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From: Weisenmiller, Robert@Energy
Sent: Monday, May 01, 2017 4:59 PM
To: Raitt, Heather@Energy
Subject: Fwd: Study Shows Renewable Gas and Low NOx Heavy Duty Transportation a Boon to California Job Creation and Economic Opportunity

Begin forwarded message:

From: "Minter, George I" <GIMinter@semprautilities.com>
Date: May 1, 2017 at 4:53:33 PM PDT
Subject: Study Shows Renewable Gas and Low NOx Heavy Duty Transportation a Boon to California Job Creation and Economic Opportunity

Wanted to share with you a new jobs report from ICF which came out today citing 134,000 new California jobs and up to \$14 billion in economic opportunity related to renewable gas development and the deployment of ultra low NOx, near zero heavy duty trucks.

This is a Game changer! As you know, the state’s Air Resources Board recently certified a new natural gas engine that is 90% cleaner than current engine standards – and can both clean the air, and reduce climate changing emissions when running on renewable gas produced from wastewater, landfills, dairies and agricultural waste.

In fact this new transportation fuel is displacing traditional fossil natural gas in the bus transit market, and is expected to become a mainstay renewable fuel in the heavy duty transportation marketplace. Under California’s current LCFS program over 60% of gas for transportation is now renewable gas!

The ARB’s own Mobile Source Strategy (MSS), which is the state’s plan to clean up the transportation sector, relies on early deployment of “ultra low NOx” engines running on renewable fuels. The ICF study shows that if deployed statewide, under the MSS program – between 80,000 and 130,000 new jobs could be created -- **generating between \$8 to 14 billion of economic benefit.**

Economic Parameter	Port Trucks	Statewide Low NOx RNG Trucks, Market Share		
		25%	50%	75%
Capital Expenditures (\$M)	\$2,703	\$15,718	\$27,326	\$38,934
Total Employment	23,459	80,981	107,594	134,206
Total Value Added (\$M)	\$2,512	\$8,657	\$11,483	\$14,308

George Minter | Vice President
External Affairs & Environmental Strategy
 Southern California Gas Company ☎: 213 244 2550.
 Follow me on Twitter: [@George_SoCalGas](https://twitter.com/George_SoCalGas)



NEWS RELEASE

MEDIA CONTACT

Marcus Gillette, Director of Public Affairs
916.588.3033 Ext. 3
Marcus@RNGCoalition.com

New Study Shows Renewable Natural Gas in Transportation Can Create Up to 130,000 Jobs and Generate Nearly \$14 Billion in Economic Benefits for California

Converting Waste to Power Trucks Will Fuel California's Economy

LONG BEACH, Calif., May 1, 2017—A new [jobs study](#) reveals that deploying trucks fueled by renewable natural gas could create up to 130,000 new jobs and add \$14 billion to California's economy. The 'RNG Jobs Report' examines the economic potential of fueling heavy-duty trucks with renewable natural gas produced in California, instead of being powered by petroleum-based diesel. The study was released jointly today by the Coalition for Renewable Natural Gas (RNG Coalition) and the California Natural Gas Vehicle Coalition (CNGVC) at the Advanced Clean Transportation (ACT) Expo, the nation's largest alternative, clean-fleet trade show.

A switch to renewable natural gas trucks could quickly help California achieve its air quality, greenhouse gas emissions, and climate change-related goals, the two coalitions say. More than 95 percent of the trucks on California roads currently use petroleum-based diesel fuel and are a major source of particulate and NOx air pollution and GHG emissions. In Southern California, the heavy-duty trucking sector is the single largest source of smog—which contributes to asthma and other health-related problems. In fact, the ports and related goods-movement activity emit more than 40 percent of all smog-forming pollutants in the region.

Renewable natural gas (RNG or Biomethane) is produced from methane captured as organic materials decompose in renewable waste streams, including from dairies, agriculture, landfills, and wastewater treatment plants. By capturing and converting methane for use as a substitute or blended fuel, transportation companies and fleets can reduce their greenhouse gas (GHG) emissions by as much as 70 percent. The latest heavy-duty renewable natural gas engines reduce NOx emissions by 90 percent, according to the U.S. Environmental Protection Agency.

"This study affirms what we have been advocating—increased production, deployment and utilization of RNG not only realizes significant benefits for our environment, but for our economy as well," said Johannes Escudero, Chief Executive Officer of the RNG Coalition. "Our industry is eager to develop new projects, create additional employment opportunities and supply the heavy-duty truck sector in California with renewable natural gas—the lowest carbon-intense transportation fuel commercially available."

“We recognize the importance of ensuring not only we clean up our air,” said Thomas Lawson, CNGVC President, “but that when evaluating alternative solutions, we also consider the impact on our economy. This study shows that renewable natural gas deployed in natural gas vehicles, will not only improve our air quality, but serve as an economic engine for all Californians, too.

“As an air quality advocate, I see green jobs as the best jobs. It’s good to see renewable natural gas add green jobs to our economy,” said Joe Lyou, South Coast Air Quality Management District board member and president and CEO of the Coalition for Clean Air, a Los Angeles-based environmental non-profit.

The newest heavy-duty natural gas engines are well-suited for transit and refuse applications, and big enough to haul freight. As large as 9 liters with 320 horsepower, the engines are certified by the California Air Resources Board at “near-zero” emissions levels, equivalent to a 100 percent battery truck. A 12-liter near-zero engine with 400 horsepower, specifically designed for heavy-duty trucks, is slated for production later this year.

The study, produced by ICF, reflects options to deploy low NOx natural gas trucks in various applications and vehicle classes through 2030. The number of trucks considered is linked to one of two strategies:

- Low NOx trucks deployed at the San Pedro Bay Ports in Southern California.
- Low NOx trucks deployed in the California Air Resources Board’s mobile source strategy.

As shown in the chart below, switching to natural gas trucks fueled by RNG at the two San Pedro Bay Ports in Southern California would add more than 23,000 job and \$2 billion in economic benefits. A state-wide solution that includes the Air Resources Board’s mobile source strategy would result in up to 134,000 jobs and \$14 billion in economic benefits.

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For every job created through direct investment in the trucking and goods movement sector powered by California-produced renewable natural gas, two more jobs will be created. The study estimates that these are high-paying jobs, with estimated labor income more than double California’s current median income. The jobs and economic activity from investments in a natural gas trucks powered by in-state renewable natural gas support California’s diverse economy, supporting various levels of skilled workers in sectors including construction, fabrication, vehicle manufacturing, engineering services, waste management, and service industries. The full study is available [here](#).

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About the Coalition for Renewable Natural Gas

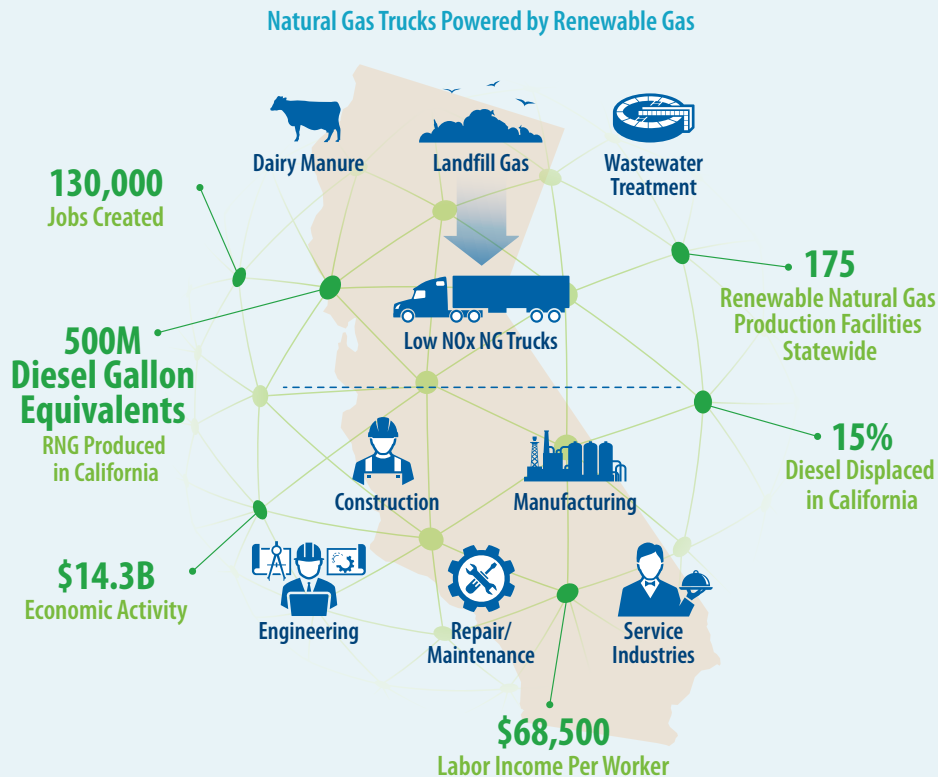
The RNG Coalition represents and provides the policy platform, advocacy and education voice for the renewable natural gas industry in North America. Its diverse membership includes each sector of the RNG industry: waste collection, waste management & recycling companies, renewable energy developers, engineers, financiers, gas/power marketers, gas/power transporters, manufacturers, technology & service providers, environmental advocates, research organizations, organized labor, law firms, consultants, utilities and individual ratepayers. Together, RNG Coalition members advocate for the increased development, deployment and utilization of renewable natural gas so that present and future generations will have access to this domestic, renewable, clean fuel and energy resource.

About the California Natural Gas Vehicle Coalition

The California NGV Coalition is an association of natural gas vehicle and engine manufacturers, utilities, fuel providers and fleet operators serving the state. Its members are united in the belief that wider adoption of clean-running NGVs—a proven technology in use worldwide—is key to helping California reduce greenhouse gas emissions, air pollution and petroleum dependence. The Coalition is the industry’s premier advocacy organization in California, supporting new initiatives, providing up-to-date information on NGV technology and market developments, and working with legislators and regulators to develop policies that will increase alternative fuel and vehicle use. The Coalition also advises stakeholders on testing and demonstration programs and helps NGV-related businesses break into the California market.

Low NOx Engines and Renewable Natural Gas Fuel the Economy

Renewable natural gas (RNG) produced in California and used in heavy duty trucks outfitted with low NOx engines can **drive economic growth and create jobs while helping achieve environmental goals.**



A new report by ICF finds that low NOx trucks fueled by renewable natural gas produced in California will drive economic growth in multiple market segments, help create jobs with competitive salaries, and make significant contributions to California's economy.

- Dedicated investments in deploying low NOx trucks powered by renewable natural gas could **create up to 134,000 jobs**, and provide up to **\$14 billion of added economic value** by 2030.
- The ICF report considered a Port Truck Scenario and several Statewide Truck Scenarios, deploying 17,000 and 172,000—516,000 low NOx trucks fueled by RNG, respectively.
- By taking advantage of waste streams—from landfills, wastewater treatment plants, and dairies—ICF estimates that a modest investment scenario could yield more than **500 million diesel gallon equivalents** of renewable natural gas produced at **175 facilities around the state** (which is just a fraction of the in-state production potential for RNG). That is enough renewable natural gas to **displace 15% of the petroleum-based diesel fuel** consumed in California.
- ICF finds that the sectors experiencing the highest job creation include construction, manufacturing, repair and maintenance of equipment, engineering services, environmental consulting services, and service industries (e.g., restaurants, accounting services, etc.).
- ICF reports that the average labor income per job created is about **\$68,500—more than twice the median salary of California's current workers.**



California Natural
Gas Vehicle Coalition
cngvc.org



www.rngcoalition.com