

10th Annual Statewide Energy Efficiency Forum

Morning Plenary II – The Future of Decarbonization of California's Energy

Salon A/B
Level: All

Thursday, June 27, 2019
11:30 AM– 12:30 PM

By **Jeffrey L. Rabin**, Urban Planning and Environmental Consultant and Former Los Angeles Times reporter, and **Gina Mongiello-Lopez**, Undergraduate at University of California, Davis

Speakers/Panel:

Leif Christiansen, Energy Efficiency Coordinator
Joshua Torres, Southern California Edison
Ken Chawkins, Southern California Gas Company

Plenary Summary:

From the start, this session was a fight to the finish between representatives of Southern California Edison and the Southern California Gas Company. The hour-long conversation was marked by sharp exchanges, dueling PowerPoints, and dramatically different approaches to decarbonizing California's economy. Each speaker was given time to present their company's approaches to decarbonizing future energy sources of California; after which, questions and responses were delivered in an open discussion.

Southern California Edison would use a three-pronged approach to decarbonize the electric grid by:

- Rapidly expanding reliance on renewable energy sources, primarily solar and wind, to produce carbon-free electricity.
- Using clean power to drive California's transportation system away from dependence on fossil fuels. (That would require an unprecedented shift to electric vehicles of all types, including cars, trucks, buses, and delivery vehicles.)
- Electrifying buildings to use electricity instead of natural gas for heating homes and hot water.

Southern California Gas Company did not take issue with expanded use of renewable energy sources to decarbonize the electric grid. Nor did he challenge efforts to electrify the transportation sector, which is the largest source of GHG emissions in California.

But he offered a sharp retort to using electricity rather than natural gas for home heating and hot water. Using a series of PowerPoint slides, he drove home the point that policymakers need to keep affordability in mind. The Gas Company estimates it will cost the typical California family \$7,200 to retrofit their home to use electricity to provide heat and hot water. "The real cost of living is already too high for too many people....Electrification will further burden people."

Natural gas, also known as methane, is a potent greenhouse gas. To reduce GHG emissions, the Gas Company proposes to capture some of the methane produced by cows, farms, landfills, and wastewater treatment plants. The utility is committed to delivering 20% "renewable natural gas" by 2030.

Q+A:

Where do you see your visions align?

Joshua Torres: Both companies agree there is an important role for renewable energy sources.

Ken Chawkins: We make money the same way, and we want customers to not have to worry about our products.

Where do you think you most disagree?

Ken Chawkins: How fast we get to these goals and the diversity of the approaches to reach these goals. We argue renewable natural gas is a better option due to lack of disruption in people's lives and cost effectiveness.

Joshua Torres: Our interpretations differ. There is an upward limit in how much can be captured in a safe way; whereas electric does not have that scalability issue (can always build more solar panels and wind farms).



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Natural gas can fill the holes that are not ideal to electrify. We are not suggesting an immediate change; this is a slow transition. When you get to the point where your building needs to be retrofitted it makes sense to think where you can make those changes to go electric.

Ken Chawkins: Low income will be most affected, going electric will not be easy for them. Natural gas is easier to implement, making a more immediate contribution to reduction in greenhouse gases. If you create a market, people will be able to purchase renewable natural gas.

Joshua Torres: Key point is the excess renewable energy. We want to align the supply and demand of electricity, so by electrifying transportation and buildings we can direct that excess energy somewhere. Methanization will require more renewable energy sources to be built than would otherwise be needed to go electric.

Ken Chawkins: It is unclear how electric appliances and vehicles would be necessary to utilize excess energy. Electric infrastructure has been known to start fires.

Joshua Torres: Balancing the grid is going to require a number of solutions. Barriers to this are more political than physical. There is no one size fits all.

Science says over 2% methane leakage makes it worse than coal, and the methane California imports has a 5% leakage rate. How does So Cal Gas propose addressing this?

Ken Chawkins: Our system is the tightest system, and the only way to address to try to minimize that.

How do we achieve a healthy economic future by providing natural gas to low income communities while keeping in mind it's environmental impact?

Ken Chawkins: Natural gas can replace diesel in trucks, something not yet doable with electric. This becomes important when considering how low-income communities suffer from polluted air as a result of living around heavily travelled highways.

At the So Cal sponsor table, staff said renewable natural gas can be carbon negative; can you expand?

Ken Chawkins: Low carbon fuel standards show the intensity that results from the use of some fuel. When looking at a case, such as the methane engine previously mentioned, putting out less carbon than what is taken in to create the renewable methane is what results in that negative value.

Joshua Torres: Natural gas is a term that covers many sources. You assume there is savings since you remove methane that would otherwise go into the atmosphere. However, preventing the production of that methane and putting it to more effective use, like generating electricity. Those values are relative, not all methane sources are carbon negative; you need to look at the aggregate.

What are some words, phrases, or ideas that capture what practitioners need in order to successfully meet California's energy and climate goals?

The Edison and Gas Company representatives presented very different visions about how to reduce California's GHG emissions, particularly from buildings.

Changes in building codes, local government permit practices and building inspections will be required to use electricity instead of natural gas to heat homes and hot water. Major retailers will not stock electric heat pumps and water heaters unless customers demand them.

What was inspirational or hopeful about this plenary?

California law sets an ambitious goal to slash GHG emissions to a point 40% below 1990 levels by 2030. Utilities must work to decarbonize California's energy sources.



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Standout Quotes:

“California is making a very clear shift away from fossil fuels,” said Southern California Edison representative Joshua Torres. “We definitely want to accelerate this change.”

“Clearly we believe in a balanced approach, not just electric,” said Southern California Gas Company representative Ken Chawkins.

