



RESEARCH INSIGHTS REPORT

Investment Trends in Sustainable Postal Processing Operations

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Investment Trends in Sustainable Postal Processing Operations

Businesses, customers, and governments around the world have expressed increasing commitment to environmental sustainability. What does this mean for the postal and logistics industry?

The postal and logistics industry is a leading producer of carbon emissions. Transportation, packaging materials, energy, and land use contribute to a carbon footprint much larger than that of many other businesses. As governments and consumers worldwide have expressed increasing commitment to sustainability in supply chains, postal operators have started investing in greener infrastructure, reducing emissions across their processing operations. Sustainability has also become an increased focus of the U.S. Postal Service, which indicated sustainability is a core commitment in its 10-year plan, *Delivering for America* published in 2021. Demonstrating this commitment, in 2023 the agency created an Environmental Council to set its sustainability strategy for greener operations. To inform the Postal Service's sustainability efforts, the U.S. Postal Service Office of Inspector General (OIG)'s objective of this report was to examine postal and logistics industry trends in promoting sustainability when investing in processing operations. See [Appendix A](#) for more information on this project's objective, scope, and methodology.

Environmental Sustainability in Processing Operations

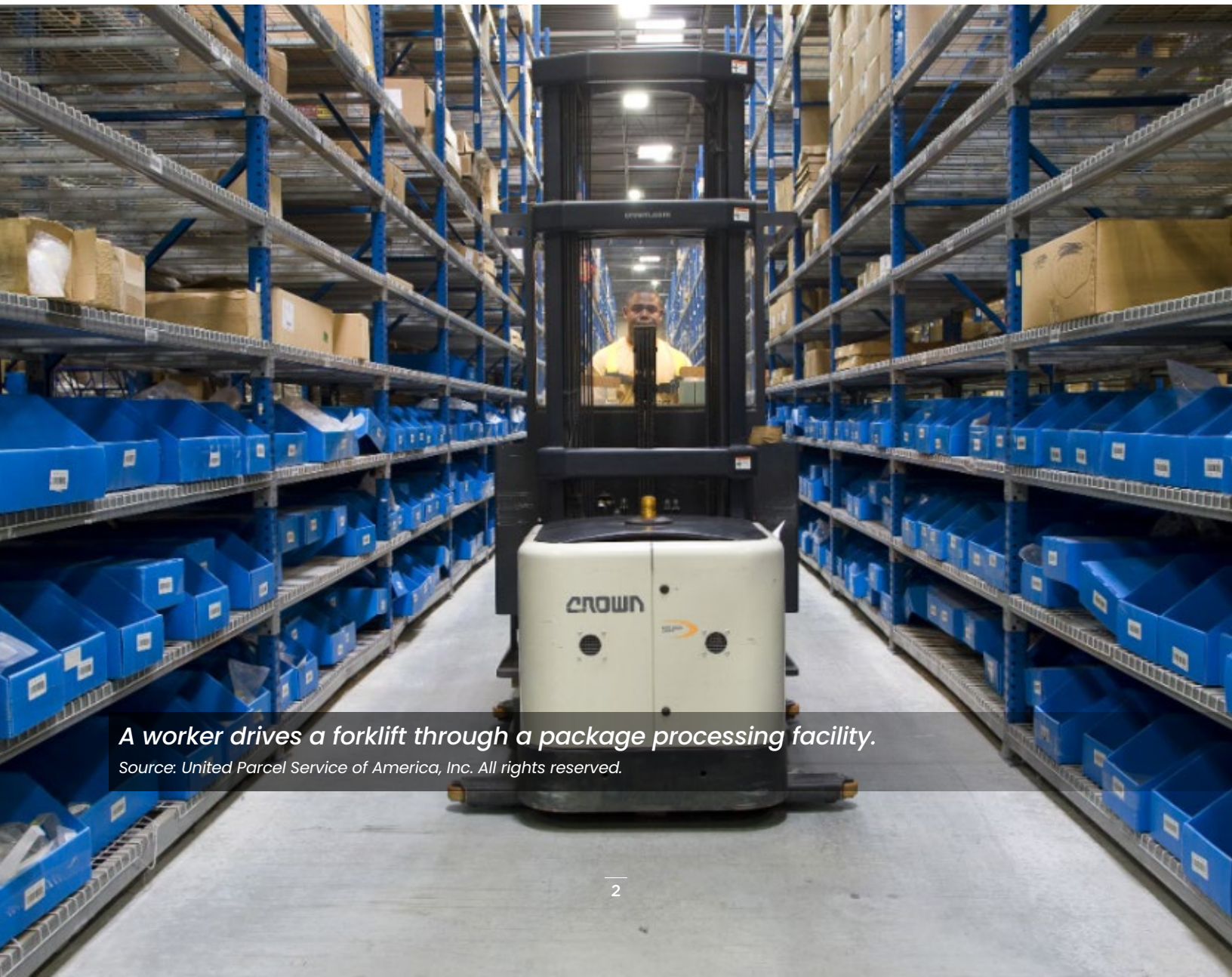
Sustainability within processing operations involves reducing the energy use and emissions associated with the sortation and distribution of mail and packages for delivery across an operator's network. On average, supply chains account for more than 90 percent of a business's overall emissions.¹ A central part of supply chains in the postal and logistics sector is processing operations. As a result, sustainable processing operations play a key role in reducing emissions.

As individual customers increasingly consider sustainability in their purchasing decisions, they are demanding businesses implement practices that reduce their impact on the natural environment and its resources. Public interest has led government policymakers to create laws and regulations setting sustainability standards and goals that operators must meet. Consequently, reducing emissions allows postal and logistics operators to comply with government policies and appeal to potential customers focused on sustainability.

Investing in sustainable processing operations can strengthen operators' brand reputation, while giving them a competitive advantage with environmentally conscious businesses and individual customers. Sustainable processing operations also enhance relations with stakeholders as well as the wider public, which is especially beneficial for operators seeking to expand their processing network into new communities. Finally, as implementing sustainable processing operations involves

optimizing resource usage, it improves energy efficiency and promotes resource reuse, helping operators reduce costs.

IMPLEMENTING SUSTAINABLE OPERATIONS GIVES POSTAL AND LOGISTICS OPERATORS A COMPETITIVE ADVANTAGE WITH ENVIRONMENTALLY CONSCIOUS CUSTOMERS.

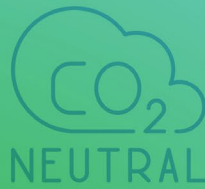


A worker drives a forklift through a package processing facility.

Source: United Parcel Service of America, Inc. All rights reserved.

OPERATORS' CARBON NEUTRAL PLEDGES

Many postal and logistics operators have committed to reaching zero operating emissions



2019

La Poste Groupe became the first postal operator to be 100% carbon neutral.



LA POSTE

2040

FedEx has committed to carbon-neutral operations by 2040.



2050

Australia Post, Canada Post, Deutsche Post DHL Group, PostNL, and UPS have all announced plans for zero operating emissions by 2050.



Sustainable Processing is Becoming a Key Industry Practice

In 2021, at the 27th Universal Postal Union (UPU) Congress, UPU member countries unanimously voted to adopt a resolution to take greater action against climate change and carbon emissions.ⁱⁱ Postal and logistics operators have responded to the calls of customers and government policymakers to expand sustainability efforts by setting goals for net zero carbon emissions and investing in sustainable practices aimed at offsetting the energy usage and emissions produced throughout their operational infrastructure. In 2019, La Poste became the first postal operator to reach carbon neutrality. FedEx has committed to carbon-neutral operations by 2040. Australia Post, Canada Post, the Deutsche Post DHL Group, PostNL, and UPS have all announced plans for zero operating emissions by 2050.

Some operators have already achieved last-mile delivery zero emissions, while others offer carbon-neutral delivery options. For example, deliveries from La Poste have been carbon neutral since 2012, and domestic regular and expedited parcel services from Canada Post are currently carbon neutral. DHL has also launched a "100% Carbon Neutral U.S. Domestic Product," and UPS enables customers to choose carbon neutral shipping for a fee. Meanwhile, PostNL has plans for zero last mile emissions in the region of Belgium, the Netherlands, and Luxembourg by 2030. To meet net zero operating emission commitments and customer demands, postal and logistics operators are increasingly investing in sustainable practices in their processing network, or the middle mile.ⁱⁱⁱ



Rooftop solar panels provide renewable energy to this Deutsche Post DHL Group facility in Wachtberg, Germany.

Source: Deutsche Post AG

Greener Operations: Industry Trends

The OIG analyzed and interviewed several domestic and international operators to learn about their investments in sustainability. The operators' investments in greener operations fall into five categories: using renewable energy, providing support for green transportation, procuring energy-efficient processing equipment, practicing sustainable land use, and reducing, reusing, and recycling material involved in processing operations.

Renewable Energy

Renewable energy is created from natural sources that are replenished faster than they are consumed. Of all renewable energy sources, solar is the most abundant with technological advances making energy harnessed from the sun scalable for many operational needs. Investing in solar panels that are installed on the relatively large rooftop area of processing facilities is a sustainable practice for most operators. Additionally, many operators are supplementing solar energy with power generated from wind turbines.

For Deutsche Post, PostNL, and FedEx, solar panels are a central component to making all facilities carbon neutral. More broadly, green facilities are an international priority for DHL, which has applied the same green standards at its facilities worldwide. Operators have invested in solar and wind energy sources outside of facilities to power more energy efficient internal HVAC and lighting infrastructure. For these operators, the production of renewable energy and emphasis on energy efficiency has helped

INVESTING IN GREENER OPERATIONS



Postal and logistics operators are promoting environmental sustainability across their processing operations

RENEWABLE ENERGY

Many operators are investing in solar panels and generating power from wind turbines. Solar and wind-powered energy efficient HVAC and lighting infrastructure have helped operators lower the daily operational energy costs.



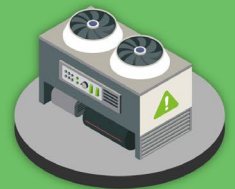
GREEN TRANSPORTATION

Providing adequate support for an expanding electric fleet has become a major component of designing and modernizing processing facilities. All operators are mobilizing or planning to implement an electric fleet of vehicles, but many operators face limitations with electrical grid capacity and regulations.



ENERGY-EFFICIENT EQUIPMENT

Investing in efficient processing equipment can further reduce energy consumption and daily operational costs. More efficient processing can also speed up operations, potentially improving an operator's overall quality of service.



SUSTAINABLE LAND USE

Sustainable land use strategies include selecting less environmentally disruptive sites, leveraging alternative transportation networks, and optimizing network design. Practicing sustainable land use can help reduce energy usage and improve network efficiency.



REDUCE, REUSE, RECYCLE

Reducing, reusing, and recycling material has been a longstanding sustainability strategy for postal operators. Reducing and reusing material in packaging and throughout processing operations reduces the amount of waste that goes to landfills and lowers costs.



shape sustainability as a component of their brand identity, while simultaneously lowering the daily operational energy costs. DHL, for example, reduced facility energy costs by 40 percent through HVAC optimization software that minimizes energy consumption using machine learning. In the long term, this reduction could cover the initial costs of investing in the infrastructure for generating renewable energy. In the short term, it could give them a competitive edge with customers seeking to reduce their overall emissions. Producing renewable energy on site also can help alleviate concerns of an operator's increased need for power to support the charging of electric delivery vehicles. Producing energy on site lowers operational

costs and may even allow opportunities to sell excess electricity back to the grid to provide clean power for other users.

Support for Green Transportation

Providing adequate support for an expanding electric fleet has become a major component of designing and modernizing processing facilities. All operators analyzed are mobilizing or planning to implement an electric fleet of vehicles. For example, Canada Post's first carbon neutral processing facility includes modifications for charging electric vehicles and four-to-five-ton transport trucks. Canada Post plans to transition to an entirely electric delivery fleet by 2040.



Green vehicles outside of a postal processing facility that supports them.

Source: PostNL

Operators and subject matter experts expressed concern about the state of the electrical infrastructure globally. For many operators, the grid in which they operate determines when and where they can implement electric vehicles. In some cases, the backlog for obtaining the relevant building permits required for an electric infrastructure has added a year or more to the process of modernizing facility infrastructure. Realizing these limitations, operators have also built infrastructure for alternative energy sources for transportation, such as natural gas, renewable diesel, and hydrogen, which emit less carbon than traditional fossil fuels like diesel and gasoline. To fuel its truck fleet, PostNL has invested in renewable diesel and bio-liquified natural gas as well as collaborated closely with suppliers to increase the renewable fuel supply. In combination with renewable energy, DHL uses alternative energy sources strategically to provide a contingency during prolonged power outages that may affect the capacity to charge an electric fleet.

Efficient Processing Equipment

In addition to renewable and alternative energy sources, investing in efficient processing equipment can reduce energy consumption and daily operational costs. For Deutsche Post, state-of-the-art technology has enabled facilities to consume much less energy, making steps toward carbon neutral facilities more obtainable.

An equipment manufacturer and integrator emphasized how equipment performance and power consumption are often correlated. New sorting technology uses two to three times less energy while

also reducing wear and tear on machines and the duration in which a package is processed. This could translate to reduced energy and maintenance costs while improving performance metrics related to overall service standards.

For Canada Post, sustainability is even factored into the procurement of services from contractors. Emissions and cost saving practices are key components for awarding contracts to build new facilities and update equipment.

Sustainable Land Use

Using land sustainably involves limiting a processing facility's long-term impact on the soil, water, and biodiversity around it. Practicing sustainable land use can help reduce energy usage and improve network efficiency. Strategies to achieve sustainable land use include selecting less environmentally disruptive sites, leveraging alternative transportation networks, and optimizing network design.

To minimize the effect on the surrounding environment and population, operators engage local communities before investing in expanding capacity, build processing facilities in existing industrial buildings, and reduce the light and sound emitted. As Deutsche Post emphasized, it aims to have the fewest number of hubs while ensuring they have the highest throughput possible.

Before procuring more space, operators try to reduce the number of facilities necessary by modernizing existing facilities. For some operators, this may involve building vertically rather than horizontally, maximizing the capacity of their existing footprint.

Modernizing existing facilities or acquiring industrial buildings helps spare untouched, natural land from development. Avoiding new builds may also be necessary in some jurisdictions to meet restrictions from local governments or secure land in competitive real estate markets. La Poste uses its own real estate subsidiary to navigate these challenges when identifying potential sites for processing facilities. Canada Post also meets with community leaders before investing to ensure its plans align with the local community's expectations.

Operators also can design processing facilities that leverage more sustainable alternatives to transportation by truck or plane. For example, Deutsche Post considers access to rail transport when building facilities, providing a sustainable option that is suitable for some shipments.

Optimizing the distribution of processing facilities across the network provides the fastest service with the fewest number of facilities, substantially reducing the operational footprint and energy usage needed to cover a service area. In addition to reducing operational costs, network optimization can facilitate more efficient routes for transportation, further reducing costs and emissions. To maximize transportation efficiency, Canada Post has invested heavily in new processing facilities located near urban areas that meet higher environmental standards and serve large population centers more efficiently.

Reducing, Reusing, and Recycling Material

Reducing, reusing, and recycling material has been a longstanding sustainability strategy for postal operators. Reducing and reusing material in packaging and throughout processing operations reduces the amount of waste that goes to landfills and lowers costs. Recycling, in which materials are reprocessed and used elsewhere, lessens the environmental impact of postal operations.

All operators analyzed reduce, reuse, and recycle material as part of a focus on greener processing operations. For example, La Poste Groupe aims to reuse or recycle 75 percent of its waste. Similarly, Australia Post plans to reduce its landfill waste by 20 percent by 2025 and aims to increase its recycling rate to 70 percent over the same period. In addition to the positive environmental impact, reducing waste also leads to cost savings. Reusing parts to repair sorting machinery, for example, saves La Poste an estimated 500,000 to 800,000 euros annually.

Among the most common waste reduction strategies are using recycled paper and cardboard to create packaging and offering reusable packaging to consumers.^{iv} Products such as PostNL's "Fashion Pack" or FedEx's "Reusable Paks" offer options for packaging that can be reused at least once by the recipient. Additionally, many operators aim to reduce the use of raw materials in operations and instead use recycled material. A long-term goal for La Poste is to remove any use of non-recyclable plastic, and Australia Post makes its plastic packaging from 80 percent recycled plastic.

The Postal Service's Initiatives for a More Sustainable Processing Network

As part of the Postal Service's 10-year plan, *Delivering for America*, the agency is pursuing initiatives to promote sustainability across its operations, including its processing network. Under its vehicle electrification strategy as of fiscal year 2023, the Postal Service intends to deploy over 66,000 electric vehicles by 2028, and it awarded a contract for 41,500 electric vehicle charging units to be installed at its facilities. The Postal Service is also consolidating thousands of delivery units into a smaller number of Sorting and Delivery Centers with the intent of increased efficiency and a substantial reduction in carbon emissions.

Delivering for America calls for reducing greenhouse gas emissions, energy, fuel, and waste. As part of these efforts, the Postal Service established an Environmental Council in March 2023. The council will set the sustainability strategy for the Postal Service and oversee the implementation of its environmental goals and objectives over the next ten years. Among other major infrastructure programs, the council will review and establish initiatives to improve its network of mail and package processing facilities.^v Postal Service representatives also told us, under *Delivering for America*, the agency is tracking reduction of carbon-dioxide emissions through route optimization and the transition from its air to surface transportation networks.

Unlike other postal and logistics operators, the Postal Service has not pledged net-zero carbon emissions for its processing facilities. The agency, however, indicated it is "positioning USPS as a leader in carbon footprint reduction" and has existing initiatives that promote reduced carbon emissions through procurement and regionalized initiatives. The Postal Service's BlueEarth Carbon Accounting enables customers to calculate their carbon emissions from USPS shipping and mailing.^{vi} Under the Environmentally Preferable Products program, representatives from the Postal Service's Office of Environmental Affairs and Corporate Sustainability indicated they work very closely with supply management, partnering with suppliers who can deliver more sustainable products. Nationally, new facilities have standard design criteria that focus on more sustainable products. The Postal Service also diverted 64.5 percent of its waste from landfills in fiscal year 2021 and plans to divert 75 percent of its waste by 2030. Regionalized initiatives include securing renewable energy from suppliers, reusing cardboard, installing solar panels and LED lighting, adding recycling instructions to priority mailboxes, and optimizing electric vehicles and their charging connectivity.^{vii} They also have piloted a tractor-trailer that is 100 percent electric in California and have been using cleaner burning natural gas in trucks in the Colorado area.

Conclusion

Governments and customers are showing greater commitment to sustainability. In response, postal operators are acting to improve sustainability in their operations, and investing in the processing network is a major aspect of this effort. Operators indicated they are investing in five categories of initiatives: generating renewable energy, providing support for green transportation, procuring energy-efficient processing equipment, practicing sustainable land use, and reducing, reusing, and recycling material involved in processing operations. These measures can help operators align with government policies, gain a competitive edge with customers, and reduce costs. Industry trends for investing in greener processing operations could help inform the Postal Service's Environmental Council as it develops its strategy for fostering sustainability across the network.

Summary and Evaluation of Management's Comments

Management asked the OIG to add the USPS BlueEarth suite of programs (USPS BlueEarth Carbon Accounting, USPS BlueEarth Federal Recycling Program, and USPS BlueEarth Secure Destruction) to its report. Management stated these three programs represent the Postal Service's efforts towards sustainability within processing operations.

In response, the OIG updated its mention of USPS BlueEarth Carbon Accounting with an endnote acknowledging the USPS BlueEarth Federal Recycling Program and USPS BlueEarth Secure Destruction.

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Appendix A: Additional Information

Objective, Scope, and Methodology

The objective of this paper is to examine postal and logistics industry trends in promoting sustainability when investing in processing operations.

The scope of this report is from Fiscal Year (FY) 2019 to Q2 FY 2023.

To accomplish our objectives, the OIG conducted an extensive review of operator reports on sustainability and held

interviews with experts from USPS Strategic Planning, USPS Corporate Sustainability, postal and logistics operators, equipment manufacturers, and academic institutions.

This research was conducted in accordance with the Council of the Inspectors General on Integrity and Efficiency's Quality Standards for Inspection and Evaluation. We discussed our observations and conclusions with management on August 11, 2023 and included their comments where appropriate.

Prior Coverage

Report Title	Objective	Report Number	Final Report Date	Monetary Impact
<i>Industry Trends — Major Investments in Postal Processing Networks</i>	To examine how the Postal Service as well as other postal and logistics operators, both domestic and international, manage major investments in processing operations and identify industry trends and lessons learned that could inform the Postal Service's investment practices.	RISC-WP-23-007	June 13, 2023	\$0
<i>Sustainability and the Postal Service: Creating a Greener Future Through Product Innovation</i>	To gain an understanding of the main categories of sustainable postal product innovations implemented by international posts and commercial carriers; to understand U.S. customers' interest in these innovations; and, to examine the relevance for the Postal Service of these green product innovations.	RISC-WP-20-005	August 5, 2020	\$0

Appendix B: Management Comments

JUDY A. de TOROK
VICE PRESIDENT
CORPORATE AFFAIRS



August 29, 2023

CINDY COBHAM

SUBJECT: Management Response: Investment Trends in Sustainable Postal Processing Operations (Project Number 2023RISC005)

Thank you for providing the Postal Service with an opportunity to review and comment on the draft research insight paper, *Investment Trends in Sustainable Postal Processing Operations*.

Please note our comments in the attached Management Response.

A handwritten signature in black ink that reads "Judy de Torok".

Judy de Torok

cc: Corporate Audit & Response Management

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Management Response: Investment Trends in Sustainable Postal Processing Operations (Project Number 2023RISC005)

Thank you for providing the Postal Service with an opportunity to review and comment on the draft research insight paper, *Investment Trends in Sustainable Postal Processing Operations*. We respectfully request that you add the USPS BlueEarth suite of programs to your report since these programs represent sustainability within processing operations.

USPS BlueEarth is a branded suite of customer services and product initiatives that provide sustainability solutions and innovations to our customers, including government agencies and businesses.

Details on our BlueEarth programs are provided below and can be reviewed in more detail on our external facing social responsibility page [Greening Business - Sustainability - What We Do - About.usps.com](#)

USPS BlueEarth Carbon Accounting

This no-fee service enables USPS business customers to measure and manage their greenhouse gas (GHG) emissions. A [video](#) and [information sheet](#) provide an overview of this service.

USPS follows the most widely accepted accounting methods to calculate your shipping and mailing GHG emissions based on item characteristics, including product type, size, weight, processing, distribution, and transportation. Customers using this service are provided Scope 3 Carbon Emissions statements specific to their actual USPS mailing and shipping.

USPS annually inventories its GHG emissions and assigns GHG emissions by mailing types. Explore your reports online at the USPS.com@ [Business Customer Gateway](#) (BCG). With our seamless user interface, you can customize your reports by mailing type emissions.

For more information or for reporting assistance, contact your USPS account representative or USPS Environmental Affairs and Corporate Sustainability at sustainability@usps.gov.

USPS BlueEarth Federal Recycling Program

We help make it easy for federal agencies and their employees to properly dispose of items like unwanted small electronics and phones. It's easy to manage, free to federal agencies, supplements existing sustainability programs, and measurable results are available through online reports at [FedRecycling.com](#).

USPS BlueEarth Secure Destruction

This service is a cost-effective, secure and convenient way to manage mail containing personal identifiable information. It's designed specifically for business mailers who use the Intelligent Mail barcode. This technology enables the Postal Service to identify, intercept and securely shred undeliverable-as-addressed First-Class letters and flats with personal protected information that would otherwise be returned to the sender.

cc: Corporate Audit and Response Management

Endnotes

- i CDP, *Scoping Out: Tracking Nature Across Supply Chain*, March 2023, <https://cdn.cdp.net/cdp-production/cms/reports/documents/000/006/918/original/CDP-Supply-Chain-Report-2022.pdf>, p. 4.
- ii Universal Postal Union, *UPU members vow to cooperate on climate action*, February 9, 2021, <https://www.upu.int/en/News/2021/9/UPU-members-vow-to-cooperate-on-climate-action>. See also, Universal Postal Union, *Decisions of the 2021 Abidjan Congress, 2022*, <https://www.upu.int/UPU/media/upu/files/aboutUpu/acts/07-actsAndOtherDecisions2021AbidjanCongress/actsAndOtherDecisions2021AbidjanCongressEn.pdf>, pg. 226.
- iii In a previous report focused on industry trends and best practices for investing in processing operations, postal and logistics operators identified investing in sustainable technology as a best practice. U.S. Postal Service Office of Inspector General, *Industry Trends: Major Investments in Postal Processing Networks*, Report No. RISC-WP-23-007, June 13, 2023, <https://www.uspsoig.gov/sites/default/files/reports/2023-06/risc-wp-23-007.pdf>.
- iv A previous OIG report noted the benefits of using recycled and reusable packaging. U.S. Postal Service Office of Inspector General, *Sustainability and the Postal Service: Creating a Greener Future Through Product Innovation*, Report No. RISC-WP-20-005, August 5, 2020, <https://www.uspsoig.gov/sites/default/files/reports/2023-01/RISC-WP-20-005.pdf>.
- v According to the Postal Service, “The Environmental Council will review all initiatives currently in place, champion and prioritize those that we choose to maintain, eliminate those that do not align with the new strategy, and establish new major initiatives that are aligned with the above four major infrastructure initiatives.” See U.S. Postal Service, *Establishment of New Environmental Council*, March 29, 2023, <https://postalpro.usps.com/mnt/glusterfs/2023-03/Establishment%20of%20New%20Environmental%20Council%20-%20March%202023.pdf>.
- vi The USPS BlueEarth suite of programs also includes USPS BlueEarth Federal Recycling Program and USPS BlueEarth Secure Destruction. The USPS BlueEarth Federal Recycling Program enables federal agencies and their employees to properly dispose of unwanted small electronic devices for free. USPS BlueEarth Secure Destruction helps businesses to shred certain undeliverable-as-addressed mail that would otherwise be returned to the sender.
- vii In 2019, the Postal Service requested its energy suppliers in 13 states and the District of Columbia provide 25 percent of its power from renewable energy sources. United States Postal Service, *2022 Annual Sustainability Report*, <https://about.usps.com/what/corporate-social-responsibility/sustainability/report/2022/usps-annual-sustainability-report.pdf>, p.22.

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UNITED STATES



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