

## Largest Gas Utility in the Country Moves Toward a Greener Future

Southern California Gas Company (SoCalGas) – the largest gas utility in the US – has committed itself to becoming the “cleanest natural gas utility in North America.” Central to this goal, the company has announced an ambitious plan to offer low-carbon renewable natural gas (RNG, also known as biomethane) to more than 20 million customers in Central and Southern California. This clean, renewable fuel is produced from decomposing organic wastes like food scraps, animal manure and sewage sludge, and can be used to generate electricity, for cooking and heating homes, and as a fuel for heavy-duty vehicles.

By 2030, SoCalGas aims to displace 20% of its fossil natural gas with RNG, starting by displacing 5% over the next five years. To do this, the company will pursue regulatory authority from the state’s Public Utility Commission to establish a biomethane procurement program. With 80% of the state’s methane emissions coming from wastewater treatment plants, agriculture, dairies, and other organic sources, there is sufficient feedstock for RNG projects in the state to slash climate-changing emissions by 48%, according to a report by Navigant Consulting.

SoCalGas is currently purchasing the RNG produced at an anaerobic digester facility in Perris, CA, built and operated by the waste hauling company CR&R (featured in the Spring 2018 [EVNews](#) as the first in-state California RNG project). The biogas produced at the CR&R site is injected into SoCalGas’ network after being “upgraded” to pipeline quality RNG.

## City of Toronto Sets the North American Pace for Organics Recycling & Clean Fuel

The City of Toronto, Ontario and local utility Enbridge Gas Distribution have embarked on a pioneering public-private partnership to turn residential food scraps into nutrient-rich compost and clean, carbon-free fuel for use in the city’s refuse collection fleet.

The project supports the city’s goals both of cutting climate emissions 80% by 2050, and diverting 70% of solid waste from landfills by 2026. In 2015, Toronto diverted 52% of its total residential solid waste from landfills via recycling. By contrast, in the same year New York City achieved a diversion rate of 16%.

The project stands out as an example for large cities of what a metropolis can do when it not only sets environmental goals, but also commits to practical action to achieve them.

Since 2002, Canada’s largest city and the fourth largest in North America has collected food scraps and yard waste from houses and apartment

buildings through its mandatory Green Bin program. Under the program, residents are required to “source-separate” food scraps, in addition to paper, glass, plastic and metal recyclables, which go into blue bins. Green and blue bins are provided at no cost to residents, whereas black garbage bins are paid for monthly and offered in three different sizes.

In 2015, 93% of Toronto residents participated in the Green Bin program, diverting 115,000 tons of food scraps from landfills. These organics are collected by Toronto’s municipal refuse fleet and then processed at two city-owned anaerobic digester facilities. The Dufferin facility began operations in 2003, and in 2016 the larger Disco facility was opened. By summer 2019 the two plants are expected to handle over 140,000 tons of food waste per year.

At both facilities, organics processing begins with the removal of contaminants like plastic bags, and the occasional bowling ball!



*Toronto’s Disco Road Organics Processing Facility transforms residential food scraps into “biogas” and compost. Located within the city limits, the facility is completely odor-free.*

## LETTER FROM THE FOUNDER



Our Canadian neighbors in Toronto (see page 1) have accomplished something quite revolutionary. They have created a model for cities across Canada, the US and beyond of how urban organic waste problems can be solved, with air quality, climate change, and economic benefits.

The critical benefit, in a world that requires urgent progress in cutting climate-changing greenhouse gases, is eliminating the methane gases emitted by Toronto's organic wastes.

The Toronto project shows what cities, states and the world can do to transform methane gases from a costly liability into a significant resource for fighting climate change – biomethane fuel – especially when this fuel displaces the high-carbon diesel that has powered its buses and trucks.

While much of the climate debate has focused on limiting carbon dioxide emissions, methane emissions are much more problematic in terms of their impact on the climate. The most recent UN report has indicated that countries around the world must act rapidly in the next 20 years to keep global warming below 2 degrees Celsius or see disastrous weather events – storms, droughts, floods, melting ice caps, and more, thoroughly disrupting life on this planet. **Methane is 86 times more potent than carbon dioxide, making these greenhouse gases the most urgent to eliminate!**

Toronto has cut its waste stream, previously shipped for disposal to landfills as far away as Michigan and New York State, by a whopping 25% by requiring that businesses and residents separate their food wastes, which are then collected and processed in two city-owned anaerobic digester facilities.

The air-quality benefit kicks in when biomethane takes the place of diesel in powering the city's refuse fleet. The new trucks have close to zero health-threatening nitrogen oxide and particulate emissions.

The cost of Toronto's two digester facilities is more than \$100 million dollars, and there are operational costs. But these expenses will be largely offset by providing a renewable and secure source of fuel for decades to come. It also allows Toronto to eliminate the need for distant landfills and their economic and environmental costs.

It is vital that the flood of climate change proposals being put forth in the US at the state and federal levels under the new Congress drive not only solar, wind and other renewable energy sources, but also expansion of digester technology, helping turn the US's treacherous flow of potent methane gases into a front-line resource for meeting the awesome climate challenge we face.

## EV: On The Road

**Jan 4** Kyle Jeremiah spoke to the Metropolitan Hospital Community Advisory Board in East Harlem to promote EV's urban farm/organic waste-to-energy project for NYCHA's George Washington Houses Development.

**Jan 10** Joanna spoke at the City Gardens Club of New York City to an audience of 200, focusing on an emerging resource to produce clean fuel and combat climate change: organic wastes.

**Feb 12** Matt, along with officials from industry, gov't, academia and other NGOs, met with NY policymakers in Albany to discuss the opportunity to reduce the state's methane emissions and advance climate/clean energy goals.

**Feb 14** Joanna testified at the first-ever public hearings on climate change in NY, chaired by State Senator Todd Kaminsky, where she proposed modification of legislation to include biomethane, a proven, cost-effective renewable energy resource.

**Feb 26-27** Matt presented at the largest solid waste industry conference in North America in Boston, where he discussed the quickly growing market for capturing methane and using it to fuel heavy-duty buses and trucks.

**March 5** Matt was a lecturer at a Cooper Union graduate engineering class on green infrastructure, where he spoke on the important intersection between technology and policy/economics in advancing climate-smart solutions.



**March 8** Phil Vos testified before the NYC Council's Environmental Protection Committee on the opportunity to upgrade the city's wastewater treatment plants to capture methane and use it to fuel heavy-duty vehicles (above).

From there, the material moves to the digesters where, over a period of 4-5 weeks, it is broken down in the oxygen-free atmosphere of the digesters' tanks. This process produces methane-rich biogas and digestate, solids left over after the digestion process, which are further processed into compost. When both facilities are fully operational, compost production will total 30,000 tons annually.

While the compost goes to farms and gardens all over Ontario, until now the biogas hasn't been used as an energy/fuel resource beyond the walls of the plants. Any excess gas was merely burned off ("flared") to prevent the escape of potent methane emissions into the atmosphere. However, starting this year, the biogas from Dufferin will be cleaned to pipeline-quality renewable natural gas (aka RNG or biomethane). Work on a similar project at the Disco facility will begin later this year.

Digester biogas is normally made up of about 60% methane. But when carbon dioxide, moisture and



*Toronto has the most robust organics collection and recycling program in North America, largely because it is required and residential participation is very high.*

impurities are removed, the resulting RNG is 95%+ pure methane, and can be used interchangeably with conventional natural gas—for heating/cooling, cooking, industrial uses, and powering vehicles.

Most important, because it's made from methane that would otherwise have escaped into the atmosphere, **RNG is net-carbon-neutral, or even net-carbon-negative—meaning that its production prevents more green-**

*house gas emissions than are emitted burning it.* Once upgrading at Dufferin begins, RNG will be injected into Enbridge's natural gas grid. It will be used by Toronto to fuel its refuse trucks, creating a closed-loop system in which the trucks are powered by fuel made from the very materials they collect.

Dufferin alone will produce enough RNG for 132 collection trucks—90% of the refuse fleet. The city is still developing plans for the gas that will be produced at Disco, but according to Toronto's Solid Waste Division, the two facilities combined may produce enough RNG to displace 2 million gallons of diesel fuel annually.

According to Toronto Mayor John Tory, "This project represents a path to low-carbon fuel for the city and will play an important role in helping us reach our goal of reducing greenhouse gas emissions by 80% by 2050. The city remains committed to its climate change action goals and to creating a more sustainable Toronto."

## EV Board Expansion: Rima Calderon & Victoria Rosamond

Energy Vision is pleased to welcome to our Board of Directors communications professional **Rima Calderon** and attorney **Victoria R. Rosamond**. Their addition will strengthen our board leadership as we expand EV's exploration of clean energy sources and fuels for a sustainable future.

**Rima Calderon** joined The Washington Post Company (now Graham Holdings) in 1991 and retired as Vice President of Communications and External Relations in 2014. Previously, she was Director of Corporate Relations at The Phillips Collection; Editor of The Kennedy Center Programs/Magazine; Producer of The Kennedy Center Honors Oral History Program; and Ass't Editor of Lincoln Center Programs.

Rima was active in the DC metropolitan area nonprofit community, serving on nonprofit boards including Washington Performing Arts, Inner City-Inner Child/Dumbarton Concerts, Syntetic Theater and The Lab School. In 2015, she was honored by



*Rima Calderon*



*Victoria Rosamond*

the Kaplan Educational Foundation for her contributions to education. Rima graduated from Barnard College and has three grown children and four grandchildren.

**Victoria Rosamond** is an attorney and partner at Katten Muchin Rosenman, LLP in the Transactional Tax Planning practice, focusing on executive compensation and employee benefits. She has been recognized as one of the Rising Stars in Super Lawyers 2014 and 2016. For the fifteen preceding years, she worked for White & Case, LLP in New York and Linklaters LLP in London, Singapore and New York.

Victoria is a member of the New York State Bar Association and is a Solicitor of the Senior Courts of England and Wales. She graduated from the University of Bristol, from the BPP Law School, one of the UK's leading law schools, and received her LLM from Fordham University School of Law. Victoria lives in Larchmont with her husband and two children.

Much of this RNG is then dispensed at CR&R's truck depot as fuel for 400 of its existing natural gas refuse collection vehicles. Because this RNG is made using organics from 40 Southern California cities, CR&R's fleet is powered by the very materials it collects, making this a completely closed-loop and carbon-free operation.

At the beginning of 2019, biofuel producer Calgren, which has been developing a "dairy pipeline cluster" to produce RNG from manure at multiple dairy farms, began injecting biomethane into the SoCalGas system. Calgren's goal is to collect the biogas from anaerobic digester systems at 12 Tulare County dairies, thereby preventing

130,000 tons of greenhouse gases from escaping into the atmosphere annually.



*Calgren Dairy Fuels in CA's Central Valley became the first dairy digester project to connect with the SoCalGas network in Feb 2019.*

Increased biogas production to make that RNG will also divert organics from landfills, and help drain environ-

mentally hazardous manure ponds on livestock farms. In addition to environmental benefits, there are economic ones: construction of facilities will attract investment and create jobs, and will provide farmers with an additional revenue stream.

According to David Phillips, associate vice president of energy and sustainability at the University of California, "Our campuses currently rely on gas-fired power plants to keep the lights on... Decarbonizing our gas supplies can be an effective strategy to lower our greenhouse gas emissions. Widely available renewable natural gas will bring us and the rest of California closer to carbon-neutrality."

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**Energy Vision is a national environmental NGO working to advance commercial and cost-effective options for a carbon-free economy.**

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