

# Neste and the City of Oakland create a thriving circular economy:

Fueling the city's Fleet with Neste MY Renewable Diesel™ made from locally sourced waste

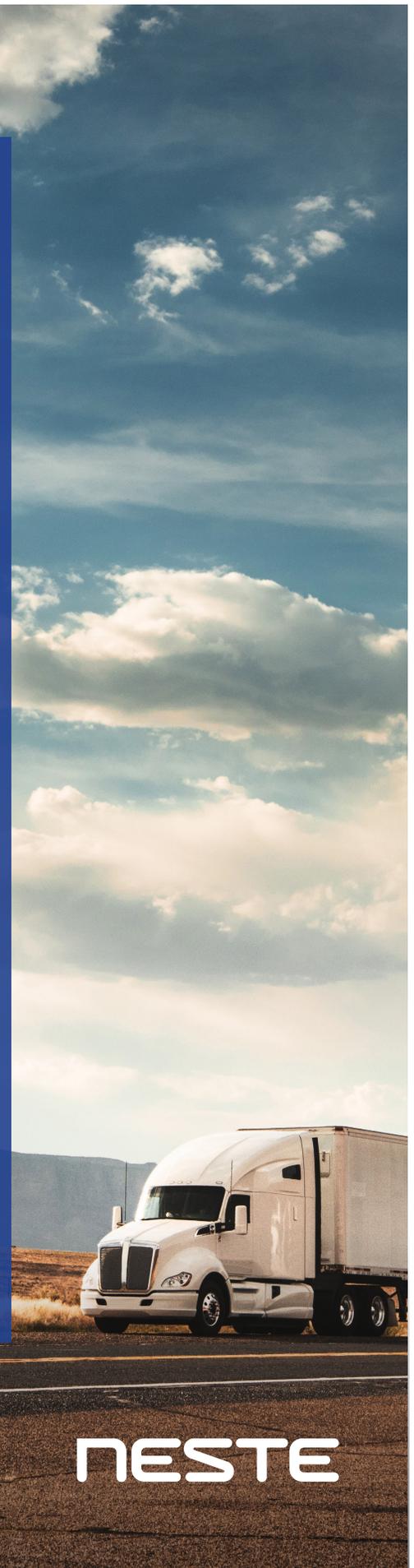
As forward-thinking cities and businesses strive to achieve their sustainability and climate goals, using waste as a resource increasingly provides a way to deliver.

Take the City of Oakland, California, which is the 10<sup>th</sup> greenest city in the U.S. Oakland is determined to climb the ranks and make it to number one. As part of the journey to get there, the City began fueling its diesel-powered vehicle fleet and machinery with renewable diesel in 2015, a cleaner-burning and low-emission fuel made from waste materials such as used cooking oil, grease and rendered fats.

More recently, the City of Oakland worked with Neste and Western States Oil (WSO) to create a circular economy, where locally sourced waste materials are used to create the renewable diesel that helps fuel the City.

The City's transformative journey is made possible by Neste and WSO. Together, these two companies have created an end-to-end value chain—from collecting locally sourced waste, to converting that waste into renewable diesel, and then providing that renewable diesel back to the City of Oakland.

As a result, the City of Oakland's municipal fleet and machinery is virtually fossil free, with garbage trucks, street sweepers, generators and many other vehicles fueled with cleaner burning, low-emission Neste MY Renewable Diesel™. This approach has consistently earned the City of Oakland a spot on the list of the top 30 greenest fleets in America.



**NESTE**

# In a circular economy,

waste is a resource that is helping the City of Oakland achieve its climate goals.

Neste and the City of Oakland's circular economy keeps **3,275 metric tons of greenhouse gas emissions** from entering the atmosphere.

Delivering the same climate benefits as\*:



Keeping nearly **330,000 gallons of oil** in the ground



Planting nearly **56,000 trees**



Making nearly **800 passenger cars** zero emission



Winner of the Fast Company World Changing Ideas Award.

\*According to the U.S. Environmental Protection Agency's greenhouse gas equivalencies calculator

In 2020, Oakland adopted its 2030 Equitable Climate Action Plan, a comprehensive, ambitious strategy to address environmental, social and climate justice issues and reshape the City's transportation sector. The city's biggest goal? Reduce carbon emissions by nearly 60% by 2030 compared to 2005 levels.

Nurturing the circular economy and continuing to fuel municipal vehicles and machinery with renewable diesel plays an important role in achieving this. After just one year, the City of Oakland has seen real, lasting positive environmental and economic results from its pioneering circular economy. Importantly, these benefits did not cost the city — or taxpayers — anything extra.

**“Our partnership has made ‘from city waste to city fuel’ a reality, and has, in turn, improved the lives of the people in the city. Oakland’s choice of making local waste part of its energy solution sets an example for all of California, for the U.S. and beyond,”** said Jeremy Baines, President of Neste US.

With this circular economy, the City of Oakland is setting an example for the world. The message is simple: Treat waste as a resource. By doing this, other cities and businesses can more quickly and affordably help fight climate change and air pollution, enhance public health, support local economic development and mitigate geographic disparities with regards to pollution exposure that burden low-income communities.

## How it works:

### The Innovative Process with a Big Return

The City of Oakland already had all the right pieces to create a circular economy. It had made the switch to renewable diesel in 2015, and restaurants within the city limits were already collecting and recycling used cooking oil, grease and other waste materials. All that needed to happen was to close the loop. Fortunately, Neste and WSO had the right people and tools to collect and convert the city's waste into Neste MY Renewable Diesel™ for the city.



WSO collects the used cooking oil, grease and fats from more than 110 local Oakland restaurants. In the first three months of the program alone, they collected an estimated 750,000 pounds of used cooking oil — about the same weight as 60 adult male African elephants — from the San Francisco-Oakland-Hayward metropolitan area.

Neste, in turn, purchases and converts this waste into renewable diesel, which is provided back to WSO and then ultimately ends up in the fuel tank of a vehicle, generator, or other piece of equipment operated by the City of Oakland.

Neste has built a unique end-to-end renewable products supply chain, and can trace each drop of renewable diesel back to the waste materials used to make it. This

is something few — if any — other fuel providers can offer, and allows Neste to work with partners to create a circular economy for cities and businesses. For this program, Neste and WSO are able to show that the waste collected from participating local restaurants eventually comes back into the city as a high quality renewable fuel.

“*The principles of the circular economy include rejuvenating natural systems, designing out waste and pollution, and keeping products in use longer, which is a win for all parties involved, including the planet,*” said Greg Michael, president of Western States Oil. “*Any region, urban or rural, can participate in the circular economy, and the best part is there are virtually no infrastructure changes or vehicle recapitalizations required.*”

## WORTH THE INVESTMENT

**For infrastructure:** Prolongs sewer systems and piping

**For residents:** Improves air quality in the city

**For businesses:** Get paid for used cooking oil rather than seeing money go down the drain

**For the economy:** Supports local jobs and businesses involved in waste oil collecting processing as well as renewable fuel distribution

**For vehicles and equipment:** Extends lifespan of diesel exhaust treatments and time between required oil changes

**For the planet:** Prevents 3,375 metric tons of greenhouse gas emissions from entering the atmosphere per year

**For the fleet managers:** Reduces regeneration issues, which results in lower fuel and maintenance costs

**For people working with vehicles and machinery:** Provides a cleaner burning fuel, which means a healthier, safer working environment



# A Seamless Integration:

## Working Hand-in-Hand to Enhance Operations

To lift this program off the ground, Neste worked closely with WSO to ensure a one-stop shop for Oakland — from collection of waste to the supply of renewable diesel.

*“The overall process to integrate this system was efficient and helped our overall operations. In the 25 years I’ve been in the fleet industry, implementing the circular economy model has been one of the easiest sustainability initiatives,”* said Richard Battersby, Assistant Director at City of Oakland Public Works. *“Not only have we had a great experience working with both Neste and WSO, but we have also taken a large step closer to our overall low-carbon economy while simultaneously adding a multitude of benefits to our residents, businesses, infrastructure and planet.”*

A top priority for Neste, Oakland, and WSO was that the circular economy could be created and keep running sustainably. This requires care and effort, especially with local communication and implementation of practices that may be alien to the collector. But with Neste and WSO’s strong community ties and commitment to sustainability, it was ultimately a simple and easy process to implement this circular economy in Oakland.

The City of Oakland believes that a circular economy will be critical for creating a more sustainable future, and is encouraging cities and businesses to start looking at their own waste as a resource. That’s why this program is so important - Oakland, Neste and WSO have shown that it is possible to quickly, efficiently and affordably create a circular economy. Now, Neste and WSO stand ready to help other cities and businesses across California to follow in Oakland’s footsteps and start running their fleets and equipment on renewable fuel made from their own waste.

### The Neste Promise: Supplier Code of Conduct

1

Compliance with all laws and regulations

2

Precautionary approach to environmental impacts and climate change

3

Respects all human and labor rights

4

Zero tolerance for corrupt practices, outside or within the company

5

Fair competition and in compliance with antitrust laws

6

Must uphold occupational health, safety, and security in business

# Progressively Advancing:

## The Benefits of Renewable Diesel

### Renewable Diesel in California: A Decade of Advantages

Prevented more than **18 million tons** of greenhouse gas emissions from entering the atmosphere

Keeping more than **1.6 billion gallons** of oil in the ground

this equates to...

 Building and operating **3.5K wind turbines** for a year

 Taking more than **3.5 million cars** off the road

 Planting **270 million trees**

Even without a circular solution, making the switch from fossil diesel to renewable diesel delivers many benefits. Importantly, renewable diesel still provides a closed loop solution — using one industry’s waste to make low-emission renewable fuels to keep vehicles, people and goods moving. It is also available today, with a strong track record of environmental benefits.

*“Switching to renewable diesel does not cost any money. Not switching to renewable diesel costs us in climate change and excess emissions. It is the best investment any business or city could make,”* said Oakland Mayor Libby Schaaf. *“This ‘today’ solution has a huge effect on our operations and in the world.”*

Neste and its many partners across California, like WSO, have the expertise and supply to help cities and businesses to kick the oil habit and make a seamless transition to Neste MY Renewable Diesel™.



## A Healthier Future

As more people — whether they are city residents, investors, employees, or customers — demand action on climate change, choosing to use waste as a resource and creating a circular economy is a simple way to divest from fossil fuels and a cost-effective step toward carbon neutrality. Every step can bring a business or city closer and closer to reaching its climate goals by reducing dependency on fossil fuels and proving that every sector, every piece of equipment, and every restaurant can be a part of the solution.

Anticipating more demand for renewable products and circular solutions, Neste is enhancing its fully traceable end-to-end supply chain. This includes acquiring Mahoney Environmental, one of the largest back of house service providers to industrial kitchens in the United States. Mahoney

provides services to more than 37,000 entities, including used cooking oil collection. Together, Mahoney and Neste can provide each of these businesses circular economy solutions.

There are so many possibilities. Imagine, for example, a world where the flights out of San Francisco, California, to Chicago, Illinois, or Houston, Texas, are powered by the used cooking oil collected from the Dallas Fort Worth and Chicago O'Hare airports. Or, a world where sports fans cheering on the Chicago Cubs come to and leave Wrigley Field on buses powered by renewable diesel made from the stadium's own used cooking oil. These circular solutions are the immediate answer to today's problems as we wait for electrification to become more widespread. It's a small switch with a large impact.