

SUSTAINABILITY REPORT

2019



Recology™

WASTE ZERO

Proudly Employee Owned

Recology
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24th Floor
San Francisco, CA 94111



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Recology: a world without waste

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Recology is...

an integrated resource recovery company that provides environmental services – including materials collection and processing, product sales, and education – to more than 140 communities throughout California, Oregon, and Washington.

Across more than 40 operating companies, Recology strives to reuse and recycle materials that were once considered waste, thereby reducing landfill disposal and promoting healthy, sustainable communities.



San Francisco, CA

Recology stands at the forefront of the resource recovery industry, creating innovative programs and partnerships to address some of the greatest environmental challenges of our time.

We pride ourselves on a long history of partnering with communities to recover resources, reduce waste sent to landfill, and sustain the natural environment. In 2019, Recology will collect and process nearly 2.8 million tons of materials, much of which will be repurposed through company programs for reuse, recycling, composting, or energy generation.

Our goal remains to provide value to our communities, employee owners, and partners while ensuring our natural resources are recovered and re-introduced to local and global economies. Along the way, we strive to maximize environmental sustainability throughout our operations – investing in renewable fuels, innovative processing technologies, and advanced water recycling and emission management systems.

As we look to the future, we will continue to work together to embrace our vision of a world without waste. We will champion the culture of employee ownership, and promote a business environment where decisions are made in the best interest of employees and the communities they serve. We will invest in advanced technologies, expand our recovery infrastructure, and engage our unique and diverse customer base – endeavors guided by the principle to create lasting change.

Only together, can we achieve a more sustainable future.

Sincerely,

Michael J. Sangiacomo
President & CEO



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Our efforts could not come at a more critical time, as climate impacts, and an alarming – and growing – concentration of plastic waste in our streams and oceans threaten the integrity of our ecosystems.

ABOUT THE REPORT

Environment

Recycling
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Community

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Employee Development
Safety & Health Services

Beyond Waste

Industry Leadership
Recology Strategic Plan: 2019 - 2023

William Calahan,
Recology King County

In our 2019 Sustainability Report...

You will learn how Recology engages our local communities, supports our employee owners, and helps sustain the environment upon which we all depend. Included in the report are highlights of Recology achievements in resource recovery and environmental stewardship, as well as commitments to our community partners and stakeholders. You will also read about our investments in innovative programs, partnerships, and technologies that embody our commitment to preserving our natural landscape, empowering communities, and supporting our dedicated workforce.

This sustainability report is comprised of three core sections – Environment, Community, and Culture. Together, these elements shape the **core principles of sustainability at Recology** – an intersection of environmental and social values that support and restore our collective welfare through respecting the natural environment and fostering healthy and resilient communities.

ENVIRONMENT



COMMUNITY



CULTURE



Vision: Recology: a world without waste

Recology sees a world without waste, where resources are used and re-used in a sustainable ecosystem that strives for their best and highest use.

Mission: Recology builds exceptional resource ecosystems

Recology is a company dedicated to building exceptional resource ecosystems that protect the environment and sustain our communities. We strive for the best and highest use of all resources.

2018 at a glance...

Recology provides exemplary environmental services, supports our local communities, and fosters a unique workplace culture where our employee owners thrive. Join us in celebrating our 2018 accomplishments:

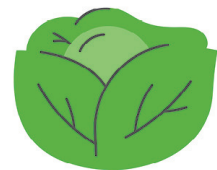


1.2 billion

pounds of recyclable materials, marketing more than 20 different commodities, including paper, metals, glass, and plastics.



Compost



We processed 1.6 billion pounds of organic material to produce 26 varieties of nutrient-rich compost and mulch.

renewable energy

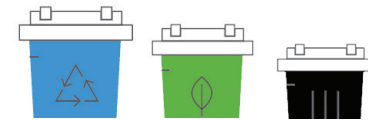
We generated 40,900 megawatt-hours of renewable energy at our facilities from solar arrays and landfill gas-to-energy engines, which is enough power to meet the annual electricity demand of nearly 4,000 US households.¹



offset greenhouse gas emissions

We maintained 587 acres of natural space at our facilities, including species habitat, conservation easements, and open spaces.

587



We offset greenhouse gas emissions by 1.7 million metric tons of carbon dioxide equivalent through our recycling and composting activities.²

69 million

We conserved 69 million gallons of fresh water by using recycled water at our facilities.



600

Nearly 600 employee owner volunteers donated 1,975 hours of their time for community service efforts.



60 employee owners held leadership positions in 140 community organizations.

1,200



We delivered 1,200 educational presentations and trainings, and led 265 tours at our recovery facilities.

Artist in Residence

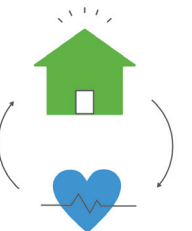
We hosted 22 local artists through Recology Artist in Residence programs.



employee owners

Our diverse workforce of more than 3,700 employee owners worked toward a shared vision and mission.

36% of our employee owners celebrated more than a decade working for Recology, while 34% of our employee owners began their employee ownership journey within the past two years.



58%



Minority or women employee owners held 58% of the value of Recology shares.



ENVIRONMENT

The Recology mission to achieve the best and highest use of all resources is a departure from traditional disposal operations, and serves as a guiding principle for the wide variety of environmental services we provide – from materials collection and processing to commodity sales and energy production. Recology prioritizes mitigating the environmental impact of our operations by investing in renewable energy, water recycling and reclamation infrastructure, and emission control systems. These decisions support a business model that considers environmental and social factors to help foster a more equitable and sustainable future.

Recycling



Recycle Central at Pier 96,
San Francisco, CA

Recology Material Recovery Facilities

The pursuit of our environmental mission relies partly upon our comprehensive network of material recovery facilities (MRFs) that process more than 3 million pounds of recyclable materials daily. Recology MRFs are critical components of our resource recovery operations and transform mixed recyclables collected from recycling bins into sorted commodities ready to be manufactured into new products.

As longstanding leaders in the recycling industry, Recology continually invests in new technology to maximize material recovery from the waste stream and process high-quality, marketable commodities.

Did you know?

In 2018, Recology invested in processing improvements at our **LEED-certified recycling facility in Samoa, CA**. The upgrades include new conveyers and paper screens, as well as an advanced glass crushing and cleaning system. Combined, the system has increased material throughput by 40% while allowing the facility to produce cleaner, higher quality products.



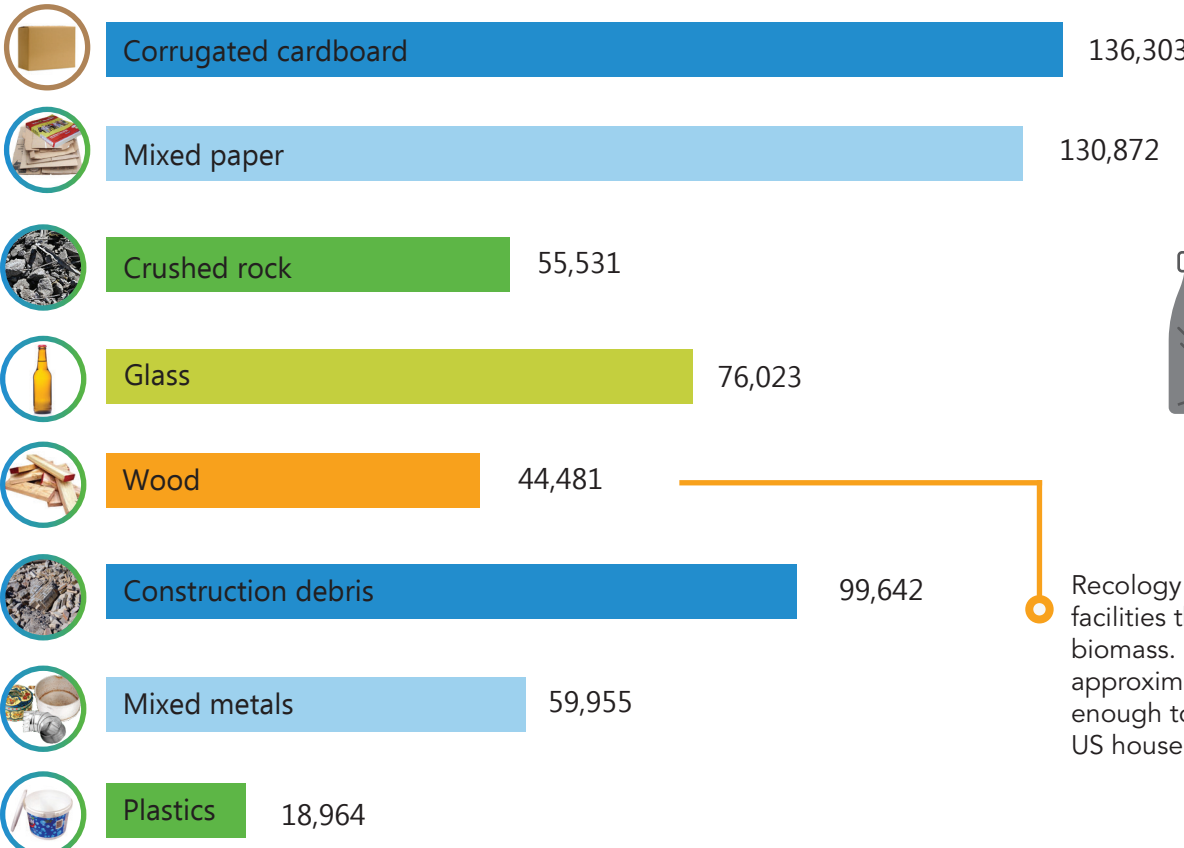
Recyclable Materials

Recology marketed more than **1.2 billion pounds** of recyclable materials in 2018. While recycling mainstays like cardboard, paper, metal, glass, and plastics comprise the majority of these materials, Recology manages a comprehensive recycling network that goes beyond conventional commodities.

Did you know?

Recycle Central at Pier 96 in San Francisco, CA markets 20 different commodities, including multiple varieties of metals, plastics, glass, and fiber products.

Conventional Commodities (tons)



58%

of recyclable materials marketed by Recology in 2018 were sold to domestic recyclers. Recology continues to seek local recycling solutions for collected materials.

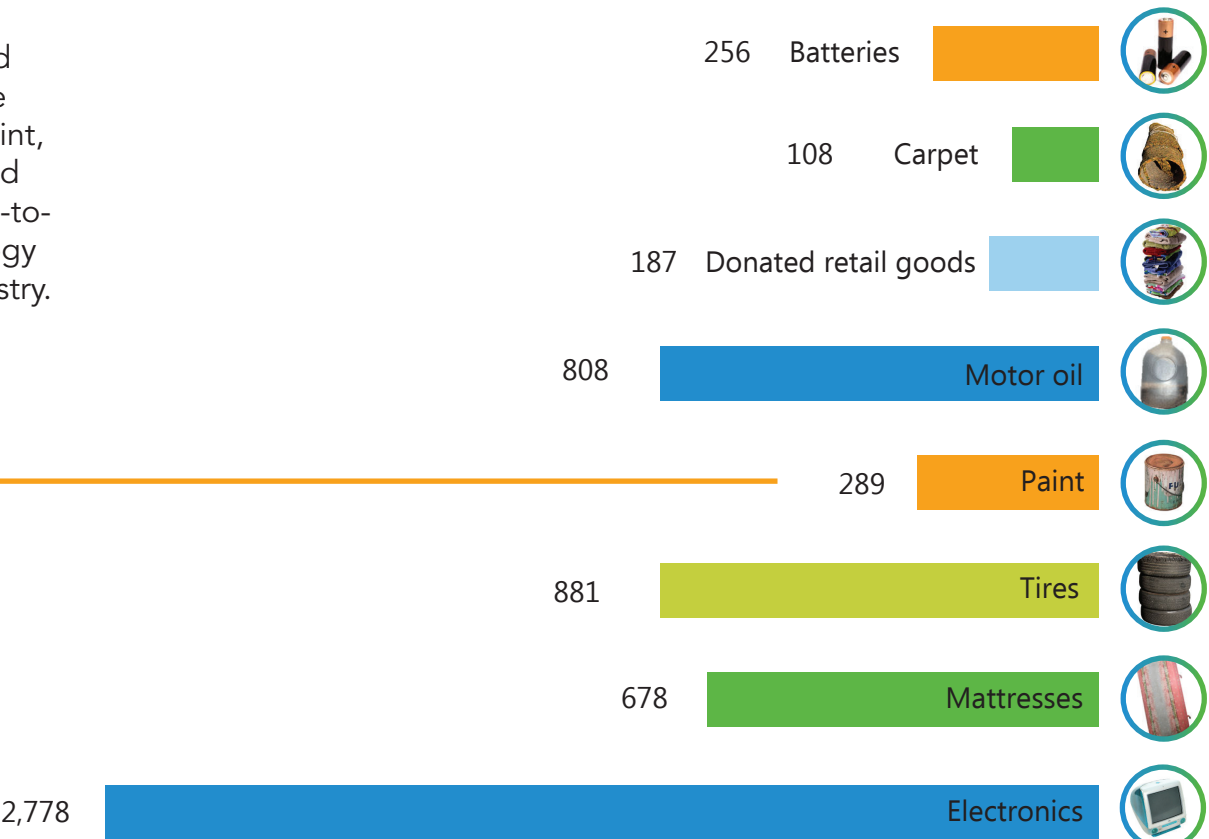


Recology sends a portion of collected wood to cogeneration facilities that produce combined heat and power from biomass. In 2018, Recology wood contributions generated approximately **15,900 megawatt-hours of electricity**³ – enough to satisfy the annual electricity demand of over 1,530 US households.¹

In many communities, Recology works closely with specialized recyclers to expand recovery programs to include materials like electronics, carpet, batteries, motor oil, paint, and even polystyrene foam. Working to find effective and convenient solutions for hard-to-recycle materials is one of the ways Recology differentiates from competitors in the industry.

In 2018, The Recology Store in Bothell, Burien, Issaquah, and Shoreline, WA collected **2,962 gallons of latex paint** for recycling with local partner, GreenSheen.

Special Item Recycling (tons)

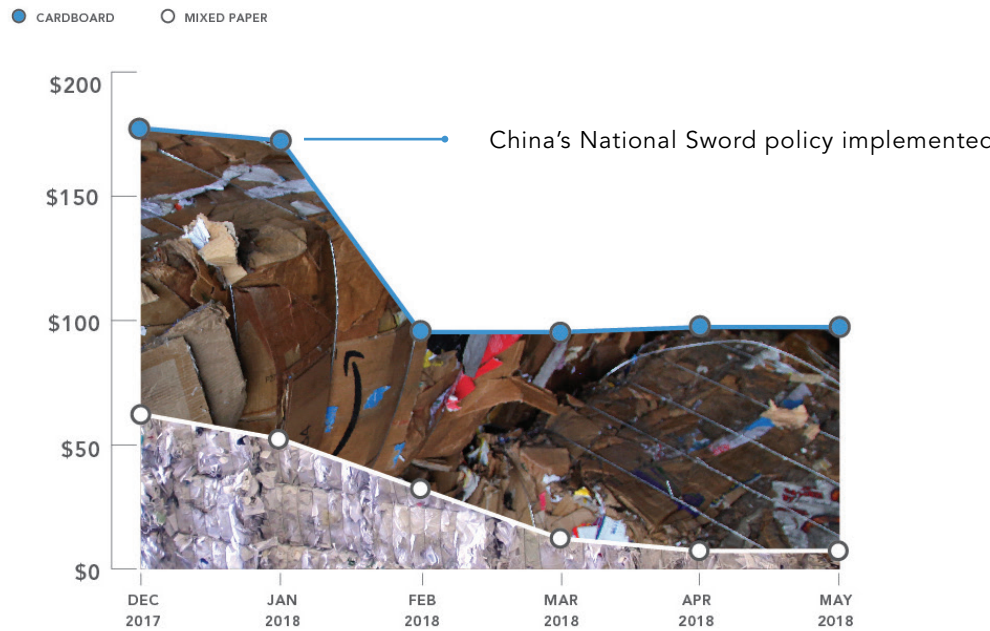


Resilient Recycling

Since the advent of the global recycling commodities market in the 1980s, China has been the primary consumer of the world’s paper and plastics. In 2017 China imported 56% of California’s exported recyclables and was the single largest recipient of recyclable materials from the United States.⁴

In January 2018, in an effort to address environmental issues and incentivize domestic recycling, China implemented its **National Sword policy** – placing strict quality requirements on imported recycled materials and banning others outright. The result was an unprecedented disruption in the global recycled commodities market, including declining prices for recyclable materials, volatile market capacity, and a backlog of processed materials. The recycling industry changed virtually overnight, and Recology and its industry peers were required to react.

Cardboard & Mixed Paper Market Price⁵ (per ton)



Recycle Central at Pier 96, San Francisco, CA

\$14 MILLION

Since 2016, we have invested over \$14 million upgrading Recycle Central at Pier 96, the Recology material recovery facility that processes recyclable materials collected in San Francisco, CA. The facility now boasts the **longest pre-sort line in North America** and seven of the most advanced optical sorting systems available. Combined with ongoing education and outreach, these investments have enabled Recology to meet the strict quality requirements now demanded of the international commodities market.

Amid an industry-wide response that included sending recyclable materials to landfills and significantly reducing municipal recycling programs, **Recology leaned into the challenge**. Recology identified alternative overseas markets, bolstered domestic partnerships, and collaborated with municipalities to keep community recycling programs afloat. Recology also invested over \$16 million in recycling infrastructure to improve material sorting and meet the strict quality requirements now demanded of Chinese imports.

Recology outreach personnel continue to educate on source reduction strategies and ways to improve recycling participation. Recology also remains a strong supporter of progressive waste-reduction legislation, openly challenging plastic producers to manufacture high-grade, recoverable resins. To ensure Recology – and the recycling industry at large – can continue to market recycled commodities and provide sustainable solutions for recyclable materials, producers, consumers, and resource recovery providers must work together.

Better at the Bin

To support investments in technological improvements at our recycling facilities, Recology launched a major education and outreach initiative – Better at the Bin – to inform consumers about the global recycling challenges and frame the issue from the perspective of individual actions that contribute to successful recycling programs.

Better at the Bin started as a collaboration with local zero waste advocate, **Kathryn Kellogg**, to build a campaign designed to encourage and inspire customers to embrace waste reduction behaviors and be more attentive to properly sorting their recyclable and organic materials.

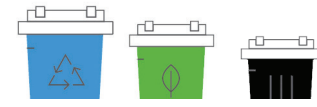
Through the Better at the Bin campaign, Recology partnered with San Francisco artist **Sirron Norris** (pictured right) and a group of local elementary students to a design a colorful truck with a powerful message. The Better at the Bin truck made appearances with Recology outreach personnel at San Francisco’s City Hall, Golden Gate Park, and local schools, providing a centerpiece for educational conversations about recycling and sustainability. The artwork was also transformed into a coloring book for educators and families to use in recycling discussions with children.

Better at the Bin is a key tenet of the Recology education platform and provides compelling – and simple – ways for everyone to help support resource recovery programs. Better customer participation helps Recology produce cleaner and more marketable products and preserves our planet’s natural resources.



The Better at the Bin truck debuted in front of San Francisco’s City Hall in 2018.

Leading San Francisco to Zero Waste



In partnership with the **City of San Francisco**, Recology implemented a progressive and ambitious initiative to increase waste diversion by modifying the size of residential receptacles. The previous standard of 32-gallon carts for all three waste streams – recycling, organics, and landfill – had been in place since 2002. The new standard of a 16-gallon landfill cart and 64-gallon recycling cart would accomplish two goals – reduce landfill tonnage and increase the collection of recyclables.

The two-year project set milestones in more ways than one, resulting in a thirteen percent reduction in landfill-bound material and a twelve percent increase in recycling. Recology also expanded the list of materials accepted in its recycling program and kept residents informed of the transition through a strategic, four-part outreach campaign that preceded the new cart rollout. This initiative is the **single most successful undertaking by Recology to improve landfill diversion in San Francisco** – a city that leads North America in resource recovery and stands at the forefront of progressive waste reduction policies.



San Francisco, CA
Recology Golden Gate
Recology Sunset Scavenger



Recycling

Recology 2018 recycling services offset emissions equivalent to each of the following:⁶

Environmental Benefits

The environmental benefits of recycling include reduced energy use, minimized impacts from extracting and processing raw materials, and improved carbon sequestration from less deforestation.

In 2018, Recology recycling activity reduced greenhouse gas emissions by an estimated 1.3 million metric tons of carbon dioxide equivalent.²

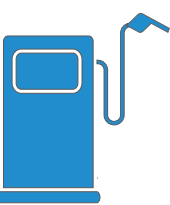
1.6 Million

acres of US forests' carbon sequestered annually



153 Million

gallons of gasoline not consumed



237,000

homes not using electricity for one year



51 Million

incandescent lamps replaced with LEDs



Recology 2018 composting services offset emissions equivalent to each of the following:⁶



89,900

passenger vehicles removed from the roads for one year



47 Million

gallons of gasoline not consumed



73,800

homes not using electricity for one year



16 Million

incandescent lamps replaced with LEDs

Organics

Environmental Benefits

In addition to improving soil health and water retention capacity, composting organic material minimizes the production of methane – a greenhouse gas more potent than carbon dioxide in terms of its contribution to climate change.

In 2018, by preventing the landfilling of organic material through our composting operations, Recology reduced greenhouse gas emissions by an estimated 423,000 metric tons of carbon dioxide equivalent.²



Organics

What is compost?

Compost is a nutrient-rich soil amendment made from a combination of yard trimmings, food scraps, and other organic materials. By adding water and tending the organics piles to maintain specific moisture, heat, and nutrient properties, Recology composting facilities can transform raw feedstocks into finished compost products in sixty to ninety days. Farmers, gardeners, and vintners add compost to their fields and gardens to improve the physical properties of the soil and create stronger, healthier yields.

Application of compost provides valuable soil and ecosystem benefits, including supporting the sequestration of carbon from the atmosphere and reducing the need for synthetic fertilizers and herbicides. Compost increases topsoil resistance to erosion, reduces watering needs by retaining soil moisture, and increases the microbial activity of the soil community, thereby creating healthier soil systems and increasing crop yield.

Recology Compost Facilities

Since entering the market in 1996, Recology has grown to become an **industry leader in commercial organics collection and processing**. Recology is dedicated to keeping organic material out of landfills and is heavily invested in composting infrastructure. We operate nine composting facilities in two states, managing nearly five hundred acres of composting property with permitted feedstock tonnage that exceeds 2.5 million tons annually.

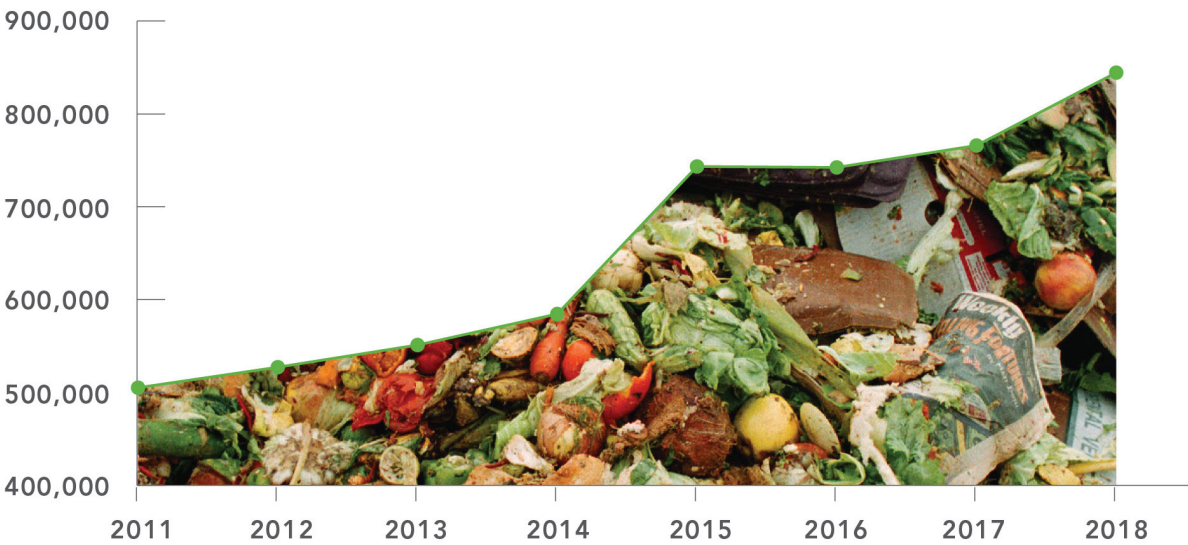
As more communities look to adopt or expand curbside organics collection to achieve waste diversion targets, and as local and state policies continue to promote organics services to mitigate climate change, Recology is poised to support these programs and help lead communities toward zero waste.



Did you know?

The Recology **Blossom Valley Organics** facility in Lamont, CA, uses treated wastewater from the Lamont Public Utility District in composting operations, helping greatly offset freshwater demands in this drought-sensitive region.

Recology Inbound Organic Material (tons)



In 2018, Recology compost facilities processed over 1.6 billion pounds of organic feedstock - a 67% increase since 2011.

Did you know?

From banana peels and coffee grounds, to yard trimmings and uncoated paper plates and napkins, Recology feedstock comes from everyday household items and presents a unique opportunity for individuals to impact change.

In November 2018, Recology opened the West Wing – an expanded organics transfer facility in San Francisco, CA. The 14,000 square-foot facility gives Recology the capacity to collect and transfer more than 1,000 tons of commercial organics daily and satisfy the progressive and ever-developing landscape of San Francisco’s waste diversion goals.



Recology West Wing, San Francisco, CA

Organics Sales

The Recology Organics team provides consulting services and product solutions for a diverse customer base, including conventional and organic farmers, vineyards, nut orchards, and landscapers. **Recology produces a variety of compost products, more than 20 varieties of mulch, and custom blend products to suit our customers’ needs.**

Compost testing is administered regularly throughout the composting process by independent, state-accredited laboratories to ensure rigorous safety, quality, and nutrient standards are achieved. All Recology compost carries the US Composting Council’s Seal of Testing Assurance. **Additionally, several Recology compost products are listed by the Organic Materials Review Institute and labeled by the Department of Food and Agriculture, an input-verifying constituent of the USDA’s National Organic Program.**

42%

Recology compost sales have increased 42% since 2011.

Kim Carrier
Organics Manager

Kim started at Recology as a Customer Service Representative, and has prioritized internal and external relationship building throughout her career. Thirty six years later, Kim leads a dynamic sales team to provide innovative compost solutions for our customers.



Recology Blossom Valley Organics, Modesto, CA



Step 1:

Collection of food scraps & yard trimming

Supporting a closed-loop resource ecosystem begins with businesses and individuals generating organic waste in the form of food scraps, soiled paper, yard trimmings, and untreated wood.

In the United States, the average person generates 463 pounds of organic waste each year,⁷ yet only 3% of US Households have access to a curbside food scrap collection program like those offered by Recology.⁸

Did you know?

Water plays a key role in transforming organics feedstocks into a finished compost product. Recology uses recycled water throughout our composting operations, maintaining a system of retention ponds that capture storm water for reuse.

In 2018, Recology composting facilities used more than **69 million gallons** of recycled or otherwise repurposed water, reducing impacts on municipal and groundwater systems.

Step 2:

Organics processing

Recology plays an integral role in the closed-loop resource ecosystem - transforming organic waste into compost that returns nutrients and microbes to the soil, while diverting waste from landfills.

Since 1990, national composting tonnage has quintupled.⁷



Step 3:

Compost application to farms, gardens & vineyards

Farmers, gardeners, and vintners apply compost to their land, enhancing the quality and sustainability of the products that find their way to our homes and restaurants.



" We've been using Recology compost since 2005, and our third-party testing proves it is the best product hands-down. Using compost has allowed us to nearly eliminate our use of commercial fertilizers.

Kevin Phillips
Michael David Winery
Lodi, CA



Sustainable Operations

Recology strives to mitigate the environmental impact of our operations by investing in cutting edge technologies and infrastructure. It's why we continue to integrate renewable fuels and electrification into our fleet. It's why we installed the largest privately-held solar array in San Francisco and continue to invest in water recycling and groundwater management systems. It's why we manage emissions by generating electricity from landfills, partnering with green energy providers, and transitioning away from fossil fuels. It's all part of the Recology business model that considers the impact of business decisions on our communities, employee owners, and the environment.

Recology Golden Gate, San Francisco, CA

Fleet & Fuels

Collecting, processing, and marketing millions of tons of materials requires a sizable fleet of vehicles. As one of the largest integrated resource recovery companies in the world, Recology maintains a comprehensive fleet, including collection and transfer trucks, support vehicles, and an array of off-road machinery, including bulldozers, loaders, and forklifts.

Fueling these vehicles is a **key environmental consideration** for Recology and represents a significant opportunity to mitigate company-wide greenhouse gas emissions.

Recology began pursuing alternative and renewable fuels for its vehicles well before the implementation of the 2009 Low Carbon Fuel Standard program in California – a statewide legislative effort aimed at reducing greenhouse gas emissions and dependence on conventional petroleum-derived fuels. Recology has since expanded its renewable fuel transition to operations throughout California, Oregon, and Washington to support similar legislative activity among west coast states.

Today, Recology maintains a diverse fuel portfolio of eight fuel and energy types – with more migration to renewable fuel sources each year.



Loren Lavezzolli, Recology Sunset Scavenger

8

The Recology fleet is powered by a diverse portfolio of eight fuel and energy types.

Fleet Breakdown

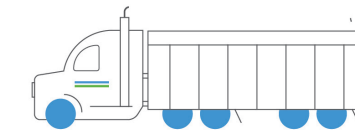
COLLECTION

60%



TRANSFER

25%



SUPPORT

10%



OFF-ROAD

5%





Recology primary fuels include diesel, unleaded gasoline, biodiesel, renewable diesel, renewable natural gas (RNG), compressed natural gas (CNG), liquified natural gas (LNG), and electricity.

Renewable Diesel

In 2017, Recology began transitioning many of its remaining diesel and biodiesel assets to renewable diesel fuel. This advanced biofuel is derived from biomass – or 100% renewable agricultural wastes. In addition to exhibiting lower particulates and reduced greenhouse gas emissions, renewable diesel does not contribute fossil-derived hydrocarbons to the atmosphere. The result is what is widely considered one of the **most sustainable fleet fuels available today**. Recology continues to work with vendors to supply renewable diesel fuel throughout our operations.

Biomethane

Recology introduced CNG and LNG fuels into our fleet in the early 1990s in an effort to transition away from conventional fossil fuels. As more advanced fuels entered the market, Recology continued to prioritize emission reductions by investing in RNG. This fuel is derived from biomethane, which is produced during the decomposition of organic matter and sourced from wastewater treatment facilities, livestock operations, and landfills.

Introducing RNG into our fuel portfolio represents yet another migration from fossil to renewable fuels, **reducing lifecycle greenhouse gas emissions by over 80%** compared to conventional diesel vehicles.⁹ As of

2019, approximately 75% of the Recology King County collection fleet is powered by RNG sourced from a local wastewater treatment facility.

Fleet Electrification

Fleet electrification continues to be an area of investment for Recology. In addition to diesel-electric hybrid collection vehicles, Recology put into service its first two 100% electric support vehicles in 2016. Since then, 13 additional 100% electric support vehicles have been added to the San Francisco and Seattle fleets, as well as an array of 16 electric charging stations to support the growing demand for these vehicles.

In April 2019, Recology purchased two 100% electric collection vehicles in partnership with the City of Seattle, New Way, and BYD. The first of their kind in the United States, these rear-load electric collection vehicles accompany the recent purchase of nine other 100% electric support vehicles, making **Recology King County the largest electric fleet in the company**. Investments in electric vehicles exemplify our commitment to sustainability and help set the stage for a 21st century fleet.

Fueling a Sustainable Future

Recology is committed to transitioning away from conventional fossil fuels. We estimate that 50% of our fleet was powered by renewable or alternative energy sources in 2018, and commit to achieve 90% by 2022.



Vacaville, CA, Recology Vacaville Solano



Efficient Facilities

Renewable Energy

Processing billions of pounds of recyclable and compostable materials annually uses a significant amount of energy. Many Recology facilities operate daily to accommodate large volumes of inbound materials and provide adequate recovery services for our communities. Conveyor belts, balers, sorting screens and grinders draw their power from the electrical grid, which in turn creates greenhouse gas emissions.

In 2018, Recology integrated its utility activity into a cloud-based software that tracks usage and provides resource analysis, reporting, and benchmarking alerts. The integration allows Recology to identify potential sites for efficiency projects and analyze spikes in usage. Additionally, Recology invests in solar technologies and implements high-efficiency LED lighting and motor systems in relevant facilities.

California retains the largest network of Community Choice Energy (CCE) programs in the United States. These not-for-profit agencies leverage the buying power of select municipalities to create sustainable energy portfolios using the infrastructure of existing utility providers. The result is a portfolio with higher renewable content and lower greenhouse gas emissions.

Currently, all eligible Recology electricity accounts are enrolled in one of nine CCE programs.



67%

of Recology electricity usage in California, approximately 12,000 MWh, is powered through a CCE program that provides greener, low-emission energy.¹⁰

As of 2019, **Recology hosts the largest privately-owned renewable energy system in San Francisco.** The 1,800-panel, 663-kilowatt photovoltaic array – constructed of highly efficient, Cradle to Cradle™ certified solar panels – is projected to generate more than 900,000 kWh of electricity during its first year of operation.¹¹

The system is designed to offset more than 90% of the electrical demand of the transfer facility.

0 GHG

Recycle Central at Pier 96 - the largest recycling facility on the west coast - is powered by 100% greenhouse gas-free electricity through a partnership with CleanPowerSF.¹⁰



Recology West Wing, San Francisco, CA
Photo: American Solar Corporation



Landfill Gas Management

Landfill gas – produced from the decomposition of waste in landfills – is comprised of greenhouse gases including methane and carbon dioxide. To mitigate the potential adverse climate impacts associated with the release of these gases into the atmosphere, Recology operates comprehensive gas management systems at our landfill facilities.

Recology-owned landfills employ advanced gas-to-energy combustion engines that capture methane through a network of integrated wells and combust the gas to power industrial engines. The energy produced through this combustion generates electricity, which is transferred directly to the electric grid and made available for public use.

In 2018, combustion engines at Recology landfills produced nearly 40,000 megawatt-hours of energy - enough to meet the annual electricity demand of over 3,800 US households.¹

For excess gas that cannot be converted to electricity, Recology operates comprehensive flaring systems that eliminate methane, thereby greatly reducing impacts on air quality and climate change.

In 2018, Recology landfill flaring systems combusted approximately 5,630 metric tons of methane, preventing the release of 140,675 MTCO₂e of greenhouse gases.¹²



29,867

Recology landfill flaring systems displaced greenhouse gas emissions equivalent to 29,867 passenger vehicles removed from the road for one year.⁶

Water Recycling Infrastructure

Recology operations use water to rinse vehicles, power wash road surfaces, and maintain dust control practices. Collection and transfer vehicles require daily washing for preventative maintenance and odor reduction.

To address this usage, Recology invested over \$1 million in water recycling systems over the past two years. Recology continues to invest in closed-loop vehicle washing and filtration systems that treat and recirculate wash water.

20,000

Recology water recycling systems improve the quality of discharged water and allow for over **20,000 gallons of daily water recycling capacity** to ensure our operations consume less freshwater.



Emissions¹³

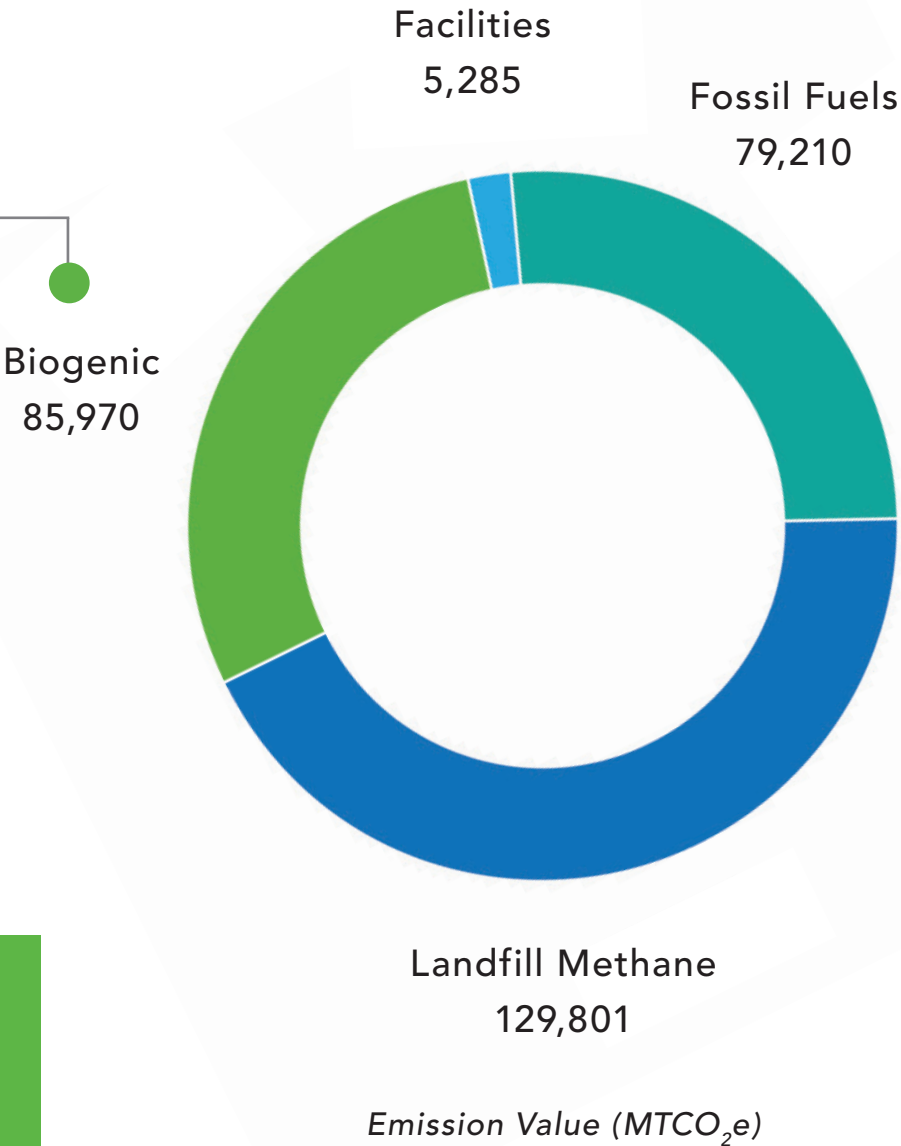
Managing emissions that result from Recology operations and mitigating our impact on climate change is a fundamental component of Recology sustainability efforts. Emissions are classified into two broad categories – **biogenic** and **anthropogenic**.

Biogenic Emissions

Biogenic emissions are naturally-occurring carbon emissions, produced from the decomposition of organic materials and combustion of renewable fuels. These emissions are associated with the natural carbon cycle and do not introduce fossil-derived carbon into the atmosphere, thereby having fewer adverse climatic impacts when compared to anthropogenic emissions. Recology operations produce biogenic emissions from the combustion of biofuels and flaring of landfill gas.

Biofuels – The combustion of renewable and biologically-derived fleet fuels - including renewable diesel, biodiesel, and renewable natural gas – contribute to company-wide biogenic emissions. As a result of our company-wide initiative to shift away from fossil fuels to renewable energy sources, biogenic emissions constituted approximately 36% of companywide vehicle emissions in 2018.

Landfill Carbon Dioxide – The CO₂ produced from the natural decomposition of organic waste in landfills – including food scraps, yard trimmings, and paper – represents a portion of landfill-based emissions and is an additional source of Recology biogenic emissions.



Anthropogenic Emissions

Anthropogenic emissions are those associated with human activity, most commonly the burning of fossil fuels. In contrast to biogenic emissions, anthropogenic emissions result in a net increase in atmospheric carbon and thus have a more adverse effect on climate change. Company-wide, Recology anthropogenic emissions result from three primary sources – facility-based energy, fossil fuels, and landfill methane.

Facilities - Recology operates a sizeable array of active facilities that consume energy. Strategic energy efficiency projects and enrollment in Community Choice Energy programs that provide renewable, lower emission power have proven successful measures to reduce facility-based energy consumption and resulting emissions.

Fossil Fuels - While much of our fuel portfolio has transitioned to renewable sources, remaining use of diesel fuel, conventional CNG, and other fossil-derived fuels contribute to company-wide anthropogenic emissions. Recology continues to mitigate this area of impact by creating efficient collection routes and working with vendors and communities to pursue low-carbon, renewable fuels.

Landfill Methane – When waste is deposited and compacted in man-made landfills, it creates an unnatural oxygen deprived environment. Organic material decomposing in this environment produces methane gas and represents the largest component of company-wide anthropogenic emissions.

While Recology responsibly manages these emissions by generating electricity and maintaining flaring systems, the best method for minimizing landfill-based methane emissions is to reduce the amount of organic material deposited into landfills. This is why Recology continues to expand compost operations and emphasize source reduction and responsible waste disposal through education and outreach programs.

3RD

USEPA estimates that landfills represent the third largest source of human-caused methane emissions in the United States.¹⁴ Recology actively prioritizes material recovery - operating ten MRFs and nine composting facilities compared to just three landfills.



Landscapes over landfills

Environmental Stewardship

Recology is committed to minimizing impacts to the environment and public health by maintaining a robust environmental compliance and stewardship program. To ensure company operations comply with permits and meet or exceed applicable federal, state, and local regulations, Recology employs a cross-disciplinary team that engages with regulatory agencies, inspectors, internal operations teams, and the public. Recology focuses on four major areas of environmental management: air, land, hazardous materials, and water.

Air

By maintaining landfill gas management systems, obtaining and complying with air permits, and minimizing dust and odors, Recology mitigates adverse air quality impacts to the environment and surrounding communities.

Land

From rural organics processing facilities to state-of-the-art, urban recycling facilities, each Recology operation retains unique regulatory and permit requirements to mitigate effects on land and regional ecosystems. Recology partners with local municipalities and conservation agencies to preserve or maintain nearly 587 acres of natural space, including conservation easements, species habitat, and open spaces.

In fact, **Recology maintains an 18-acre bird sanctuary** adjacent to our landfill in Vacaville, CA (pictured left). The sanctuary includes wetland habitats that support local biodiversity, including a thriving population of Tricolored Blackbird, a federally protected species that is currently listed as Threatened under the California Endangered Species Act.

650



In 2018, Recology held 650+ permits, each with their own specific operating conditions and reporting requirements.



Heather Crotty, Recology South Bay

In 2018, Recology collaborated with 100+ environmental agencies, including air districts and regional water boards to meet rigorous environmental standards.

Hazardous Materials

Recology manages various hazardous materials and wastes that enter our systems through curbside collection and public drop-off facilities. Thirty Recology facilities manage special recovery programs for the public to drop off potentially hazardous materials, including used oil, batteries, and paint. Specially trained staff conduct frequent container inspections and implement vendor due diligence processes to ensure these materials are handled, stored, and disposed of in accordance with applicable laws and regulations.

Water

At Recology facilities, stormwater, groundwater, and wastewater management programs are in place to sample and treat water on site. Under state-specific permits, Recology facilities are required to minimize stormwater pollutants and collect samples of stormwater discharges during rain events. In 2018, Recology invested over \$3.5 million in stormwater treatment infrastructure programs to improve water discharge quality, including installing advanced treatment and erosion control systems.

COMMUNITY

Throughout California, Oregon, and Washington, Recology employee owners support their local communities. From educating the public about recycling and waste reduction, to active community leadership, to our powerful Volunteer Program and innovative Artist in Residence Programs, Recology invests in local partnerships and engages with communities to inspire and empower positive change.



Waste Zero Education & Outreach

Recology provides comprehensive education and outreach services to the public with a goal to inspire sustainable behavior. From hands-on trainings with restaurant staff and tours of Recology facilities, to in-school classroom presentations and waste audits, the dedicated Waste Zero teams at Recology support all education and outreach services. These teams work closely with local community leaders, tailoring outreach programs to best serve the needs of our customers and communities.

Presentations & Trainings

Waste Zero teams present educational programs in classrooms, lead hands-on trainings for restaurant and janitorial staff, and facilitate discussions with commercial customers in office settings. These services might include recycling games, waste sorting demonstrations, and more formal presentations related to resource recovery and waste reduction.

Site Visits & Consultations

Through comprehensive site visits, Waste Zero teams ensure businesses, schools, and apartment complexes are subscribed to appropriate levels of service and that receptacles are properly situated and labeled to maximize participation. In many situations, ensuring appropriate service levels translates to costs savings for customers and more recoverable materials collected.

Tabling & Events

Recology is an active participant in community events – including festivals, parades, fairs, and Earth Month celebrations. At these events, Waste Zero teams engage the public, often answering questions about proper disposal of specific materials, like hazardous or bulky items. Waste Zero teams come prepared with interactive sorting games and eco-friendly giveaways that promote recycling and waste reduction.

Tours

Seeing is believing. Recology welcomes groups to tour many of our facilities, including recycling and organics processing facilities, transfer stations, and household hazardous waste facilities to provide an inside look at recovery operations. Recology regularly hosts tours for school groups and commercial businesses, international delegations, community groups, product designers, and industry professionals interested in learning how their actions impact the process.

Audits & Waste Consultations

Waste Zero teams are well-versed in evaluating proper waste sorting and conducting waste characterizations. These assessments include waste audits at customer sites, load inspections at Recology facilities, and waste characterizations at the request of a customer or community partner. Assessment feedback is often consolidated into a customer report that communicates areas for improvement and best practice recommendations.

2018 Education & Outreach at a Glance...

1,200
presentations & trainings
reaching 28,700 people

3,650
site visits &
consultations

50,900
community members
reached through
730 public events

265
facility tours hosted,
providing 7,250 attendees
an inside look at
Recology facilities

13,250
waste audits and
characterizations

59
Education & Outreach
team members across
Recology who make
this happen



Felisia Casteñeda (front right), leads a tour at the Recology Transfer Station in San Francisco, CA





Buddy Blue & Binny Green

Waste Zero teams at Recology collaborate with municipalities and waste authorities to design and distribute customized brochures, signage, and educational materials related to local programs and services. Waste Zero teams use these resources at events and presentations to help reinforce the Recology education platform.

Earth Day – or *Earth Month* at Recology – is an especially exciting time for Waste Zero team members. Education services already in high demand throughout the year reach a peak during Earth Month, a time when customers and communities are especially mindful of their environmental impact.

During Earth Month 2019, the San Francisco Waste Zero team conducted 41 presentations, staffed outreach tables at 85 events, and provided nearly 400 hours of education services to more than 6,000 San Francisco customers.

Jennifer Power Waste Zero Specialist

All the trash Jennifer generated in one year fits here, in this 24-oz mason jar. As a Waste Zero Specialist, she knows all too well the effects of single-use disposable items on the environment. She used this challenge to help encourage others to be mindful of how much we consume, and show that significant waste reduction is achievable.



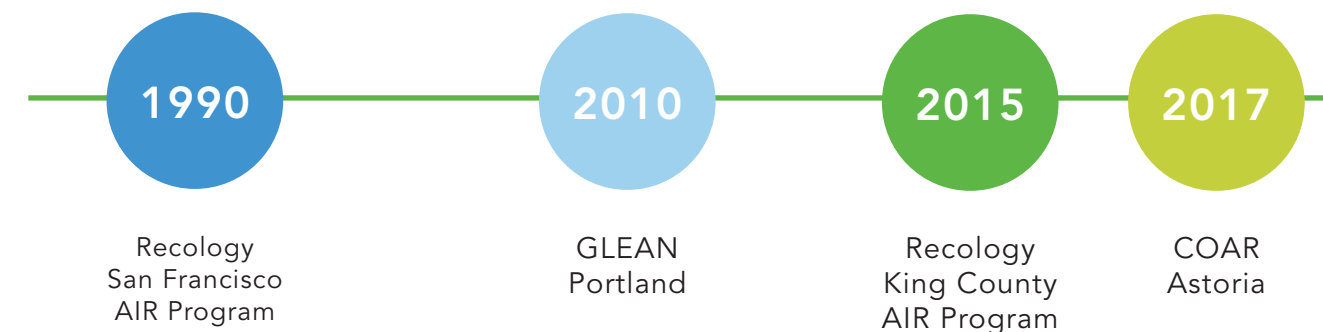
Artist in Residence



Jo Hanson, Photo: Lori Eanes

The Artist in Residence Program (AIR) at Recology is a unique art and education opportunity that provides artists with access to discarded materials, a stipend, and a platform to encourage the public to conserve natural resources and promote new ways of thinking about art and the environment. Started in 1990 in San Francisco, the program has grown to encompass similar efforts in Oregon and Washington.

These programs build a community of artists who have both experienced and reflected on our collective waste. Some of the strongest program implications are seen through artists, who after participating in the residency, change their practice or choose to dedicate their careers to waste reduction. Over the past 10 years, **Recology has hired three past artists** to join the team of dedicated individuals from across the company who work to support the vision of the artist programs.



Jo Hanson was a prominent San Francisco artist and activist in the 1970s, championing the inclusion of underrepresented women and artists of color in the City's art community.

In the late 1980s, Hanson suggested Recology and the City of San Francisco develop an artist-in-residence program to offer studio space and stipends for artists to create artwork from the waste stream and raise public awareness about environmental issues.

Nearly 30 years later, the Recology Artist in Residence Program has been internationally recognized and awarded, and countless artists, children, and adults have benefited from Hanson's vision.



San Francisco Artist in Residence Program

Since 1990, the Recology San Francisco AIR Program has hosted over **150 professional and 50 student artists**. Artists show their work at a three-day exhibition and deliver an artist talk for the community at the Recology San Francisco facility. Many of the pieces created during residencies continue to be shown in off-site exhibitions, including a 2013 show at the SFO Museum, featuring work from 45 Recology artists and viewed by approximately 4 million people.

Recology San Francisco AIR alumni have been lauded nationally for their work, including Mike Arcega (2015), Chris Sollars (2015), and Stephanie Syjuco (2013), recipients of the Guggenheim Fellowship Award. Stephanie Syjuco exhibited in the Smithsonian American Art Museum and was on the cover of *Art in America* in 2018. 2014 participant Samuel Levi Jones is the recipient of the prestigious Joyce Alexander Wein Artist Prize from the Studio Museum in Harlem in 2014.

COAR

The Coastal Oregon Artists Residency Program is a partnership between Recology Western Oregon and Astoria Visual Arts, started in 2017. The five-month residency provides two selected artists with access to discarded materials from the Recology Astoria Recycling Depot and Transfer Station. At the close of the residency, Recology hosts a **public exhibition in downtown Astoria during the monthly art walk**.

GLEAN

GLEAN, a Portland based arts program, is a collaboration between Recology Oregon Recovery, Metro, the local regional government, and crackedpots, an environmental arts organization. **GLEAN invites artists to push the boundaries of material exploration**. Artists are encouraged to challenge their existing studio practice using discarded materials from the Metro Central Transfer Station, operated by Recology.

Every year, five local artists (including one student from a local university), are selected to participate in this five-month residency. Past exhibitions have taken place in galleries such as Disjecta and the Bison Building at the Pacific Northwest College of the Arts.

King County Artist in Residence Program

The Recology Artist in Residence Program in King County taps into the creativity of artists to inspire the public to think about their consumption habits, the waste they generate, and the resources they throw away. Established in 2015, the program provides local artists the opportunity to speak to school classes and adult tour groups about the experience of working with recycled materials.

Each year, two artists participate in the five-month residency, working in a studio at the Recology recycling facility in South Seattle, scavenging from material collected during residential and commercial recycling routes. **Through a partnership with the City of Seattle**, artists also scavenge from the City's North Transfer Station. Finally, artists glean materials from The Recology Store, including bicycles, electronics, batteries, and paint.



Jeremy Okai Davis, GLEAN 2019
Photo: Meghan Zabel Holmes



Lauren Prado, GLEAN 2019
Photo: Faith Cathcart

The Recology Store



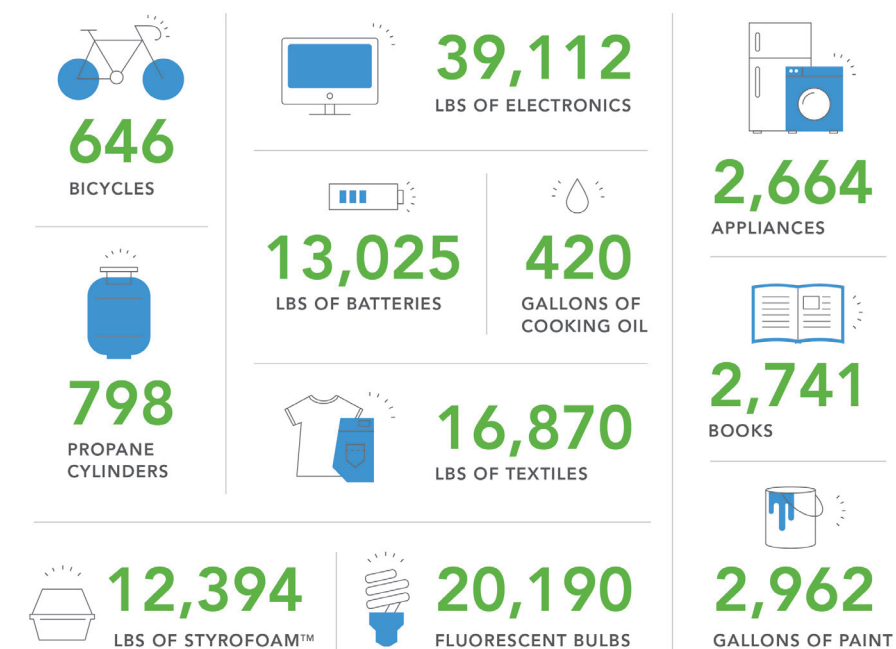
Our waste zero philosophy moved beyond curbside recycling and organics collection when the company entered the retail space in 2012. What started as a single store in Issaquah, WA, has grown into a four-store network in the greater Seattle area that provides drop-off services for hard-to-recycle items as well as a retail storefront offering more than 2,500 environmentally focused products.

The Recology Store employs a team of enthusiastic employee owners who are passionate about empowering their communities to reduce waste and find sustainable solutions for everyday needs.

Products are made from recycled materials, help reduce waste, are compostable or recyclable at the end of their useful life, provide education on waste-related issues, and are often locally sourced. Most products meet several if not all these criteria, from durable water bottles and reusable to-go containers, to bulk laundry detergent and locally made jewelry.

The Recology Store provides the community with an additional outlet for direct interaction with Recology employee owners and helps support communities in their goals to incorporate sustainable behavior into everyday life.

The Recology Store Collection of Hard-to-Recycle Items in 2018¹⁵



Recycling Partnerships

GreenSheen – An industry leader for sustainable paint solutions, GreenSheen recycles the latex paint collected at The Recology Store, distributing their commercial-grade recycled paint products to a network of over 125 wholesalers in the United States, including local Habitat for Humanity projects.

Threadcycle – Clothing and textiles are distributed to local Goodwill stores through Threadcycle, a public education campaign supported by Seattle Public Utilities and King County. Clothing or fabric classified as non-salvageable is shredded and used to create insulation and sound-proofing products.

Bike Works – Bicycles and bicycle parts are sent to Bike Works, a Seattle-based non-profit that provides bicycle maintenance workshops for area youth. Bike Works promotes inclusivity, empowerment, and resilience through its community programs, and seeks to make cycling accessible to people of all abilities and backgrounds. Bicycles repaired by Bike Works are sold at The Recology Store, where 100% of proceeds from sales are returned to Bike Works to further its community programs.

Styro Recycle – Polystyrene dropped off at The Recology Store is processed by local recycler, Styro Recycle, who condenses the foam and sells to manufacturers to make photo frames, crown molding, electric outlet covers, and other products.

Zero Waste dental care products available at The Recology Store

Krista Jefferson
Retail Lead

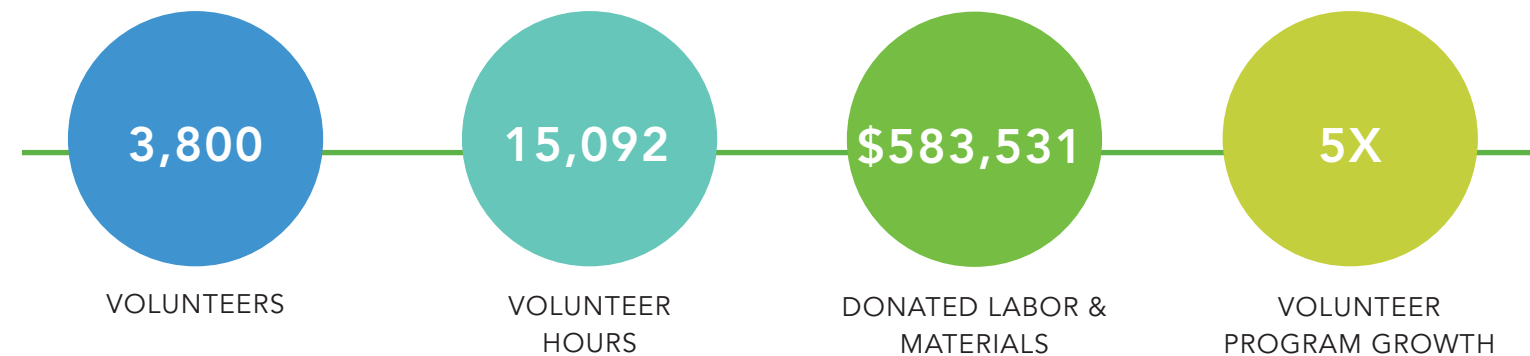
I love being able to educate people on how to reduce waste, help divert hard-to-recycle materials from the landfill, and offer sustainably-made practical goods and unique gifts, all in one beautiful little store. I'm grateful to have a career that allows me to be an active part of the solution.

Volunteer Program

The Recology Volunteer Program was founded in 2008 with a vision to support communities through service. Over the past 10 years, Recology has organized and sponsored over 30 volunteer events, gathering nearly **3,800 volunteers**.

Recology volunteer projects range from planting trees, providing food services to the homeless, landscaping with donated Recology mulch and compost, and beautifying buildings with recycled paint. Recology employee owners take pride in giving back and embrace the Volunteer Program slogan, *People Reaching People*.

Since Volunteer Program inception...



Recology volunteers at Ockley Green Middle School in Portland, OR



It is so rewarding to have a company like Recology believe in giving their staff a chance to come together and support communities!

Denise Cauthen-Wright
Chamberlain's Youth Services
Hollister, CA

Recology Volunteer Projects

Battle for the Bay - *San Francisco, CA*
Wyandotte Academy - *Oroville, CA*
Ockley Green Middle School - *Portland, OR*
Cутten Elementary School - *Eureka, CA*
Hill Soccer Field - *Novato, CA*
Cuesta Park - *Mountain View, CA*
Wickersham Park - *Petaluma, CA*
Chamberlain's Youth Services - *Hollister, CA*
St. Vincent de Paul - *McMinnville, OR*
Veterans' Memorial Day Tribute - *San Francisco, CA*
Howarth Park - *Santa Rosa, CA*
Martin Luther King Jr. Park - *East Palo Alto, CA*
Wellspring Family Services - *Seattle, WA*
John A. McManus School - *Chico, CA*
Arvin Community Center - *Arvin, CA*
Willie Mays Boys & Girls Club at Hunters Point - *San Francisco, CA*
Lake Sammamish Restoration - *Issaquah, WA*
Ric Teagarden Life Recovery Center - *Marysville, CA*
Howard Finn Park Community Garden - *Sunland, CA*
Community Clean-up Day 9th District - *San Francisco, CA*
North Fair Oaks Community Center - *Redwood City, CA*
Patterson Streetscapes - *Patterson, CA*
North Peninsula Food Pantry - *Daly City, CA*
Little Hollywood Community Park - *San Francisco, CA*
Global Center for Success - *Vallejo, CA*
Colusa Scout Cabin - *Colusa, CA*
Morgan Hill Community Park - *Morgan Hill, CA*
Hoover Elementary School - *Oakland, CA*
Opportunity House - *Vacaville, CA*
Gold Country Fairgrounds - *Auburn, CA*
Golden Gate Park - *San Francisco, CA*
Dixon Teen Center - *Dixon, CA*
Bay View Hunters Point YMCA - *San Francisco, CA*
San Jose Municipal Rose Garden - *San Jose, CA*
Continental Omega - *Vallejo, CA*
Salvation Army-Depot Family Crisis Center - *Marysville, CA*
Rebuilding Together - *San Mateo, CA*

John Ratto at Hill Soccer Field in Novato, CA

Civic Engagement



Recology Drill Team performing at the Pride Parade, San Francisco, CA

Community Leadership

Serving on boards, chairing committees, and taking active roles in organizations, Recology employee owners share their passion for service and civic duty with local communities. In 2018, over 60 Recology employee owners held leadership positions in more than 140 community organizations. Some examples include:

The California Historical Society, City of Ashland Conservation Commission, Gilroy Economic Development Corporation, McMinnville Leadership Council, Oregon Recycling and Refuse Association, San Francisco Bay Restoration Authority Council, San Mateo County Sheriff Activity League, Solano Economic Development Corporation, Vallejo Education and Business Alliance, Wellspring Family Services, and the Yuba Sutter Food Bank.

In-Kind Services

Recology also provides in-kind service contributions to organizations in the form of disposal services, bulky item collection, event staff, and compost donations. **In 2018, Recology provided in-kind donations for 715 events, with goods and services valued at more than \$750,000.**

Donations

Recology is proud to support organizations and events in its communities by providing financial support to various educational, cultural, environmental, and leadership development organizations. **In 2018, Recology donated to over 650 organizations, from community service, housing, and family services initiatives to youth education, environmental protection, and arts and culture projects.**

Bill Burrage Operations Manager



For over a decade, Bill has shown leadership, enthusiasm, and love for community at Recology. Bill has served on the Boards of the Loma Vista Farm and the Vallejo Unified School District Science Academy, and participates in the Vallejo Rotary, Leadership Vallejo, and Vallejo and American Canyon Chambers of Commerce.

60



Recology employee owners hold leadership positions in community organizations.

Supporting Local Communities

Recology operating companies are active stewards of their local communities and frequently support local events and organizations. Through unique partnerships and providing in-kind contributions and volunteer hours, Recology demonstrates lasting investment in the communities we serve. Some notable programs and events include:

Lend me a Plate - Ashland, OR

Recology Ashland helped launch the Southern Oregon Master Recyclers in Action “Lend Me a Plate” program, which allows community members to borrow reusable dishware for free to reduce single-use disposables at events. To date, more than 200 events have taken advantage of the tools provided by the program.

SOLVE Beach Clean-up - Clatsop County, OR

For the past decade, Recology Western Oregon has supported SOLVE beach clean-ups through volunteering and providing recovery and disposal services. The clean-ups have resulted in the removal of approximately 30 tons of trash from seven local beaches.

Environmental Days - Cupertino & Santa Clara, CA

Six times each year, Recology South Bay hosts free “Environmental Days” for Cupertino and Santa Clara community members to drop off electronic waste, bulky items, construction debris, and confidential documents for destruction. In 2018, Recology collected over 150 tons of material.

Donated Diesel Engine - Eureka, CA

Recology Humboldt County donated a used diesel truck engine to Eureka High School for students to gain hands-on experience with engine diagnostics and repair. The engine was recovered from a truck destined for the scrap yard.

Gilroy Garlic Festival - Gilroy, CA

Recology South Valley provides the annual Gilroy Garlic Festival with recycling and organics collection service, and partners with local nonprofits to hand-sort material collected from the festival.

Salmon Days - Issaquah, WA

Since 2012, Recology King County has sponsored the annual Issaquah Salmon Days Festival to celebrate the seasonal salmon migration. By donating disposal services, streetscapes maintenance, and outreach staff, Recology helps create a clean and green festival environment for over 150,000 attendees.

Greenhouse Education Center - Montara, CA

Recology of the Coast aided the construction of a greenhouse and outdoor learning space at Farallone View Elementary School. The greenhouse, compost and worm bins, and miniature aquaponic system teach the students about healthy eating and food waste decomposition.

Community Cleanups - San Francisco, CA

Recology Sunset Scavenger and Recology Golden Gate partner with the Asian Pacific American Community Center to manage a series of Community Cleanups for San Francisco residents to drop off bulky or difficult to recycle items, including mattresses, appliances, and electronics. In 2018, the 23 Community Cleanups collected over 250 tons of material for recycling.

Collecting Coats for Kids - San Mateo, CA

In 2011, Recology San Mateo County established a program to support “Coats for Kids” that includes Recology drivers picking up gently used coats and jackets from residential and commercial customers. In 2019, Recology collected nearly 1,000 coats from 12 jurisdictions and donated them a local charity organization.



Jose Ozuna and Shawn Haydel at the Salmon Days Festival in Issaquah, WA

Awards & Recognition

Recology companies are frequently recognized by local organizations and municipalities for their commitments to excellent service, civic engagement, and environmental sustainability. Recently, Recology has been recognized for the following:

Recology South Bay, Certified Green Business

In January 2019, Recology South Bay became a certified Santa Clara County Green Business for implementing pollution prevention, waste reduction, water saving, and energy conservation practices, including an upgrade to high-efficiency LED facility lighting.

Recology San Bruno, Community Difference Maker

In June 2019, Recology San Bruno was honored by the San Bruno Park School District with the Community Difference Maker Award, recognizing organizations that go above and beyond to support students. Recology San Bruno supports school sustainability projects by speaking at school assemblies, engaging with student green teams, and donating classroom supplies.

Recology Butte Colusa Counties, Sky is the Limit

Recology Butte Colusa Counties was presented the 2017 Sky is the Limit Special Project Award from the Boys and Girls Club of the North Valley for funding a project to renovate the Paradise Teen Center and Home Tech Charter School in Paradise, CA. The site provides space and resources for youth, including tutoring, leadership development, career exploration, and art classes.

Recology Ashland, Green Business of the Year

At the 112th Ashland Chamber of Commerce dinner, Recology Ashland was presented the 2018 Green Business of the Year award for supporting businesses and residents in their zero waste efforts.

Recology also recognizes members of our communities for achievements in waste reduction and recycling.

The Golden Dumpster Award (pictured right) recognizes commercial properties that have made significant achievements in waste reduction, recycling, and composting. Sponsored by Recology, BOMA Seattle/King County and Seattle Public Utilities, the Golden Dumpster competition aims to promote and reward best practices for reducing waste, decreasing solid waste management costs, and conserving natural resources.

Recology is unique because we truly invest in the communities we serve. Through volunteerism, civic leadership, and contributions, we support our communities and empower local governments, businesses, and individuals.

Minna Tao

Vice President, Director of Community and Business Initiatives

Minna has been recognized for her leadership in the community, and was named a 2019 "Business of Pride OUTstanding Voices" honoree by the San Francisco Business Times.



Golden Dumpster Awards, Recology King County
Photo: 2018 Tony Koski - SeattleCommercialPropertyDirectory.com



CULTURE

As the largest 100% employee owned company in the resource recovery industry, Recology fosters a unique workplace culture that prioritizes employee owner development, provides exceptional service for our customers, and promotes environmental stewardship. Recology employee owners actively participate in and benefit from the success of the company.

Ian Limos, Cesar Sepulveda,
Terrance Tipton, Chris Fisher,
and Jaime Ponce,
Recology San Francisco
Recology Sunset Scavenger

Employee Ownership

In 1986, Recology formally established an Employee Stock Ownership Plan (ESOP), a decision that established Recology as one of the 20 largest 100% employee owned companies in the United States. Over the next three decades, Recology employee ownership culture evolved to foster dedication to teamwork and a sense of personal investment in success.

Employee Owner Meetings: Each year, Recology President and CEO Mike Sangiacomo visits Recology operating companies to deliver a “State of the Company” address. Mike provides employee owners the chance to learn about key company accomplishments and future endeavors. The meetings also serve as forums for engaging in open dialogue about Recology.

ROCStar Program: Recology recognizes employee owners who go above and beyond their normal job duties and demonstrate strong employee ownership values. ROCStars are nominated by fellow employee owners at each operating company on a quarterly basis. Once a year, a company-wide ROCStar is selected and given the opportunity to represent Recology at the annual ESOP Association’s California/Western States chapter conference.

Events and Outreach: Recology operating companies host regular events throughout the year. These activities encourage ownership appreciation and educate employees about the benefits of the Recology ownership model.



More than **60 employee owners** from across all companies and job categories participate in the ROCC. Each quarter, ROCC members help select a local ROCStar, ultimately selecting a company-wide ROCStar for the year.



Each year, Recology employee owners from across the company submit designs for the annual Employee Ownership Month Poster Contest. Winning posters are professionally designed, printed, and distributed to promote and celebrate employee ownership.

2018 Poster Contest Award Winner:
Rachael Lacey, Waste Zero Specialist
Recology Golden Gate

Benefits of Employee Ownership

Recology stock is wholly owned and distributed through the ESOP, which serves as a supplemental retirement plan for all employee owners. The value of employee ownership extends beyond shareholding, as improved productivity and engagement, higher job security, and more comprehensive benefits packages are additional tenets of employee owned companies.

Recology is an active member of the ESOP Association – the leading national advocacy organization in support of employee ownership – as well as the Employee Ownership Foundation, an affiliated foundation that provides outreach and funds market research to increase awareness and showcase the value of employee ownership.

Recology fundraising events – including luncheons and direct contributions from employee owners – resulted in more than \$60,000 donated to the Employee Ownership Foundation in 2018.

Recology is recognized regularly for our role in supporting the employee ownership community. **Since 2000, Recology has received 21 awards from the ESOP Association’s California/Western States chapter, and Annual Awards for Communications Excellence.**

//

The day I set my foot in the door at Recology was the best day of my life. I didn’t know it at the time, but thirty years later when I received my first ESOP payment, I realized just how lucky I was to work at a company that takes such good care of its employees.

Mike Murphy
Route Maintenance Specialist (retired)



Employee Engagement

83% of respondents from ESOP Association member companies reported that implementing an ESOP resulted in improved motivation and productivity.¹⁶

Workplace Preference

72% of polled professionals said they would prefer to work for an employee owned company over one owned by investors.¹⁷

2017 AACE Award
Best Series of Special Events

&

2018 CAWS Chapter Award
Best ESOP Event

Our Employee Owners

Recology employee owners come from diverse backgrounds and experiences, bringing a variety of perspectives to the table that encourage inclusive decision making. Company success is driven by these employee owners who reflect the diversity of the communities we serve.



Juan Ortiz and Felipe Macias, Recology Mountain View

GROW

It takes a team of dedicated people to create positive change. Our teams are continuously working to find solutions to global waste issues – and they're nothing short of dedicated. We aim to continue to be an employer of choice where a diverse workforce comes to work and GROW.

Giving back to our communities and our environment by volunteering time and resources

Recovering resources to achieve their best and highest use

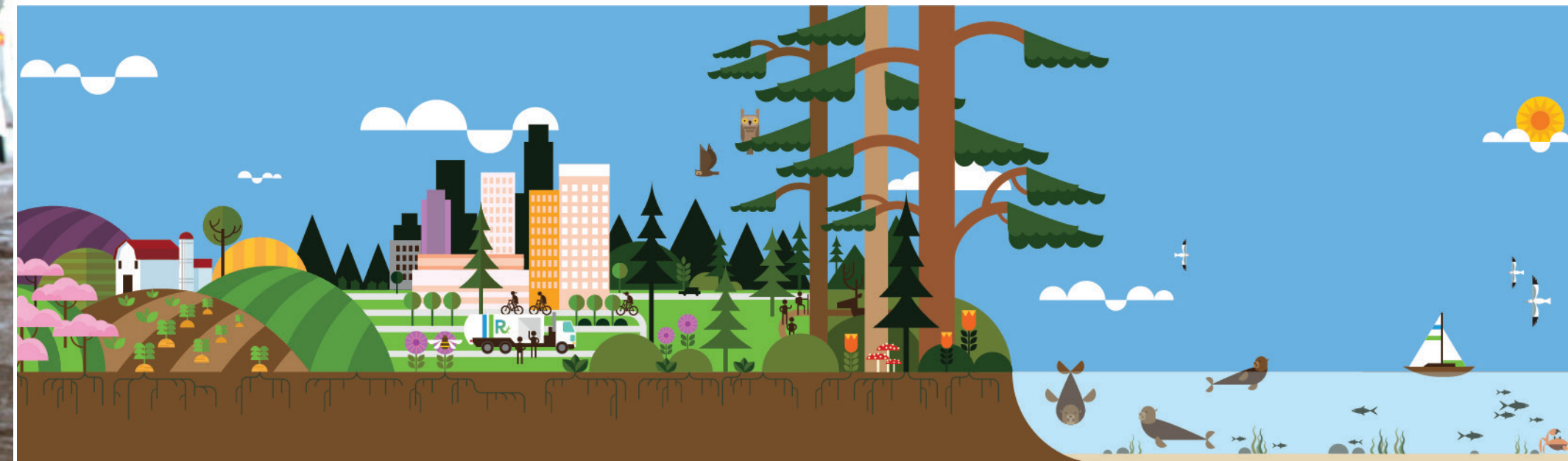
Owning a company that does the right things for the right reasons, ensuring that our actions benefit the company, the communities we serve, and our environment.

Working together to develop camaraderie and facilitate collaboration. By demonstrating an inclusive attitude that values different backgrounds and ideas, we can get the job done.

“

Every day I transport organic feedstock to Recology compost facilities. It's amazing to think about all the apple cores and grass clippings that will soon be nurturing new plants for us to eat. I love that my job puts the waste zero philosophy into action.

Abraham Mora
Long Haul Class A Driver



Employee Owner Development

Recology is committed to fostering a supportive work environment where employee owners are heard, valued, and provided development opportunities. Recology offers an array of **career advancement programs** designed to strengthen employee owners’ business knowledge and leadership skills, and provide opportunities for management and leadership advancement.



Recology Internship Program

The Recology Internship Program is a 12-week paid internship that provides hands-on professional experience in various departments throughout Recology. Interns learn many facets of the industry, with a focus on helping communities reach sustainability goals. Each internship culminates with a final presentation that showcases project findings.



Recology Academy Foundation

The Recology Academy Foundation is an educational program that targets high-performing employee owners who are either new to management or poised to transition into management roles. The purpose of the program is to introduce participants to fundamental concepts and practices of leadership and build relationships across operating companies.



Recology Academy Leadership & Beyond

The Recology Academy Leadership & Beyond Program is designed for employee owners who have management experience and may be candidates to ascend into senior level positions. Topics covered in the immersion sessions include effective communication, peer development, team dynamics, and strategic thinking.



Recology Management Advancement Program

The Recology Management Advancement Program is a 12-month rotational program structured to provide employee owners with direct management experience. Participants cycle through a series of departments and operating companies that provide them with the resources and skills needed to be an effective Recology leader.



Recology Individual Development Program

The Recology Individual Development Program is intended for employee owners who are in senior level positions or have the potential to transition into roles with greater responsibility. Selected participants undergo a feedback process to create a development plan that is unique to their professional goals and growth within the company.



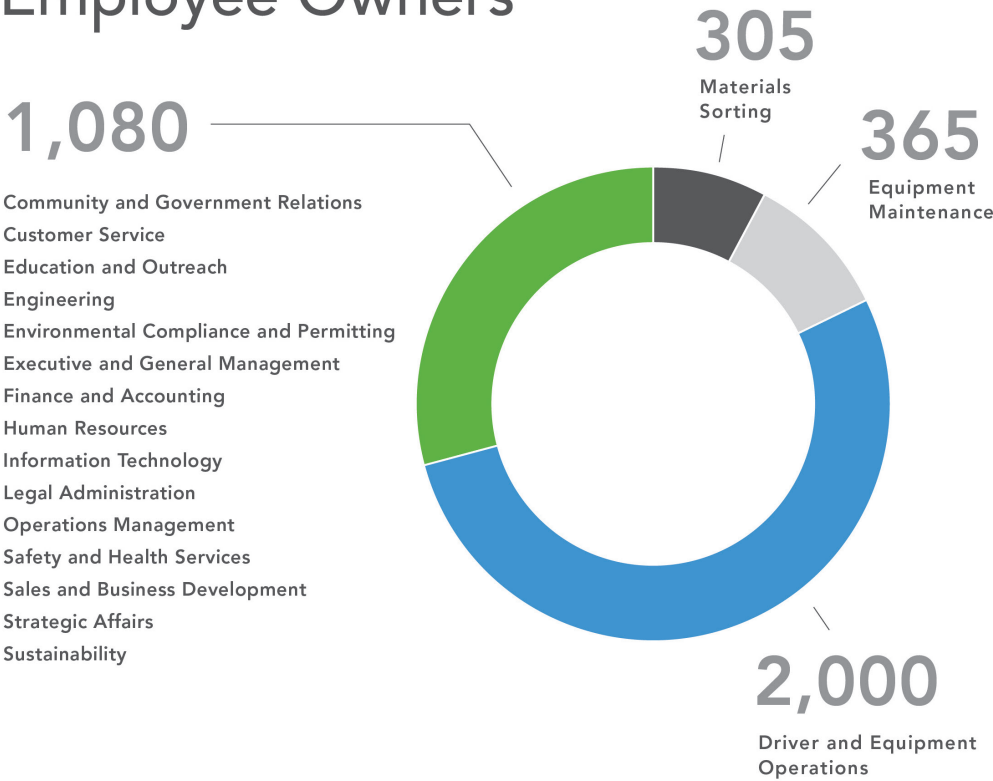
Meghan Butler
Director of Corporate Development

Meghan has participated in both the Recology Academy Foundation and Recology Academy Leadership & Beyond programs and was recognized as a 2019 recipient of Waste360’s 40 under 40 Award for her leadership in the waste and recycling industry.

Workforce Diversity

From drivers, mechanics, and educators, to engineers, composters, and environmental professionals, the Recology workforce of **more than 3,700 employee owners** embodies diversity of technical skills and industry knowledge.

Recology Employee Owners



The **Recology Women’s Network** works to inspire and support female employee owners, leveraging a guiding mission to recognize the power, purpose, and voice of our female workforce. The Network offers a platform for mentorship, community, and career development, as Recology continues to recruit, hire, and develop talented female employees to GROW within the company.

Recology hosted two Women’s Summit events in 2019, where nearly **200 employee owners** from across the company gathered to build on our mission.



Recology prioritizes diversity

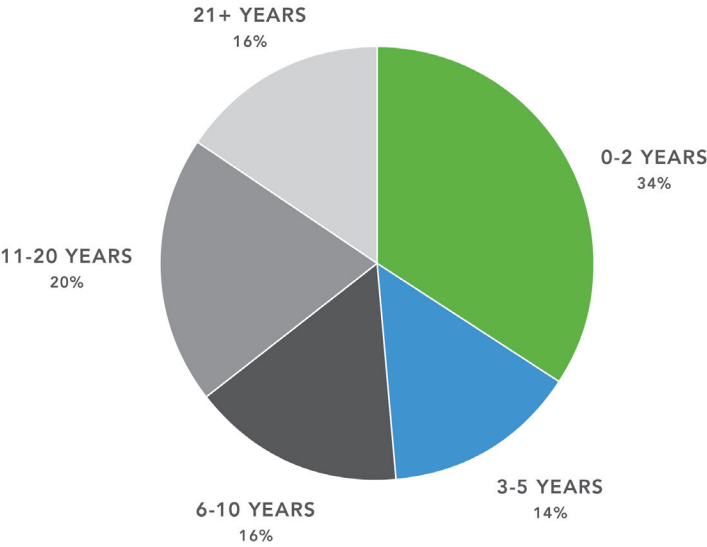
Recology is committed to supporting an inclusive and diverse work environment. 58% of the value of Recology shares are owned by minority or women employee owners.

Employee Owner Years of Service

Recology brings together seasoned and progressive perspectives in a workforce tenure that spans generations and **addresses the needs of an evolving industry.**

Did you know?

In 2018, six employee owners celebrated their 50th anniversary at Recology, and 49 employee owners have been with the company for more than 40 years.



Sustainability and community service are the cornerstones of Recology culture. These commitments must move beyond words and transform into actions. I am proud to be a part of a collective effort of employee owners working to support and improve the communities where we live and work.

Anthony Crescenti
General Manager
Recology Golden Gate

Recology hires locally

52%

Through community-specific hiring programs, more than half of Recology employee owners work in the same communities in which they live. In fact, the following Recology operating companies employ 100% of their workforce from members of the communities they serve.

- Recology Arcata
- Recology Ashland
- Recology Blossom Valley Organics - South
- Recology Del Norte
- Recology Eel River
- Recology Humboldt County



Christine Anderson, Recology Butte Colusa Counties

Safety & Health Services



Carlos Mancilla, Recology King County

The nature of Recology business activities present a challenging work landscape. Both the Federal and California Division of the Occupational Safety and Health Administration (OSHA) have classified resource recovery as a high-hazard industry. The Recology Safety and Health Services Team addresses these challenges through a comprehensive safety management program that includes prescribed OSHA trainings, advanced safety technologies, and local, topic-specific employee connections.

The health and safety of Recology employee owners and the public is a fundamental consideration of all business decisions. Our philosophy is that by identifying, evaluating, and eliminating workplace hazards, Recology can continue to provide a healthy work environment and foster safe conditions in the communities we serve.



58%

Lost Time Incident Rate (LTIR) is a key industry metric that represents workplace incidents that result in employee time spent away from work. Since 2011, Recology has seen a 58% reduction in LTIR.

Dean Koch
Recology Western Oregon

Dean is committed to safety and community, which is evident from his impeccable driving record and leadership in countless community organizations. One of Dean's proudest moments on the job was when he noticed a kitchen fire, quickly alerted and evacuated the family, and extinguished the flames.

In 2018, Dean received the National Waste and Recycling Association's Residential Driver of the Year award.



Safety Technology

Onboard Camera Safety Systems

Since installation of onboard camera safety systems began in 2012, Recology has incorporated this technology in over 90% of our collection and transfer fleet. The mounted camera system allows for continual recording of both internal and external camera views. System recordings are sent to the Recology Safety and Health Services Team for review and, where applicable, are used in coaching sessions with drivers.

3D Mapping for Collision Avoidance

In 2018, Recology began piloting an advanced collision avoidance system that uses a three-dimensional laser mapping technology to provide a 360° view of vehicle surroundings to help eliminate blind spots and improve situational awareness and hazard detection for drivers and equipment operators. Recology is working closely with the vendor to test this system in collection vehicles in San Francisco to evaluate its application in dense urban environments.

Safety Awards

ZERO ZERO Awards Program

In 2016, Recology launched its ZERO ZERO Club to recognize employee owners who exhibit exemplary safety performance by having **zero** preventable accidents and **zero** lost time injuries during a one year period. The program has since expanded to three Recology companies.



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Recology thinks outside the box about our safety culture. In the Pacific Northwest, we've created Employee Connections that cover topics ranging from employee training to site safety issues. Employee Connections focus on how supervisors and managers can serve and support their teams, going above and beyond traditional safety observations that only focus on what employees might be doing incorrectly.

Addie Giddings
Safety Manager



The ZERO ZERO Awards Program has recognized 550 employee owners over the past two years.



John Simas, Phil Slykas, Dave Bettencourt (retired), Mike Matulich, Jesse Ocegura, Recology South Valley



BEYOND WASTE

Progressive ideologies, employee ownership, and a sustainability-minded business model are all key tenets of what differentiates Recology from our industry peers. To that end, the Recology future appears bright. Through strategic commitments, business development opportunities, and a strong stance on today's waste challenges, Recology is committed to leading our communities toward a sustainable future.

Leading the Conversation

Today, images of wildlife struggling for survival with bellies full of plastic are widespread, as are recent – and increasing – findings of microplastics in our air, our water, and even our bloodstream. We are clearly in a crisis.

Over the past several decades, we have built a robust infrastructure to manage our waste stream, and close the loop on many materials that can be recycled. As evidenced by the undeniable impacts on our planet, this infrastructure is failing to adequately capture single-use plastics. Moreover taxpayers, local governments, and recyclers have been financing recycling infrastructure since the implementation of curbside recycling collection, with one notable stakeholder missing from these investments: manufacturers of plastic materials.

In December of 2018, Recology President & CEO, Mike Sangiacomo authored an OpEd in the *San Francisco Chronicle*, outlining an urgent request from the recycling industry: It's time to cut use of plastics.

Recology has since engaged the plastics industry in both public and private settings, speaking directly to national leadership from the producers of consumer-packaged goods about the need to address pervasive single-use plastic packaging in the marketplace. Recology seeks to lead the conversation on finding sustainable solutions to the plastics crisis.

“

Sustainable packaging options can be accessible, affordable, and a standard business practice for all manufacturers. Recycling this material can take place domestically and create local jobs.

At a time when an international audience is engaged on the impact of plastics to human and marine life, we are uniquely positioned to leverage our collective voice and redefine the relationship between plastics manufacturers and the products they create.

Sustainable packaging options can be accessible, affordable, and a standard business practice for all manufacturers. Recycling this material can take place domestically and create local jobs. Recology and the communities we serve are committed to forging a sustainable path forward.

Advancing the conversation on redesign, recovery, and recycling of single-use plastics is a sustainable mechanism for fueling the future of recycling - an industry that creates green jobs, stimulates local economies, and allows everyday action - like tossing a plastic bottle into a curbside container - to have a climate impact.



Recology Strategic Plan

Recology recently launched Strategic Plan: 2019 to 2023. The plan outlines five key commitments for the coming years – People, Customer Experience, Technology, Innovation, and Financial Growth. These commitments are the framework for the company's nine goals, propelling Recology toward a future where new processing technologies recycle material we didn't once think possible, where the environmental impact of collection is minimized, and where landfills become relics of the past.

Strategic Plan: 2019 to 2023 is an ongoing, collaborative effort that epitomizes our waste zero philosophy and employee ownership culture. A development team of more than 90 employee owners shared their experience, knowledge, and creativity to outline Plan goals. During the next five years, an implementation team of more than 50 employee owners will harness their collective passions and talents to bring these commitments to life.

- People
- Customer Experience
- Technology
- Innovation
- Financial Growth



Brian Bell, Susan Brown, Mohammed Shaikh, and Maria Trefren, Recology Golden Gate

Welcoming New Communities

As we work to implement our strategic plan, we are excited to bring the Recology employee ownership culture and waste zero philosophy to new and like-minded communities. In October 2019, Recology will welcome the Seattle-area community of Mercer Island to our Recology King County operating company. Recology is also set to establish a new operating company in Portland, Oregon, when we assume operations of the Metro South transfer facility in January 2020.



Looking to the Future

Recology will continue to champion a recovery-first business model, strive to find the best and highest use for the resources we collect, invest in technologies and systems that mitigate our environmental impact, and share in the sustainable futures envisioned by the communities we serve.

Our company vision continues to drive us toward innovation, sustainable solutions, and a resilient future for the next generation.

RESOURCES & METHODOLOGY



Resources & Methodology

¹US household electricity consumption equivalency calculated using US Energy Information Administration (USEIA) data for average annual kWh consumption by US household.

²Emission offsets for organics and recycling activity calculated using a combination of the California Air Resource Board (CARB) Recycling Emission Reduction Factor (RERF) and Composting Emission Reduction Factor (CERF) tools, as well as the USEPA's Waste Reduction Model (WARM).

³Megawatt-hours (MWh) of electricity generated from biomass fuel calculated using US Department of Energy Federal Energy Management Program (FEMP) estimation of electricity generated per dry-ton of wood chip feedstock. Calculation was adjusted to account for moisture content of feedstock.

⁴2017 California Exports of Recyclable Materials, CalRecycle, February 2019.

⁵Fiber commodity pricing sourced from Fastmarkets RISI indices and market analyses for paper and pulp products.

⁶Emission equivalencies were calculated using the USEPA's online Greenhouse Gas Equivalencies Calculator.

⁷USEPA National Overview: 2015 Facts and Figures on Materials, Wastes and Recycling.

⁸US household access to food scrap collection programs calculated using USEPA program information and US Census Bureau household data.



⁹Emission reduction references related to Compressed Natural Gas (CNG) and Biomass-derived fuels sourced from US Department of Energy, Energy Efficiency & Renewable Energy (EERE), Alternative Fuels Data Center.

¹⁰Emission reductions related to enrollment in Community Choice Energy (CCE) programs sourced directly from partnering agencies.

¹¹ Aerial photography, projected kilowatt-hour (kWh) generation and energy offset values related to Recology San Francisco photovoltaic array provided by partner American Solar Corporation.

¹²Landfill gas volume, flaring activity, and methane destruction calculated from data provided by vendor Golder Associates Inc.

¹⁴USEPA - Landfill Methane Outreach Program (LMOP).

¹⁵Volume-to-weight conversions for select material types sourced from USEPA standard volume-to-weight conversion factors.

¹⁶2018 ESOP Association Toolkit.

¹⁷National Opinion Research Center and featured in 2019 article from employee ownership advocacy collaborative “50 by 50”.

¹³Emission Inventory:

Recology provides below a voluntary emission inventory, inclusive of the three (3) internationally recognized greenhouse gas emissions generated from company business activity: Carbon Dioxide CO₂, Methane CH₄, and Nitrous Oxide N₂O. All emissions are summed by emission type and presented in metric ton carbon dioxide equivalent (MTCO₂e) in the table below. Recology does not participate in activities that generate SF6s, HFCs and PFCs above de minimus levels and therefore these gases are not quantified.

Mobile emissions (Scope 1 and Biogenic): Calculated by gathering fuel volume data from internal accounting sources and vendors. Climate Registry Information System (CRIS) Emission Calculator was used, as was Simple Estimation Method (SEM) tool to calculate associated CO₂, CH₄ and N₂O.

Stationary emissions (Scopes 1, 2, and Biogenic): Calculated using Local Government Operations Protocol (LGOP) equations 9.1, 6.2, 8.7, 8.8, and California Air Resource Board (CARB) implementation of IPCC's First Order Decay Model. Purchased electricity and natural gas data collected though integrated utility management software and converted to MTCO₂e per the USEPA's regional eGRID and Climate Registry (CR) emission factors.

Scope	Description	Anthropogenic (MTCO ₂ e)	Biogenic (MTCO ₂ e)
1	Direct Emissions from Stationary Combustion <i>Source - natural gas usage at facilities and offices</i>	542	NA
Biogenic	Biogenic CO ₂ Emissions from Stationary Combustion <i>Source - landfill flaring</i>	NA	41,162
1	Direct Emissions from Mobile Combustion <i>Source - fuel consumed by vehicles, both on and off-road</i>	79,210	NA
Biogenic	Biogenic CO ₂ Emissions from Mobile Combustion <i>Source - biomass portion of vehicle fuel</i>	NA	44,808
1	Direct Fugitive Emissions <i>Source - fugitive landfill emissions</i>	129,801	NA
2	Indirect Emissions from Electricity Use <i>Source - purchased electricity</i>	4,743	NA
	TOTALS	214,296	85,970

Intellectual Property Information

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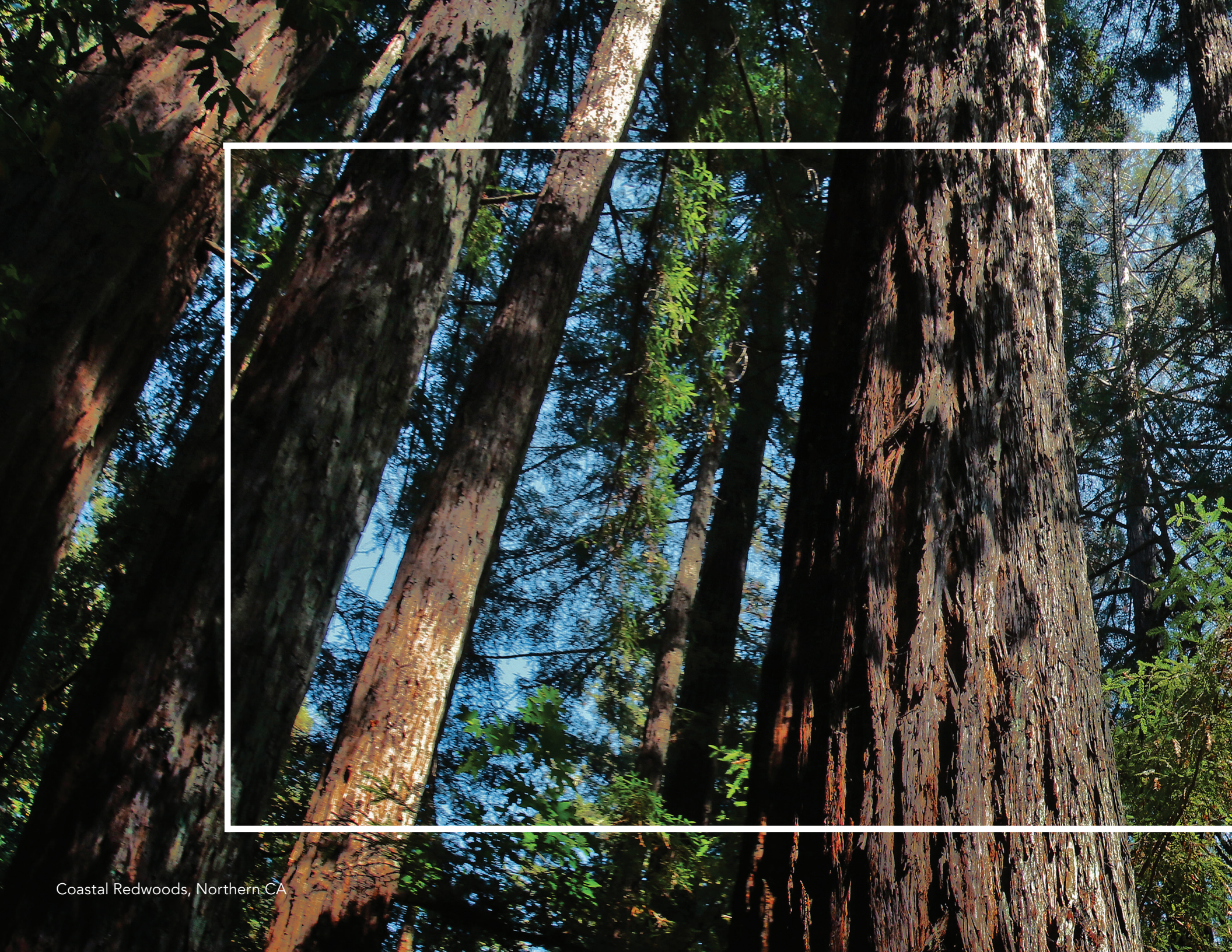
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