Southern California Gas Company

A Sempra Energy utility®

NATURAL GAS VEHICLES

Customer Case Study

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

Moving people with Compressed Natural Gas (CNG)

With more than a million riders each day counting on their buses being on time, the Los Angeles County Metropolitan Transportation Authority (Metro) needs a clean, cost-efficient, reliable fuel supply. That's why its entire fleet of more than 2,250 buses runs on CNG from the Southern California Gas Company (SoCalGas®).

Metro is the largest transit property in the United States to switch fully to CNG. It is abundant, produced in the United States, inexpensive, and clean-burning. The transit giant chose SoCalGas because it needed a reliable, expert partner to keep the tanks filled. "It's a good, effective partnership and an example of where our industry needs to be thinking," says John Drayton, Metro's manager of vehicle technology, who oversaw the transition from diesel-powered buses to CNG.

A billion miles with CNG

Metro started considering alternative fuels in the 1970s. It studied and tried different options, including methanol and ethanol, which turned out to be far too damaging to bus engines. Then, in the 1990s, Metro bought hundreds of CNG buses, creating the first large fleet of its kind in North America.

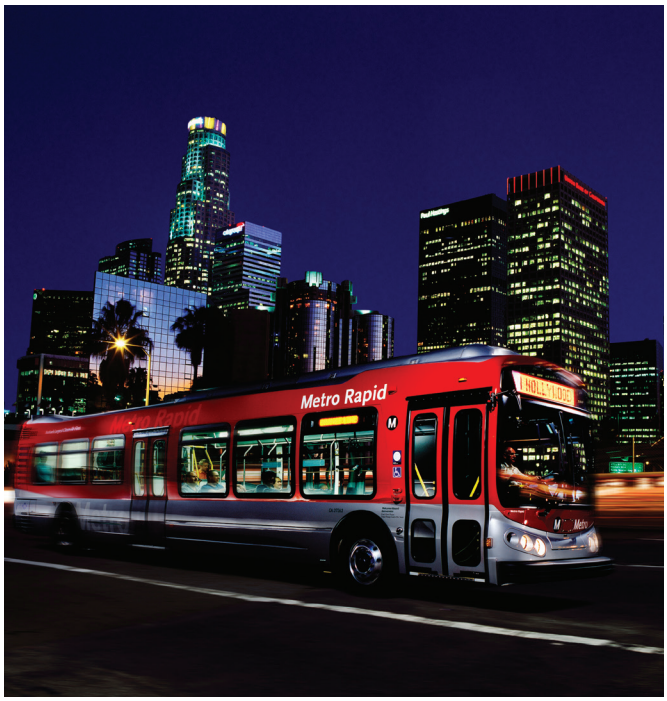
"Natural gas is an incredible fuel stock, not just for Metro. Our whole country needs to be looking at this. Number one, it's a very abundant, domestically-available fuel," Drayton says. "Secondly, it's fuel that is inherently clean. The cleaner the fuel coming in, the cleaner the (emissions) coming out."

In early 2011, Metro passed its billionth mile on CNG-fueled buses and retired its last diesel bus.

"Fortunately, over the last 15 years, we've been able to see this technology mature and I don't think the arguments have ever been more compelling that natural gas is the best alternative to diesel today in every respect and arguably is a better solution for many applications than diesel," says Drayton.

A cleaner fuel for Southern California

Drayton, who grew up in Southern California, remembers training with the Claremont High School track team at 6 a.m., because by the afternoons, smog alerts would keep the athletes indoors. "You would just watch the brownish-gray haze come up each afternoon," he recalls.



> *"We're running the cleanest buses in the world and we're running them at a fuel cost that's about 30 percent of diesel."*

Now the air in Los Angeles is remarkably cleaner, thanks in part to the use of natural gas in Metro's buses. By switching to CNG, Metro has reduced cancer-causing particulates from the bus fleet by 98 percent, carbon monoxide by 80 percent and greenhouse gases by about 150 tons per day.

Clean-air incentives help offset costs

Metro's reduction in its vehicle emissions has also helped reduce some of its costs through air quality agency offsets. Transition costs were defrayed in part as the federal government helped pay for the new buses. And allowances from SoCalGas meant that Metro didn't pay a dime for installation of its gas lines.

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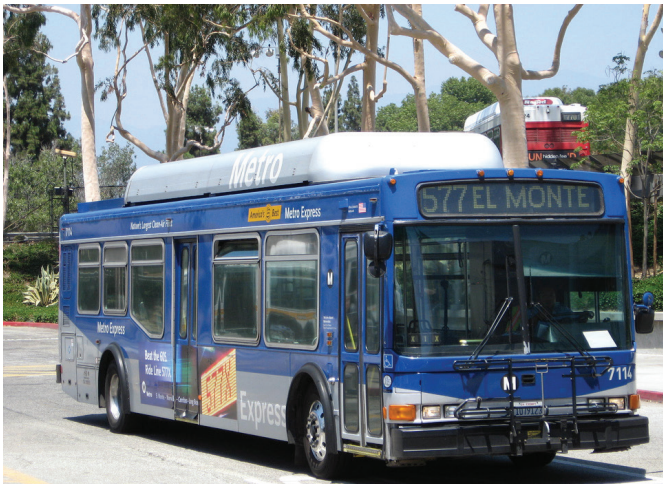

Now Metro is paying far less for CNG than it would pay for diesel, as the cost of diesel fuel has spiked and become more volatile and the price of natural gas has remained stable.

"We're seeing a tremendous fuel cost savings these days. We're running the cleanest buses in the world and we're running them at a fuel cost that's about 30 percent of diesel," Drayton says, pointing out that Metro is seeing fuel cost savings of approximately $60 million to $70 million each year.

A reliable partnership

When it comes to getting customers from one part of the city to another, Metro knows all the twists and turns. But for navigating the switch from diesel to natural gas, the transit agency turned to SoCalGas and its account executives for the technical support and resources to make the change.

"We know how to roll our buses down Wilshire Boulevard and move people every day. That's Metro's bread and butter, moving people. We're not compressor operators," Drayton explains. "We've contracted out fueling, operating and maintaining that whole fueling system cheaper and more reliably than we could do it in-house."

> *"Nobody wakes up in the morning going, 'I wonder if SoCalGas is going to get us fuel this morning.'"*

Whenever Metro has a question or a concern, SoCalGas' account executive responds immediately, Drayton says. He adds that SoCalGas took Metro's technical managers to the master facility for managing gas flow to demonstrate pipeline and storage capacities. "It's very reassuring to know that SoCalGas is standing here behind all this," Drayton says.

In fact, the fuel supplier has been so reliable, Metro doesn't worry about fuel on a day-to-day basis. "We take it for granted that the fuel arrives here every day. Nobody wakes up in the morning going, 'I wonder if SoCalGas is going to get us fuel this morning.' I mean, it's not even on our radar screen."

CNG: The fuel of the future

Now that Metro has pioneered the transition of a massive bus fleet from diesel to CNG, it gets calls from other transit agencies interested in making the switch. Drayton believes natural gas will play an increasingly important role in the nation's fuel needs as the nationwide infrastructure grows and fueling expands on major interstates. And CNG-fueled engines are gaining in reliability while diesel engines, being altered in an attempt to meet emission standards, are becoming more costly and relatively less reliable.

"CNG is the best answer out there," Drayton says. "In terms of costs, in terms of economics, in terms of emissions, in terms of domestic fuel, if you're the application that has access to pipeline natural gas, it's the winning recommendation today."

Find out more

To find out if CNG is right for your transit, paratransit service or other fleet, contact your SoCalGas account executive or call 1-800-GAS-2000. Visit us online at **socalgas.com** (search "*NGV*").

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