

SUSTAIN ABILITY

REPORT 2023



THE PORT OF VIRGINIA

AMERICA'S MOST MODERN GATEWAY



MESSAGE FROM OUR CHIEF EXECUTIVE OFFICER

In 2021, we announced our commitment to “Net-Zero by 2040,” the earliest zero-carbon emission commitment from any US East Coast port. We are proud to share our significant progress with you.

In 2023, we reached a 70 percent reduction in total carbon emissions from our 2017 baseline. These reductions have been made through our efficient operations, the replacement of aging equipment with cleaner alternatives, and the integration of innovative solutions and technology at our terminals.

In January 2024, The Port of Virginia became the first US East Coast port to power all its terminals with 100 percent clean energy. This monumental milestone was achieved eight years ahead of our original 2032 target and is an integral step in eliminating carbon emissions from our operations by 2040.

Furthermore, the completion of projects introduced in our \$1.4B Gateway Investment Program is increasing the speed and efficiency of cargo moving through our gateway while simultaneously advancing our sustainability initiatives. As part of these efforts, we recently reached key milestones in our offshore wind and channel-widening projects.

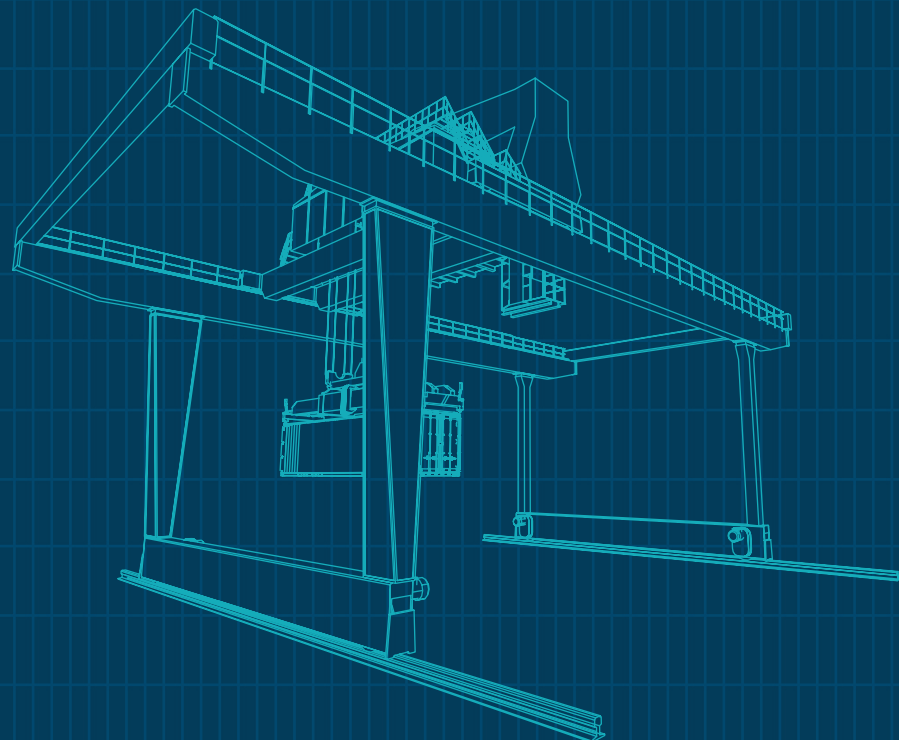
These developments are just the beginning of what we will accomplish in the coming years and beyond. Our dedication to modernization is delivering faster, more efficient and more agile service for partners while positioning us to achieve our sustainability targets.

We are proud to lead the industry in innovative solutions that reduce carbon emissions, increase efficiency and anticipate the advancement of the supply chain. The future of commerce is underway at America’s Most Modern Gateway with investments and initiatives that are setting a new nationwide standard for sustainability and performance.

Sincerely,



STEPHEN A. EDWARDS



BY THE NUMBERS

47% REDUCTION
in overall fuel consumption*

85% CLEAN ENERGY
operation in 2023

THE PORT OF VIRGINIA IS COMMITTED TO **NET-ZERO BY 2040**, THE EARLIEST COMMITMENT ON THE US EAST COAST.

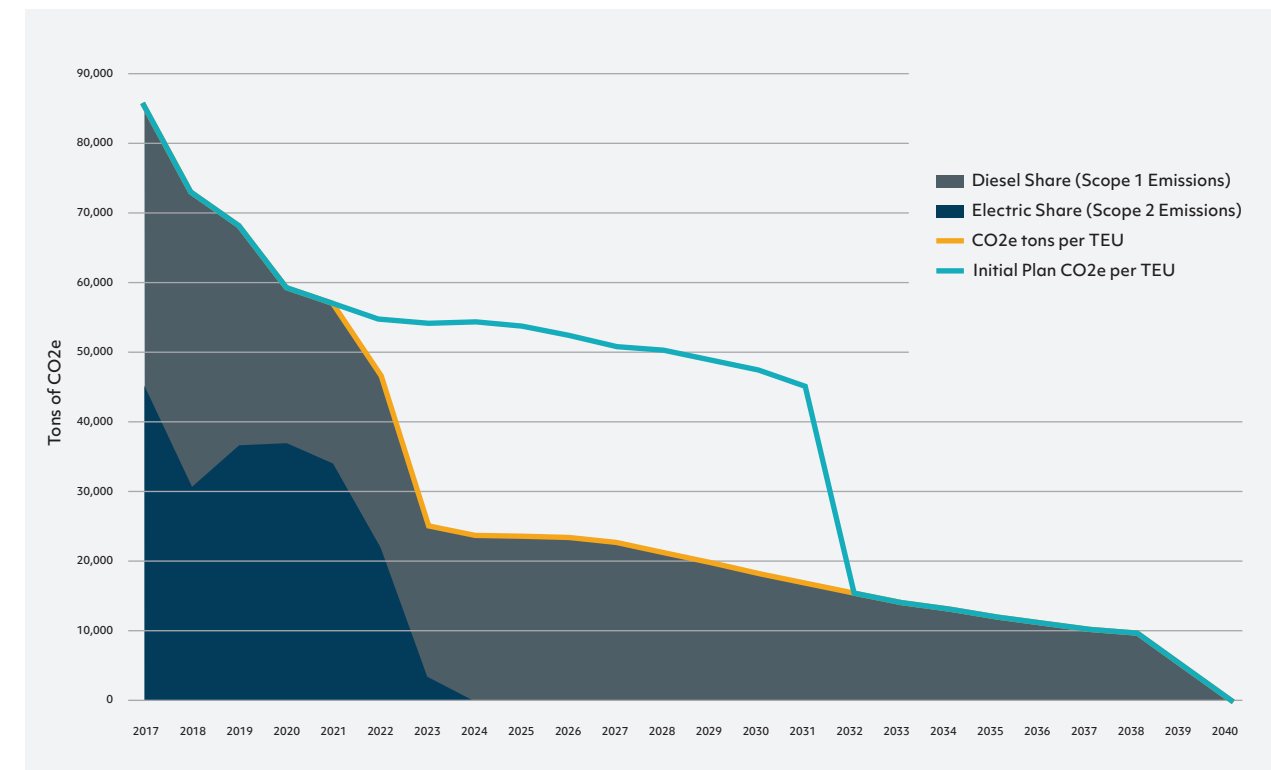
Cargo moves with the lowest carbon emissions per TEU on the US East Coast

We have reduced our emissions 74% per TEU*

TEU volume increased 16% while reducing total CO2e 70%*

AMERICA'S MOST MODERN GATEWAY: NET-ZERO BY 2040

The Port of Virginia has challenged convention by integrating new technology and alternative energy solutions into operations, resulting in a 70 percent reduction in total carbon emissions from our 2017 baseline.



Scope 1, shown as total carbon emissions (CO2e) from fuel, are exhaust emissions from the equipment we use.

Scope 2, shown as total carbon emissions (CO2e) from electricity, are the emissions generated from the electricity used to power and charge electric equipment and operate port buildings.

“This port is a modern, world-class operation, and we are overlaying it with a 21st-century approach to sustainability. This move reduces our impact to global climate change and will help make us a leader among our US peers in terms of environmental sustainability.”

STEPHEN EDWARDS, CEO AND EXECUTIVE DIRECTOR, THE PORT OF VIRGINIA

Carbon dioxide equivalent (Co2e): the number of metric tons of CO2 emissions with the same global warming potential as one metric ton of another greenhouse gas. (US Environmental Protection Agency)

Twenty-foot equivalent unit (TEU): a measure of volume in units of twenty-foot long containers.

*Compared to 2017 baseline.

ZEROING IN THE SCOPES

Scope 1: Total Carbon Emissions Reduction from Exhaust

Scope 1 emissions are under the direct control of our port since we own and operate the equipment. The Port of Virginia identified the sources of our scope 1 carbon emissions as diesel and gas-powered equipment used in our cargo operations. We have worked towards the replacement of this equipment with cleaner, more efficient technology.

Integrating modern technology into our operations goes beyond replacing equipment with cleaner alternatives. We are also able to reduce our scope 1 emissions by being operationally efficient in the way we organize and move containers on terminal.

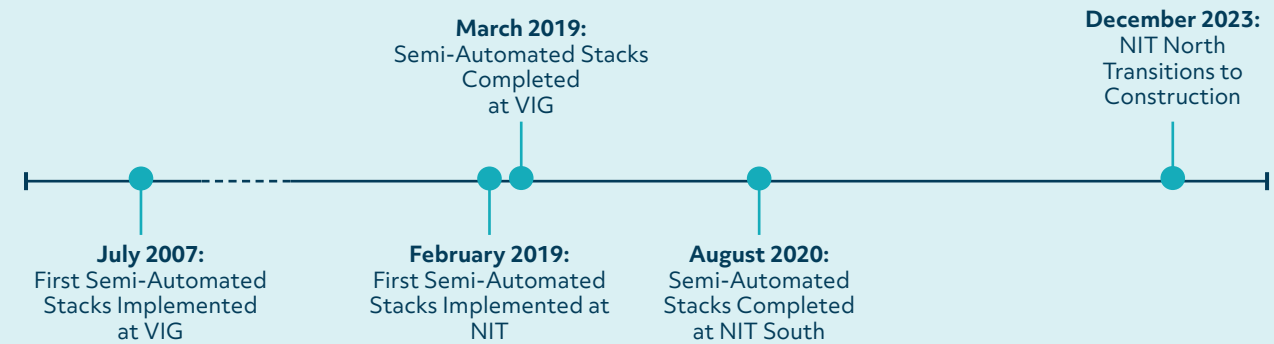
Electrifying Our Equipment

PHOTO OF EQUIPMENT	EQUIPMENT NAME & FLEET SIZE	DATE(S) OF IMPLEMENTATION	EQUIPMENT BENEFITS
	SEMI-AUTOMATED STACKING CRANES (ASCs) Fleet Size: 116	VIG: 2007-2019 NIT South: 2019-2020 NIT North: 2024-2027	<ul style="list-style-type: none"> Programmed to continuously organize container yard for efficiency Replaced 122 diesel straddle carriers (all 126 will be replaced by 2026) Asset replacement is estimated to save 1M gallons of diesel per year
	HYBRID SHUTTLE TRUCKS Fleet Size: 103	VIG: 2015-2023 NIT: 2018-2023	<ul style="list-style-type: none"> Utilized to move containers between STS crane and container yard Run only on diesel ~40% of the time and the remainder on electric battery power Replaced 16 diesel shuttle trucks Asset replacement has reduced shuttle truck exhaust by 55% per unit
	ELECTRIC FORKLIFTS Fleet Size: 16	VIG: 2024	<ul style="list-style-type: none"> Utilized to move chassis, warehouse inventory, lumber, aluminum and other miscellaneous cargo Powered by a fully electric battery Replaced 16 diesel and propane forklifts Asset replacement is estimated to save 28k gallons of fuel per year
	ELECTRIC UTILITY TRUCKS (UTRs) Fleet Size: 4	NIT: 2022-2023	<ul style="list-style-type: none"> Utilized to transport containers throughout the terminals Powered by a fully electric battery Replaced four diesel utility trucks Asset replacement is estimated to save 54 gallons of fuel per day
	CANTILEVER RAIL-MOUNTED GANTRY CRANES (CRMGs) Fleet Size: 7	VIG: 2018 NIT: 2023	<ul style="list-style-type: none"> Semi-automated cranes utilized to load rail containers Replaced diesel reach stackers & diesel rubber tire gantry cranes Asset replacement is estimated to save 40k gallons of fuel per year
	GRUNTS Fleet Size: 12	VIG: 2019 NIT: 2024 VIP: 2024	<ul style="list-style-type: none"> Utilized to transport workers to remove pins from double-stacked rail cars Powered by a fully electric battery Replaced gas-powered pickup trucks for pin removal Asset replacement is estimated to save 82k gallons of fuel per year

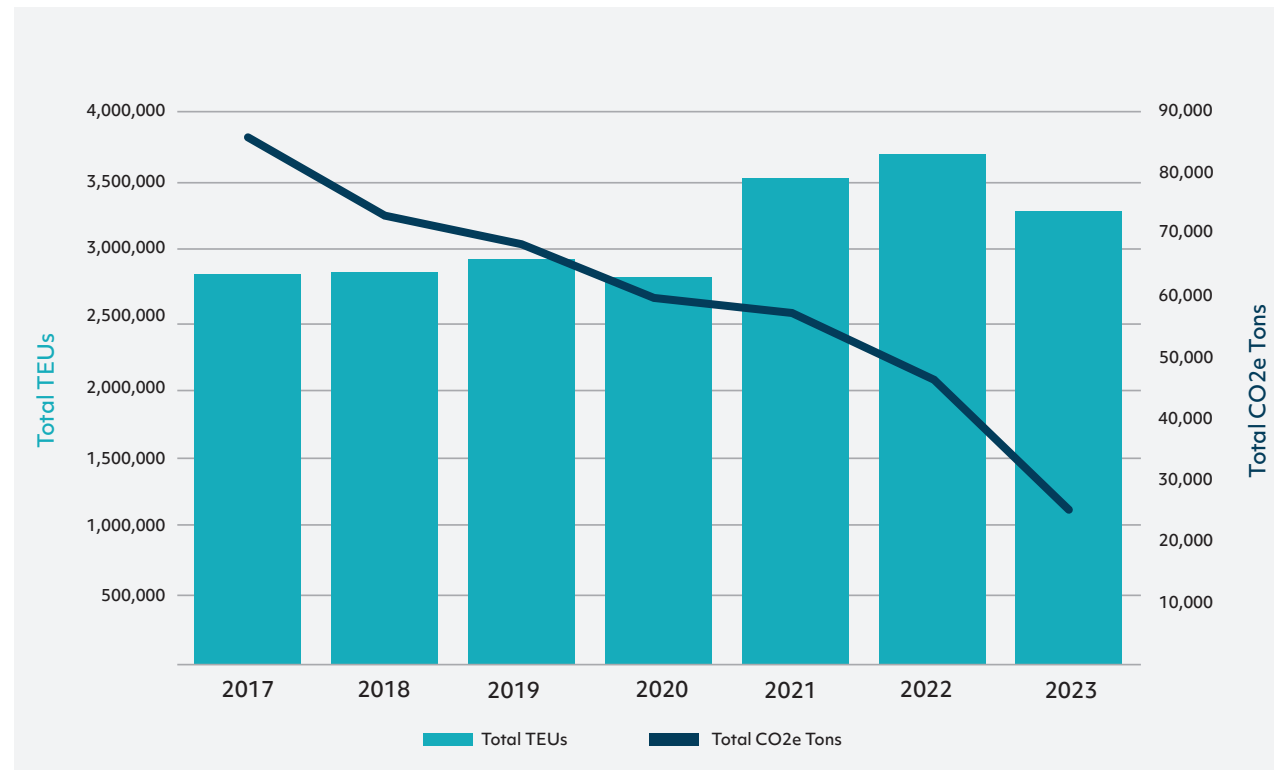
The "ASCs" of Efficiency

The Port of Virginia utilizes semi-automated stacking cranes (ASCs) to manage our container stacks efficiently. ASCs continuously shift import containers to optimized positions for quick pick-up by motor carriers and shuffle export containers closer to the pier side, where they will be ready for awaiting vessels. The investment of ASCs has replaced 122 diesel-powered straddle carriers - saving an estimated 1M gallons of diesel per year.

Semi-Automated Stacking Cranes (ASCs) Timeline

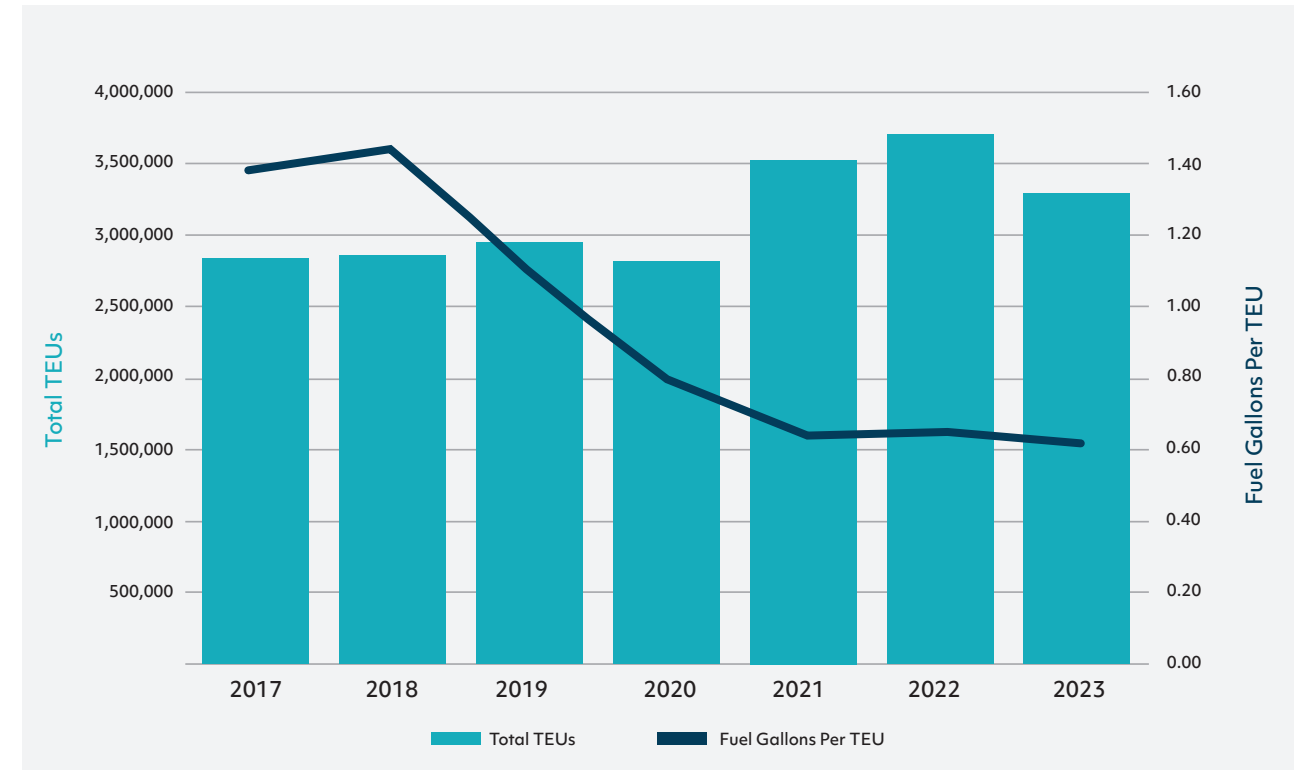


CARBON EMISSIONS PER TEU



Timeline of asset investment compared to TEUs and carbon emissions: Since 2017, TEUs have increased by 16 percent, and total carbon emissions have been reduced by 70 percent through investments in sustainable and efficient technology.

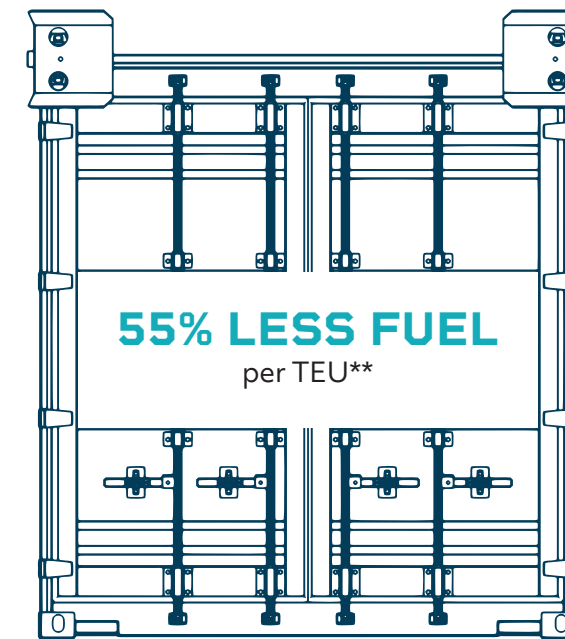
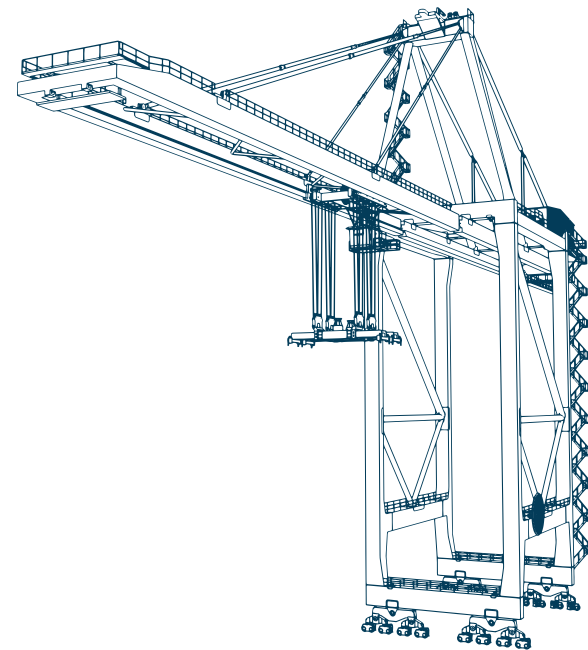
FUEL GALLONS PER TEU



TEUs compared to fuel reduction: Since 2017, we have decreased the amount of fuel* used per TEU 55 percent and have reduced overall fuel consumption by 47 percent.

“The type of equipment we are using, the way we power it and our overall approach to sustainability demonstrate to our partners and those port users seeking cleaner supply chains that this modern gateway can help meet their goals.”

STEPHEN EDWARDS, CEO AND EXECUTIVE DIRECTOR, THE PORT OF VIRGINIA



*Fuel includes diesel, gasoline, and LPG

**From our baseline measurement in 2017

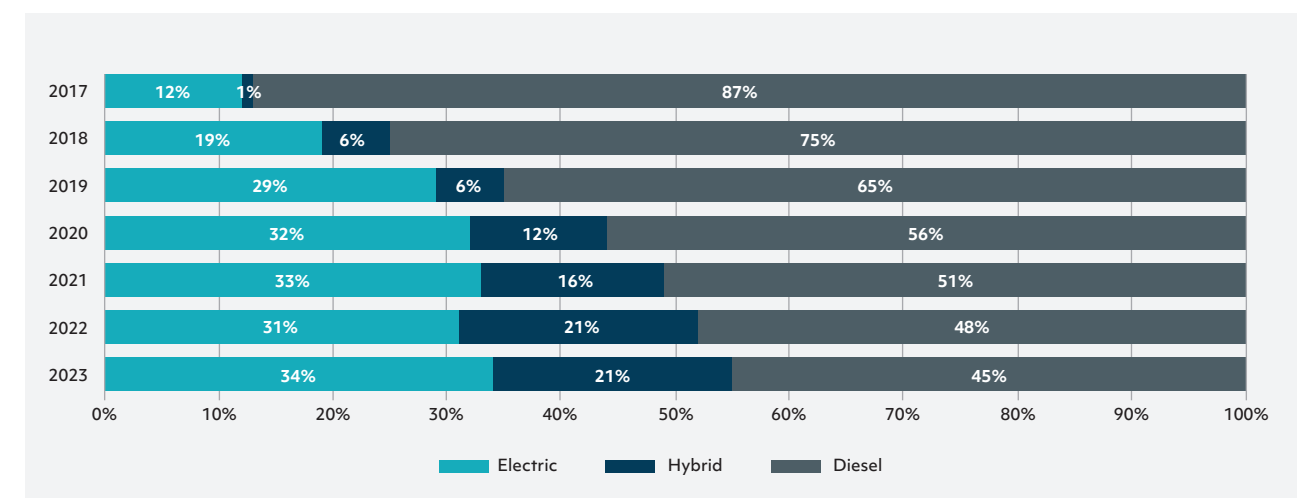


The East Coast's Largest Fleet of Electric and Hybrid Equipment

More than half the equipment moving containers at our terminals are electric or hybrid. Currently, the port operates 116 electric container yard semi-automated stacking cranes (ASCs), four rail yard CRMGs and 27 electric ship-to-shore cranes, along with a fleet of more than 100 hybrid shuttle carriers and the first zero-emission UTRs on the East Coast (Electrifying Our Equipment, pg. 6).

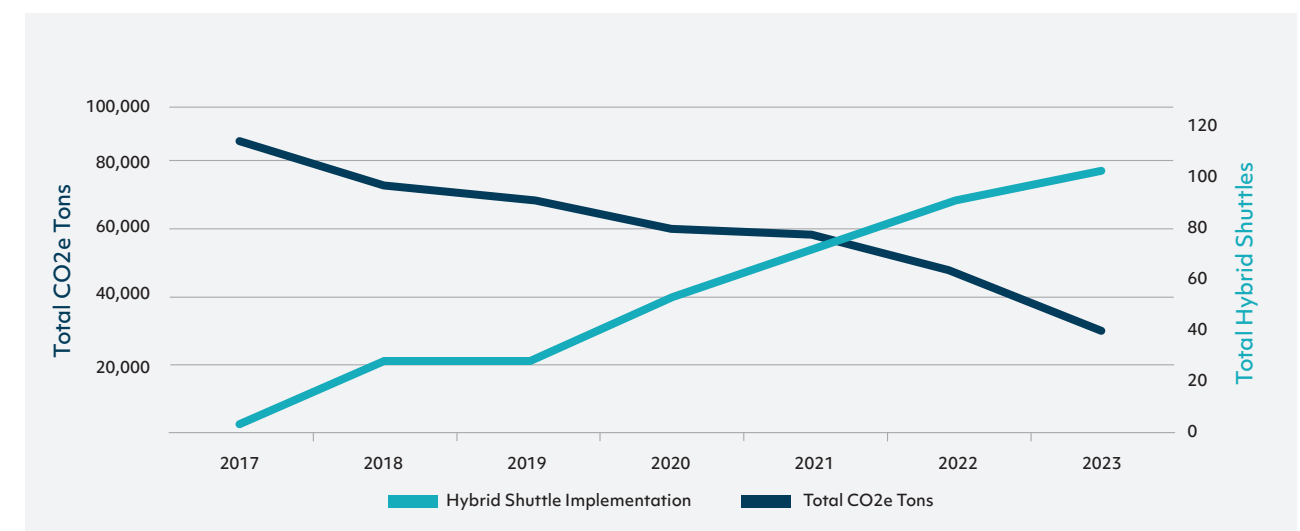
This fleet of all-electric equipment will grow as the port moves forward with optimizing the North Berth at Norfolk International Terminals: the expansion will increase the fleet at NIT to 152 electric stacking cranes, seven electric rail cranes, and 31 electric ship-to-shore cranes.

CONTAINER HANDLING EQUIPMENT



Our container handling equipment is becoming cleaner.*

HYBRID SHUTTLE IMPLEMENTATION VS. CO2E TONS PER YEAR



Hybrid shuttle implementation timeline related to reduction in carbon emissions: Total carbon emissions from shuttle carrier exhaust have been reduced 55 percent per unit since receiving the first order of hybrid shuttles.



Scope 2: Total Carbon Emissions Reduction from Electricity

Scope 2 emissions are an indirect CO₂e associated with the purchase of our power. These would include resources to charge equipment as well as power, heat and cool our buildings.

Making the Switch to Clean Energy

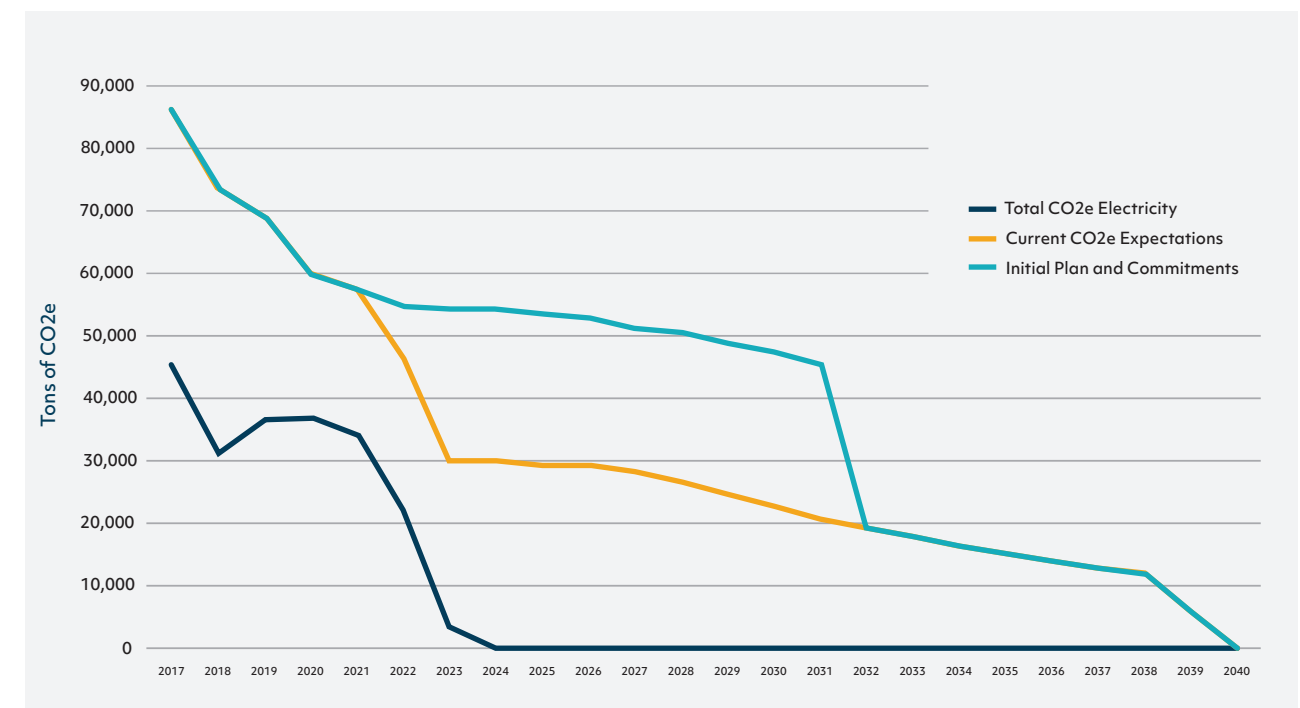
In 2023, 85 percent of the port's electricity came from clean energy sources through a Power Purchase Agreement (PPA) with Dominion Energy and a rider with Rappahannock Electric Cooperative. On Jan. 1, 2024, the port fully transitioned to 100 percent clean energy through the PPA, ensuring the generation and allocation of enough clean energy to support all operational power demand.

OPERATING ON 100% CLEAN ENERGY IN 2024...

8 years ahead
of our original
clean energy goal.

27% reduction
in CO₂e per TEU.
(projection)

CURRENT CO₂E ELECTRICITY EMISSIONS VS. INITIAL PLAN AND COMMITMENT



Effect of clean energy use on Net-Zero by 2040 progress: Since our transition to 100 percent clean energy, the port has eliminated the majority of scope 2 emissions.

*Container handling equipment is equipment used to move containers, excluding vehicles and forklifts



BUILDING AMERICA'S MOST MODERN GATEWAY

The Port of Virginia has long been committed to operational excellence and innovation, pushing the boundaries of our industry and seizing opportunities to meet ever-evolving needs of customers and partners.

Supporting America's Largest Offshore Wind Project

The Port of Virginia is transforming the Portsmouth Marine Terminal (PMT) to support Dominion Energy's Coastal Virginia Offshore Wind (CVOW) project, the largest offshore wind project in the nation to date. Construction at PMT reached a major milestone last fall after contractors created a heavy-lift berth and storage area, allowing crews to offload Dominion's first shipment of offshore components for CVOW. Once complete in 2026, CVOW will add 2.6 gigawatts of clean, sustainable energy to the Commonwealth of Virginia.

By the Numbers:



2.6 gigawatts

Renewable offshore wind energy added to Virginia

Source: Dominion Energy, 2024



900

Jobs each year during the construction phase

Source: Department of the Interior, 2023



1,100

Annual jobs during the operations phase

Source: Department of the Interior, 2023

"By partnering with Dominion Energy to leverage Portsmouth Marine Terminal, the port is leading the development of the offshore wind industry on the US East Coast. The result is job creation, economic investment, diversification of the Virginia economy and clean, renewable energy."

**PAT KINSMAN, VICE PRESIDENT
OFFSHORE WIND DEVELOPMENT,
THE PORT OF VIRGINIA**

Offering Premier Capabilities

Two-Way ULCV Passage:

The port's wider shipping channel is now open for two-way passage of ultra-large container vessels (ULCVs), reducing the time vessels stay at port by up to 15 percent and cutting emissions from ships idling while waiting for the channel to clear.

Project Benefits:

 **Reduce ULCV stays** by up to 15%

 **Increased speed to market**

 **Less idling, less emissions**

World-Class Rail Service:

In addition to the on-dock rail at our two largest container terminals, we are increasing rail capacity and efficiency in our Central Rail Yard to provide customers with unparalleled access to major inland markets.

Project Benefits:

 **2.0M TEUs** of total rail capacity

 **Industry-leading** rail dwell

 **Most expansive rail reach** of any US East Coast port

Advanced Operational Technology

Our semi-automated technology continuously organizes and optimizes the container stacks to deliver industry-best truck turn times and reduce idling at the gate.

Project Benefits:

 **Industry-leading** turn times

 **Increased speed to market**

 **Less idling, less emissions**



"This is a true advantage for port users. Our wider channel sets The Port of Virginia apart by allowing for consistent vessel flow, increasing berth and container yard efficiencies and further improving harbor safety."

**JOE RUDDY, CHIEF OPERATING OFFICER,
THE PORT OF VIRGINIA**



SUPPORTING EMPLOYEES, CUSTOMERS AND COMMUNITIES

Our dedication to sustainability, service and safety is backed by investments big and small that support our most important stakeholders.

Employees

Continuing Education: In collaboration with Virginia Wesleyan University, The Port of Virginia's six-week course on sustainability successfully completed its second year. This continuing education helps our colleagues deepen their environmental education and expand their leadership efforts.

Better Equipment: Operating with semi-automated efficiency keeps many of our crane operators inside and safe from the elements. New electric equipment provides better ergonomics through lower noise and less vibration.

Customers

Net-Zero by 2040: We are committed to being a responsible environmental steward for our partners. By deploying new, cleaner, more efficient equipment, we not only bolster our partners' supply chains but also help lower their emissions.

Communities



Supplier Diversity: Spent \$41.5M with Small, Women-owned and Minority-owned (SWaM) businesses in 2023.



Port Currents Newsletter: Our first quarterly community newsletter was launched to directly communicate with neighbors about port projects and our path to sustainability.



Clean the Bay Day: Annual "Clean the Bay Day" attracted more than 50 volunteers who removed 20 tons of trash and debris from the shores of the Elizabeth River.



GO Program: Our long-standing Green Operator (GO) Program has reduced emissions by helping local truck drivers replace more than 400 older model diesel trucks with newer, lower-emitting trucks. The program has expanded to include grant dollars for at- and near-zero dray trucks serving our terminals. More information can be found at: www.greenoperator.org

"Our sustainability efforts align us with some of the world's leading ocean carriers, retailers, manufacturers, suppliers and multinational corporations. It is also a strategic business decision. Consumers worldwide are demanding cleaner — green — supply chains and our work puts The Port of Virginia at the forefront of this change."

TOM CAPOZZI, CHIEF SALES & MARKETING OFFICER, THE PORT OF VIRGINIA

THE FUTURE OF AMERICA'S MOST MODERN GATEWAY

Increased productivity, elimination of carbon emissions and decreased operational costs are our unique formula for success. We will continue this approach through our \$1.4B Gateway Investment Program to build a better port, become an even better neighbor and outpace the future.

\$1.4B Gateway Investment Program includes:

- \$450M** into channel dredging for deepest, widest USEC channels
- \$220M** into our offshore wind hub
- \$83M** into our rail yard to increase volume and efficiency
- \$18M** into Richmond Marine Terminal and Virginia Inland Port
- \$650M** into more semi-automated systems and advanced tech

"As America's Most Modern Gateway, we are listening to the evolving needs and commitments of our partners to deploy the best technology available and create innovative solutions specific to operational efficiency, safety and speed to market."

ASHLEY FISHER, VICE PRESIDENT, STRATEGY, THE PORT OF VIRGINIA

\$650M Norfolk International Terminals (NIT) Optimization

We are renovating, expanding and modernizing the North Terminal at NIT to create capacity for 3.6M annual TEUs. The project includes installing new electric ship-to-shore cranes and reconfiguring the container stack yard for ASCs, increasing operational efficiency.

Estimated Completion:
Phase 1: 2025; Phase 2: 2027

\$83M Central Rail Yard Expansion

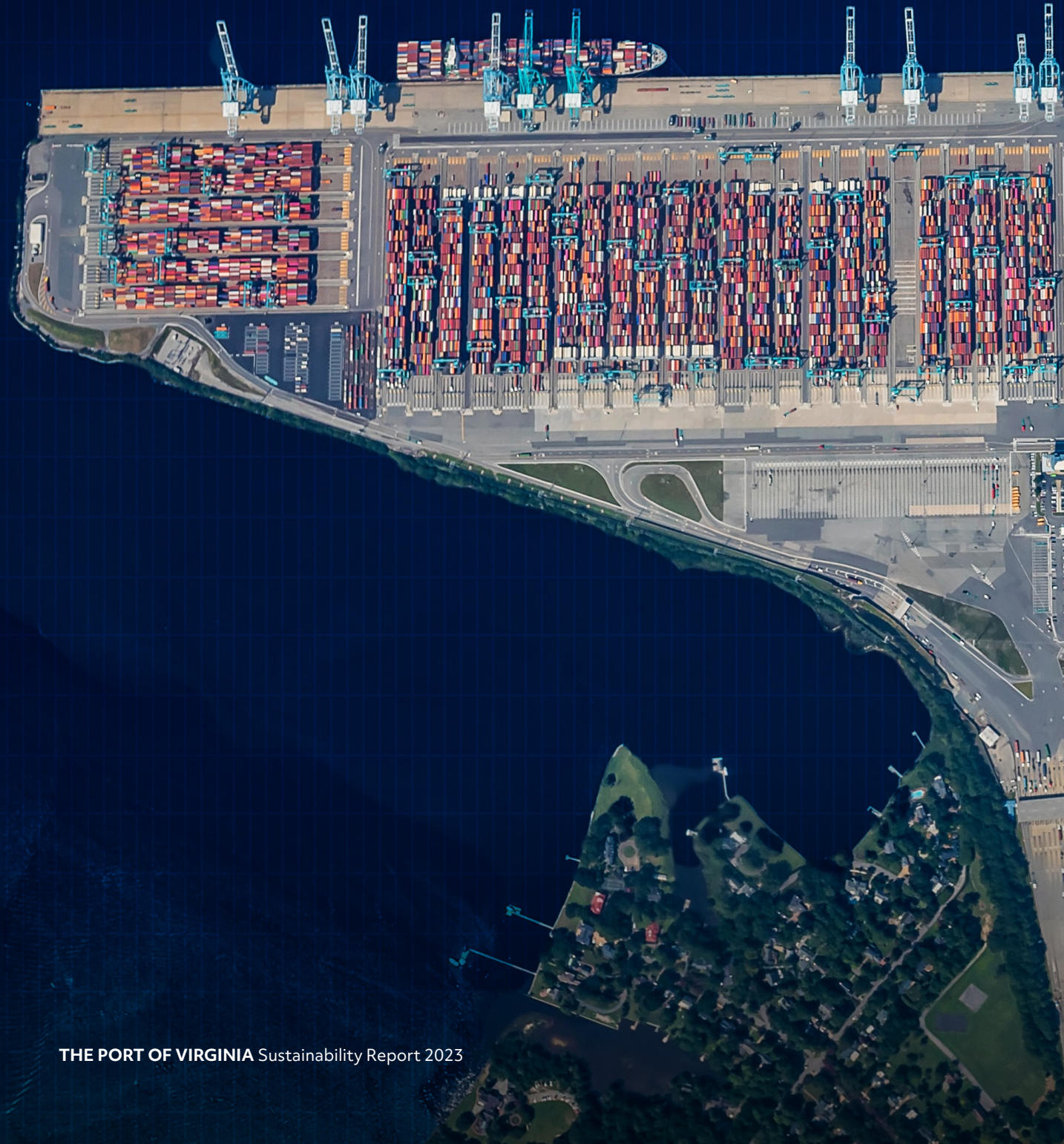
We are expanding and modernizing our central rail yard to accommodate 455,000 additional TEUs annually, increasing the port's total rail capacity to 2M TEUs.

Estimated Completion:
2024

\$15M Virginia Inland Port (VIP) Rail Investment Project

We are expanding on-terminal track capacity by 40 percent, adding four rubber-tire gantry cranes to increase the efficiency of rail loading/unloading, and reconfiguring the terminal's container yard.

Estimated Completion:
2024-2025





FAST FACTS



Two-way passage reduces ULCV turnaround times by **up to 7 hours**.



Most expansive rail reach on the US East Coast, with direct connections to major inland markets, including Chicago, Cincinnati, Memphis and Louisville.



Saving time and reducing emissions with remote transfers, truck reservations and custom container organizing technology.



In 2023, our barge service to and from Richmond Marine Terminal kept 33,500 trucks off the road — saving 3.4M truck miles on Virginia's highways.

Using Richmond barge results in 60 percent less carbon emissions compared to moving freight by truck.



In 2023, Virginia Inland Port kept more than 24,000 trucks off the road by bringing cargo inland from our ocean terminals to Front Royal, VA, via rail — saving more than 5.2M truck miles on Virginia's highways.

“Our cargo operations and overall performance are world-class, and we are advancing sustainability goals that are aligned with how we operate. This is a modern approach to meeting our environmental targets and we are setting ourselves apart as a result.

STEPHEN EDWARDS, CEO AND EXECUTIVE DIRECTOR, THE PORT OF VIRGINIA

RECENT AWARDS

2022 & 2023 Lowe's International Port of the Year

(Source: Lowes)

Highest Performing Major North American Port 2021 & 2022

(Source: World Bank. 2023. The Container Port Performance Index. Ports greater than 1M TEUs)

Thoroughbred Sustainability Partner & River Star Business Award

(Source: Norfolk Southern & Elizabeth River Project)

Recognized as a Top State for Business

(Source: CNBC. 2023 | Site Selection Magazine. 2022)



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