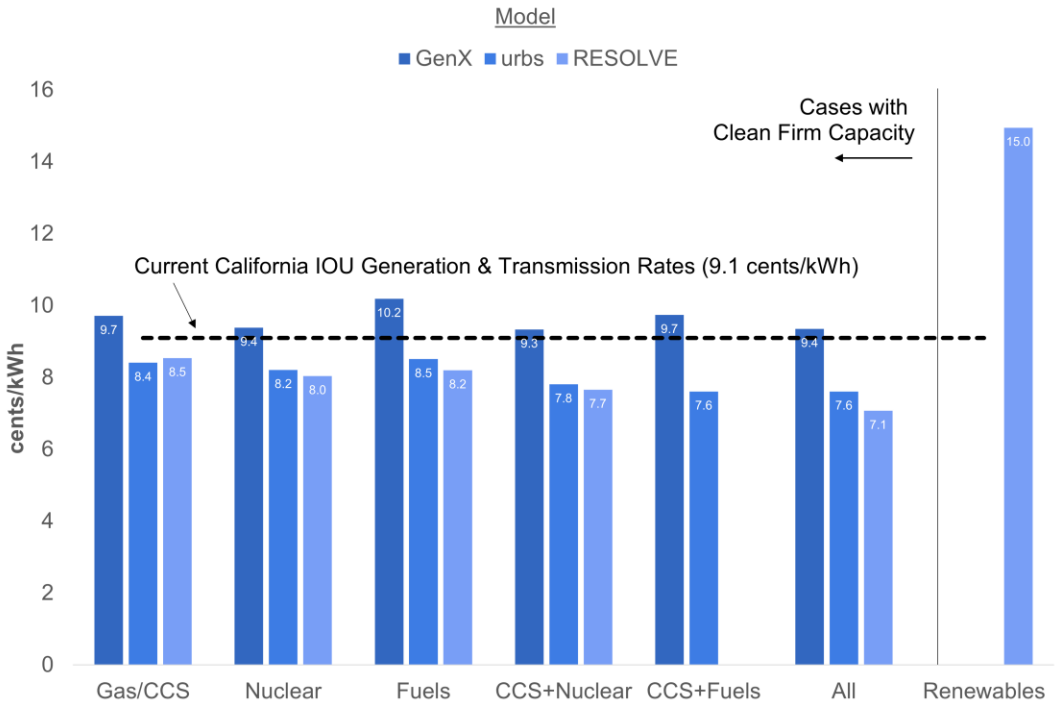
Energy+Environmental Economics

Available at: Issues webpage for decarbonizing wind, solar and nuclear power

Electricity Sector Decarbonization

- Use three electricity system optimization models.
- Identify strategies that meet demand for electricity while eliminating CO_2 emissions.
- Run models with and without clean firm power – power that is available on demand for as long as needed.
- Evaluate cost, build out, land use, storage and transmission implications.



Natural Gas Planning

Step 1: Establish Inclusive and Transparent Decision Making

Step 2: Require Rigorous Long-Term Planning

Step 3: Coordinate Near-Term Decisions and Long-Term Goals

Available at: [Aligning Gas Regulation and Climate Goals Report]

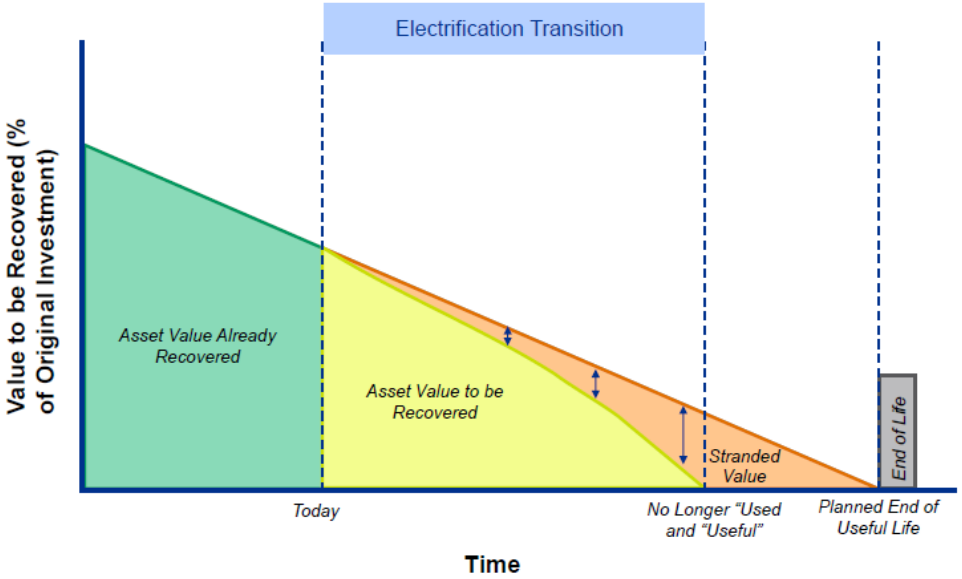
Natural Gas Planning

Step 1: Establish Inclusive and Transparent Decision Making	Step 2: Require Rigorous Long-Term Planning	Step 3: Coordinate Near-Term Decisions and Long-Term Goals
• Review and Clarify Existing Processes • Ensure Utilities Provide Sufficient Information in Support of Requests • Encourage Broader Stakeholder Engagement • Consider Equity Input and Impacts	• Require a Long-Term Vision Aligned with Climate Targets and Other State Policies • Define the True Needs of the System • Plan for Projected Utilization Changes • Conduct Robust, Transparent Gas Supply Planning • Evaluate Resources Using the All-in Cost Metric • Integrate Non-Pipeline Alternatives into Long-Term Planning • Establish a Gas Investment Priority Order • Conduct Thorough GHG Assessments • Ensure Gas and Electric Utility Coordination	• Connect Long-Term Planning to Cost Recovery • Identify Changes to Existing Programs that Incent Gas Use and Expansion • Design Targeted Non-Pipeline Alternative Programs • Link Shareholder and Societal Value • Align Depreciation Schedules with Climate Targets • Evaluate Cost Allocation • Explore New Tariff Services • Scrutinize Affiliate Transactions • Consider Pilots to Test Innovation • Review Pipeline Replacement Programs and Surcharge Mechanisms • Deploy Advanced Leak Detection and Data Analytics • Review Lost and Unaccounted for Gas Mechanisms

Natural Gas Planning

A framework for evaluating the range of data necessary to examine the magnitude and impact of stranded assets and what solutions are available to manage that risk.

Overview of Stranded Value



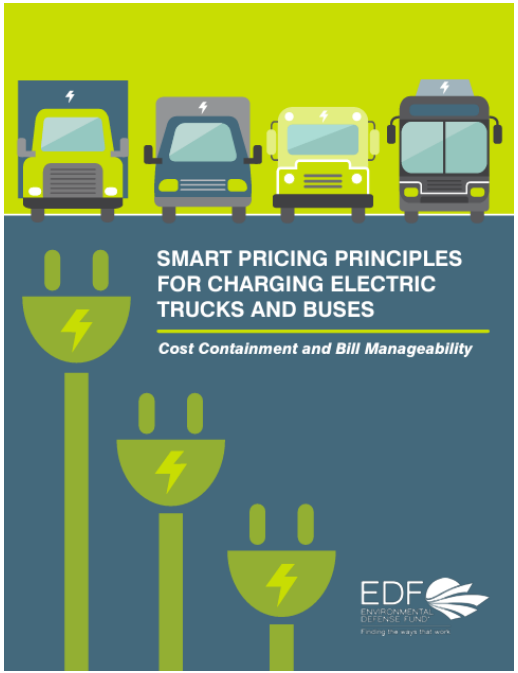
Available at: [Copy of Managing the Transition report]

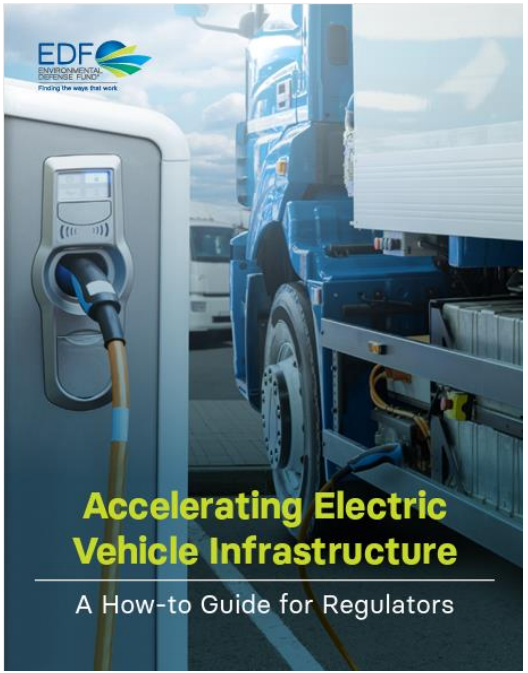
System wide vs. Locational and Individual affordability

- Cost control for economy-wide decarbonization is important to maximize overall efficiency
- Cost impacts on individual customer types and classes, ratepayers, communities is just as (and even more) important

Transportation example:

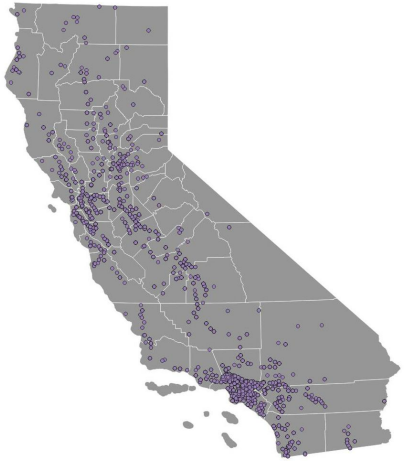
1. Regulators should differentiate policy approaches for electric cars vs. trucks and buses.
2. Equity should be a primary consideration when planning for EV infrastructure deployment.
3. Electricity rates should maximize the benefits of EVs





Available at: EDF EV Charging Fact Sheet and Accelerating Electric Vehicle Infrastructure Report

Importance of social and non-monetary benefits



Statewide medium and heavy-duty location study

- Truck registration by address (left)
- Truck registration w/in 50 miles of port (right)

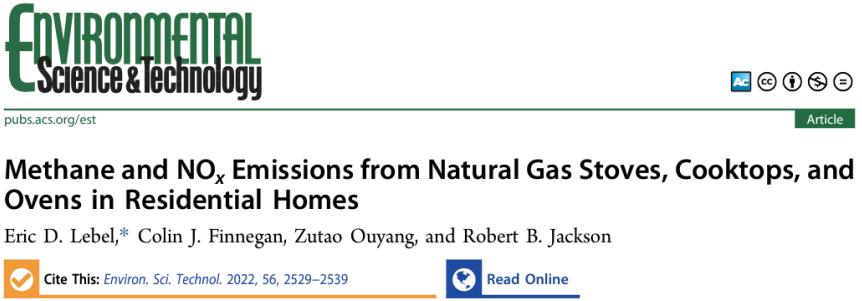
- Truck electrification reduces pollution associated with combustion
- CA DMV and FMCSA databases show where trucks are located
- Efforts to focus funding to prioritize deployments in DACs delivers social and non-monetary benefits where they are needed most

Port of Hueneme	909
Port of LA	16885
Port of Long Beach	20185
Port of Oakland	5690
Port of San Diego	3688
Grand Total	**47357**

Importance of social and non-monetary benefits

Natural gas consumption and building electrification example

- Natural gas leakage across the production, transmission and distribution system in the US contributed 13 ± 2 teragrams per year, equivalent to 2.3% of gross U.S. gas production in 2015
- Natural gas cooking appliances release methane — primarily through small, persistent leaks
- Natural gas cooking appliances also release NOx while in use, damaging the climate and degrading indoor air quality.



Thank you!

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