Long Beach Container Terminal

net zero EMISSIONS by 2030

Progress Report 1

2023

The Future is NOW

Statement from the CEO

It's been one year since Long Beach Container Terminal adopted our ambitious plan to eliminate emissions and reduce community impacts by 2030, and we are so excited to share the progress we've made over the past fiscal year, July 2022 to July 2023.

Over the last twelve months, we've secured more than $67 million in federal and state grant funds for 104 pieces of zero-emission, human-operated terminal equipment and more than 100 electric-charging units. We completed an infrastructure design plan to support a 100% zero-emission fleet and ordered three new zero-emission cranes to increase efficiency along our wharf and in our rail yard. We forged new community partnerships and launched an exciting sustainability initiative for LBCT employees. Our emissions continued to decline for the third straight year in a row.

And we did it all while maintaining our industry-leading customer service. In 2022-2023, LBCT continued to have the fastest truck turn times, shortest berth stays and lowest anchorage rates of any terminal in San Pedro Bay even as we handled more cargo than ever before.

Here at LBCT, we're demonstrating that a robust goods movement economy does not need to come at the expense of clean air and a healthy community. Still, there's more to do.

Looking ahead, LBCT faces new State and regional regulations aimed at reducing emissions from the goods movement sector. Although we are well positioned to meet – and even exceed – these requirements, we are working closely with our regulatory, community, and industry partners to understand the full impacts.

We continue to work toward our 2030 goal to transition all equipment and vehicles to zero emissions. It is an ambitious goal, one that we cannot do alone, but with your support, anything is possible.

Thank you for being our champions, year after year, helping LBCT transform into a global model of environmentally sustainable and highly efficient goods movement. This past year, our partners helped us accomplish things we never thought possible in such a short amount of time. We can't wait to see what the next year brings.

Anthony Otto, Chief Executive Officer
Long Beach Container Terminal

net zero EMISSIONS by 2030

Progress Report 1

TABLE OF CONTENTS

READINESS | RESILIENCE | REGENERATION

Ready to Act

Our Net Zero by 2030 Plan identified three pathways to help us meet our environmental goals:

PATHWAYS

Readiness

Through the deployment of fully electrified cranes including dual-hoist ship-to-shore cranes, dual-transaction stacking cranes, and intermodal rail cranes, LBCT is equipped to accommodate almost half the regular freight traffic of the Port of Long Beach. Located in California, the most stringently regulated economy, LBCT now has the lowest worldwide emissions per container. LBCT will eliminate all Scope 1 emissions by installing infrastructure and transitioning fossil-fueled equipment to electric or hydrogen over the next seven years.

Resilience

Shifting to electric equipment requires a resilient grid and self-sufficiency to maintain cargo operations at all times. LBCT will achieve resilience through continued investments in renewable energy, a lower-carbon electricity grid in partnership with Southern California Edison (SCE), and off-terminal carbon investments with the objective of eliminating Scope 2 emissions by 2030. LBCT is also prepared to work closely with partners to invest in and offset Scope 3 emissions before most terminals will embark on and address Scopes 1 and 2.

Regeneration

The most forward-looking of all the pathways, regeneration recognizes that true decarbonization requires innovative solutions, including new fuel sources, cutting-edge approaches to renewables and carbon offsets, and major projects that incorporate zero emissions, fuel decarbonization, and community benefits. This pathway also tackles emissions from sources over which LBCT has little to no control, such as ships, trains, trucks and tugs. LBCT traveled to Asia this year to discuss partnering on green corridors and is excited to embark on this journey with the ocean carriers.

In 2022-2023, we Focused Primarily on the Readiness Pathway

Among our Achievements:

- Secured $67 million in grant funding to replace 104 pieces of diesel terminal equipment with zero-emission equipment, including a brand-new fleet of human-operated electric yard tractors for our rail yard. Equipment will start to be deployed in the mid-2020s and includes:

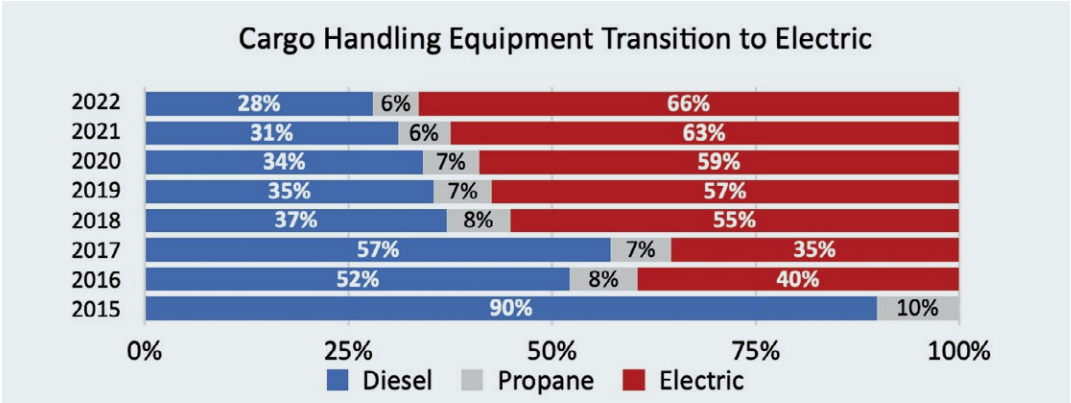
  72 yard tractors
  1 reach stacker
  2 top handlers
  2 IBC carts
  27 heavy-duty forklifts

- Secured funds, included in the $67 million, to install more than 100 electric-charging points to support the zero-emission equipment. Installation is expected to begin at the end of 2024 and well into 2025.
- Deployed two electric ship-to-shore cranes and one rail crane to improve efficiency and to handle more cargo without increasing direct emissions; two additional ship-to-shore cranes are arriving in early 2024.
- Tested and opened a second battery-exchange building to support efficient and resilient operations.
- Completed an infrastructure design master plan and detailed electrical drawings to support a full rollout of zero-emission equipment and vehicles across all parts of the terminal.
- Continued to increase the deployment of zero-emission electric equipment from 63% of our cargo-handling equipment in 2021 to 66% of our fleet in 2022. We also began buying renewable diesel to minimize lifecycle greenhouse gas emissions.

These achievements put us well on our way to a 100% zero-emission fleet by 2030 and ensure we are ready to take advantage of new funding opportunities.

Yet challenges remain, specifically infrastructure readiness and the rising costs of equipment and materials. First, because of the way grants are typically funded, we are forced to install charging infrastructure in small deployments using a piecemeal approach. Every time we break up the terminal to install new charging equipment, we impact operations and lose economies of scale. Our goal is to install all of the zero-emission infrastructure at once, and we are actively seeking funds to help us do just that.

Second, costs of equipment and materials are rising more dramatically than we had anticipated. Price increases are being driven by rising competition for zero-emission equipment, rapidly evolving charging technologies, grant-related manufacturing requirements, and inflation. Consider this: zero emissions equipment costs a whopping 5 to 6 times that of more traditional equipment, and it is recommended by industry experts that we consider 20-30% contingency costs. Rising costs make it even more important for us to secure public funding to advance decarbonization.



Although readiness is our immediate focus, LBCT recognizes the urgent need to work on **Resilience**

Over the past year, we have met countless times with Southern California Edison (SCE), our utility partner, to chart the path toward a greener grid. **SCE has a goal of 85% renewable energy by 2030 and a requirement to be 100% renewable by 2045.** LBCT met with SCE and the Edison International Board to review an extensive list of objectives, highlighting the importance of our partnership for continued operations, and we came up with a detailed action item list. Additionally, LBCT participates in the SCE Business Advisory Panel, providing strategic input on broader regional challenges with the grid.

Lastly, LBCT is laying the foundation for our regeneration pathway, which requires the most forward-thinking solutions. In the past year, we've met with innovative startups developing ways to harness green tidal energy, deploy renewable hydrogen at a mass scale, and repurpose our older facilities to ensure greater resilience. These conversations will continue.

2022-2023 Net Zero Achievements

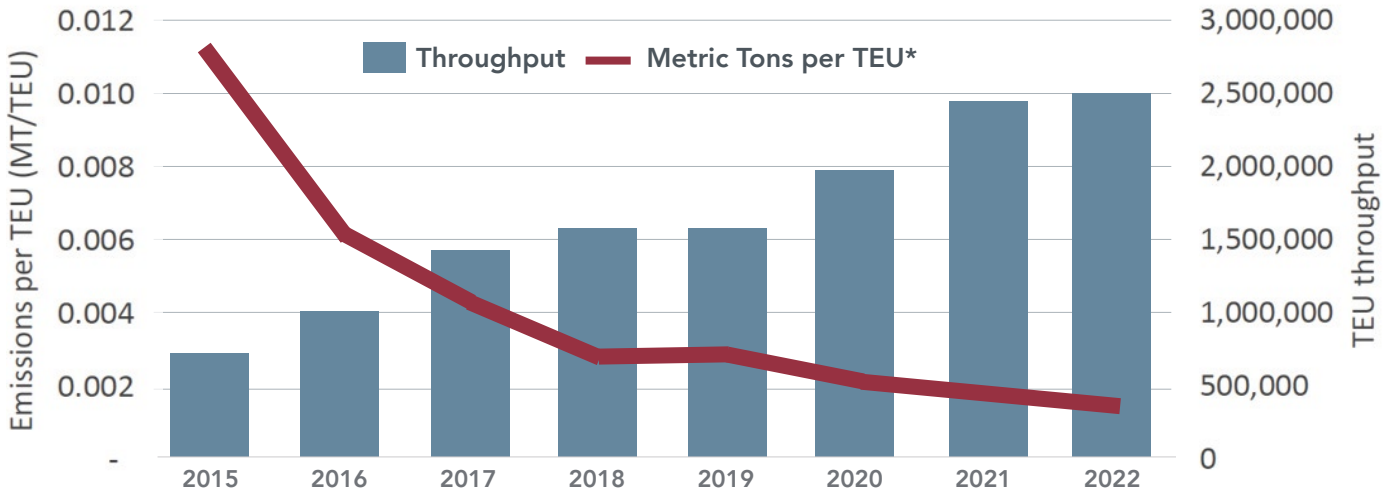
LBCT maintained our high levels of performance in 2022-2023 even amid operational changes. For one, we handled more than 2.5 million containers in 2022 – a new record. Second, we took on a new service that uses 53-foot containers rather than the standard 40-foot containers, which required us to use conventional yard tractors for transport around the terminal rather than our electric cranes.

Our battery charging buildings are not only the largest but some of the most sophisticated in the world. They also happen to be the smoothest running operations on the terminal. We have begun exciting conversations with our partners on transitioning our battery chemistry to advancing our technological innovations which might include the potential for energy storage over the next few years.

Even with the increased yard-tractor and equipment activity, our Scope 1 (equipment) emissions declined 11% from our baseline year of 2021. We further increased the quantity of zero-emission electric cargo-handling equipment and shrank our diesel equipment to only 28% of the fleet. Renewable diesel, which has a lower lifecycle carbon intensity, made up 65% of our diesel fuel purchases in 2022 and 100% in 2023.

On a per container basis, LBCT has achieved an 86% reduction in equipment-related emissions, owing to our significant investments over the years in zero emissions.

Carbon Emissions per Container, 2015-2022



*TEU = Twenty-Foot Equivalent Unit

Our Scope 2 emissions, which reflect our electricity use, grew 6% year over year, which is not surprising given our investments in electric zero-emission equipment. Electricity emissions will be a challenge for us as we continue to electrify our terminal. Our ability to reduce these emissions is largely contingent on SCE's progress toward a 100% renewable grid. We will continue to work with SCE to ensure those goals are met, while exploring how alternative energy, including new solar installations, could help us minimize our energy draw. LBCT's commitment to Low Carbon Fuel Standard credit generation and Renewable Energy Credit investments in the Central Valley help to keep our Scope 2 emissions in the negative zone.

SOUTHERN CALIFORNIA EDISON

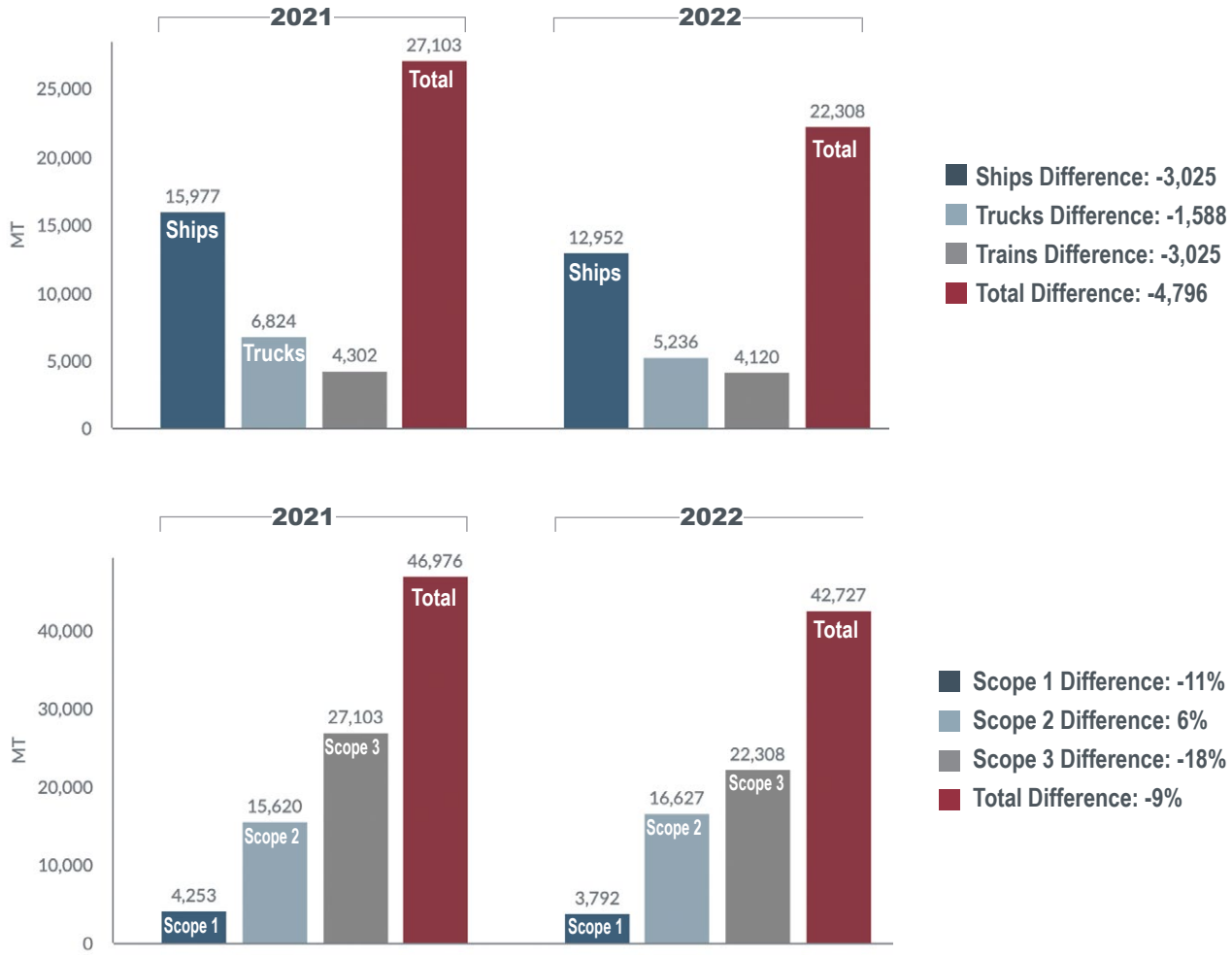
Scope 3 Emissions Have Decreased by 18%

Last year, for the first time ever, LBCT began tracking its Scope 3 emissions, which are generated by sources not owned or operated by LBCT, such as ships, trucks, and trains. These sources contribute significantly to our environmental and community impacts, and our stakeholders want to see action. Major shippers such as **Amazon, IKEA,** and **Nike** are actively seeking operators who can transport their goods with less, or ideally, no carbon emissions. LBCT has engaged cargo owners through forums such as **Sustainable Brands, National Retail Federation,** and **GreenBiz** to let them know we are their best Scope 3 partner for reducing their supply-chain emissions.

In 2022, ships, trucks, and trains generated 22,308 MTCO2e while at berth or on LBCT's terminal. Although significant, this number is nearly 4,800 MTCO2e less than our 2021 baseline year: an 18% decrease.

Our greenhouse gas emissions continue to drop. In just one year, our CO2e emissions are down 9% even as cargo throughput has increased. Further, LBCT took the additional step of zeroing out any remaining emissions by buying renewable energy credits and high-quality carbon offsets related to steel waste recovery to ensure 100% carbon-neutral operations for Scopes 1, 2 and now for Scope 3 !

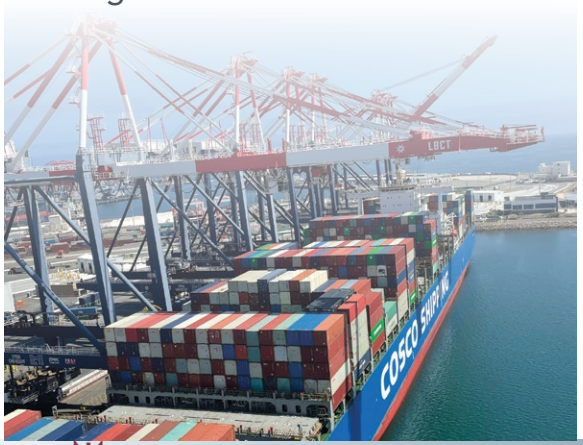
Comparisons of Metric Ton (MT) Emissions Generated at LBCT in 2021 & 2022



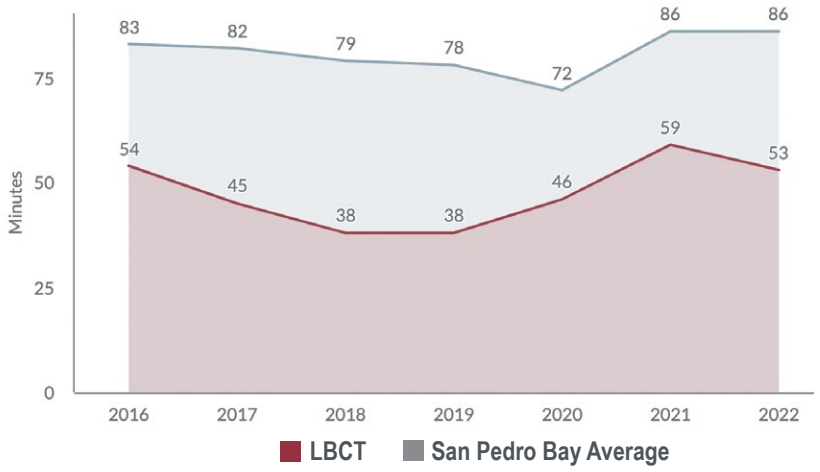
Truck, Vessel, & Rail Productivity

Our environmental progress has not impacted LBCT's unparalleled customer service. Our truck turn times remain the lowest in San Pedro Bay – a full 30 minutes less than other terminals. We process ships in half the time as our competitors even as we handle more containers than any other San Pedro Bay terminal. In 2022, LBCT handled 1 of every 8 containers coming through this Port complex, making us the third busiest terminal in San Pedro Bay. In the first half of 2023, our cargo numbers rose significantly, putting us on track to be the No. 1 terminal in the Port complex.

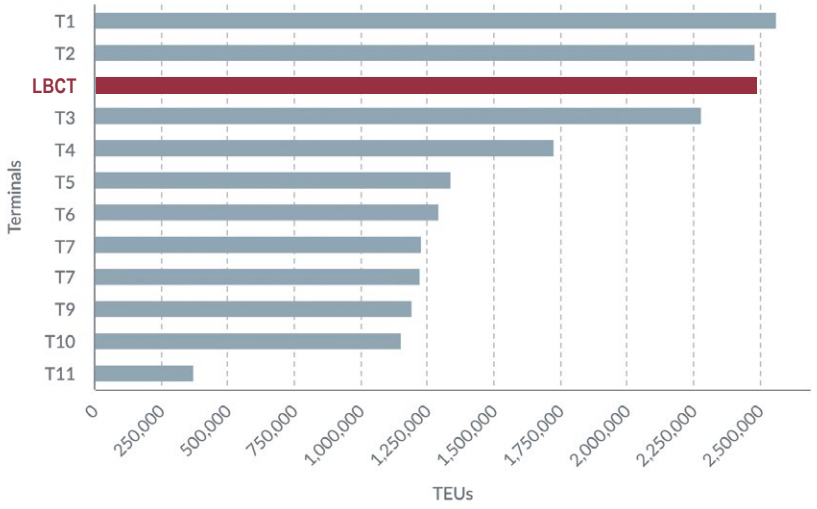
LBCT also has lower rail dwell times than other San Pedro Bay terminals. In 2022, rail-bound containers at other terminals sat for 11 days, but at LBCT, only 8 days. Our dwell times have decreased even more in the first half of 2023, down to 2 days, while the rest of the Port complex averages 5-day rail delays. This performance is due to our investments in new equipment, including two new ship-to-shore cranes and one rail crane to enhance efficiency along our wharf and in our railyard. Still, LBCT recognizes the need for systemwide rail improvements, which is why we support the Port of Long Beach's Pier B intermodal Railyard Project to increase on-dock rail capacity. In the meantime, customers looking for fast, efficient, and environmentally sustainable cargo handling can count on LBCT.



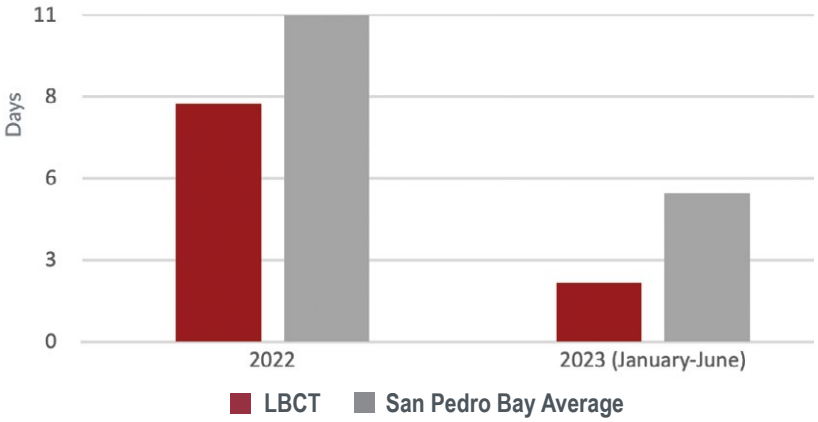
Truck Turn Times in San Pedro Bay[1] (in minutes)



TEUs Handled by Terminals in San Pedro Bay (2022)[2]



Average Rail Dwell Times in San Pedro Bay[3] (in days)



Sources

[1] Harbor Trucking Association
[2] Pacific Maritime Association
[3] Pacific Merchant Shipping Association

A Changing Landscape

The world is increasingly attuned to reducing emissions from goods movement, and nowhere is that more evident than here in Southern California. Our region faces some of the most stringent air-quality regulations, which are designed to reduce health risks for the many disadvantaged communities surrounding the port complex. The Bakersfield area is the most severe air quality non-attainment zone in the country, and the San Pedro complex is the second. This requires that the community, local governments, agencies, and business work together to alleviate congestion and diesel activity.

At LBCT, we recognize the urgent need to improve the quality of life for our neighbors. We also want to support the broader economy and workforce to ensure that zero-emission benefits are equitably distributed. **That is why LBCT has spent the last year working with our industry and regulatory partners to develop health-protective regulations that also support a vibrant goods movement economy.** Even though everyone recognizes a strong push is needed to meet the 2030 goals overall, it should be acknowledged that **Port pollution has decreased by 90% since 2005.**

Regulatory Landscape

California Air Resources Board (CARB) At-Berth Regulation

LBCT committed to 100% shore power usage under CA's amended At-Berth Regulation, which reduces exhaust emissions from ships while loading and unloading cargo. LBCT has required 100% shore power usage for years now, and is well positioned to comply with the new requirements, including stricter reporting and faster connection times. Each month, LBCT must provide detailed reports about vessel visits, engine characteristics, and any exceptions to the regulation. LBCT agreed to the more stringent at-berth requirements even before the amended regulation came into full force, putting LBCT in a good position for ongoing negotiations with vessel lines and the California Air Resources Board.

CARB Advanced Clean Fleets Regulation

This regulation will require LBCT to transition its fleet of heavy-duty service trucks, shuttle buses, and fuel trucks to zero emission beginning in 2024. LBCT will need charging infrastructure for nearly 50 vehicles subject to this regulation.

CARB Transport Refrigeration Unit (TRU) Regulation

Starting in 2024, LBCT will be required to report all TRUs on the terminal and to ensure these TRUs comply. This regulation imposes new and significant reporting requirements on LBCT and the industry as a whole.

Environmental Protection Agency (EPA) Preliminary Stormwater Permit Changes

EPA is proposing to regulate all stormwater discharges from facilities at the Port of Long Beach and the Port of Los Angeles. The new Commercial and Industrial Permit will require terminals to mitigate other comparably-sized sites upstream in the Dominguez Channel or in the near shore watershed.

South Coast Air Quality Management District (SCAQMD) Marine Ports Indirect Source Rule

This rule would cap nitrogen-oxide emissions from seaports and marine terminals and set progressively more stringent emission-reduction targets leading up to 2031.

LBCT partnered with AQMD on a major infrastructure grant request to the Maritime Administration and unfortunately were not selected this year. AQMD fully acknowledges LBCT's ongoing commitment to clean air even as the more sensitive Marine Ports Indirect Source Rule is in progress. The Ports and the Maritime Industry believe that this rule is not appropriate at this time given the progress the region is committed to in the Clean Air Action Plan (CAAP) and continues to make.

Priority Actions 2022/23

As part of the Net Zero by 2030 plan, LBCT identified the following four priority actions to guide decisions, resources, and investments on the road to zero emissions. LBCT has made steady progress in each category.

PRIORITY ACTION 1

PLANNING & PROCESSES

Incorporate Zero Emissions Planning, Processes and Goals into LBCT Policies, Programs, & Investment Decisions

GOAL Operationalize net-zero equipment and infrastructure procurement and deployment into annual policy, planning, management, and budgeting processes throughout LBCT

What We Promised

- Create a cross-departmental team to integrate zero emissions across the company
- Review the current budget planning process to ensure it accounts for zero emissions purchases, and develop a budget protocol to handle the cost uncertainty around zero emission equipment
- Review worker training policies to ensure adequate skills for zero-emission equipment, and begin meetings with local training organizations
- Develop procurement policies and procedures to maximize purchases of zero emission equipment and vehicles in the near term while avoiding purchases of fossil-fueled equipment, and if possible, minimizing pollution waste by keeping vehicles beyond their expected lifespan
- Develop processes to insert carbon-neutral requirements into vendor contracts
- Review infrastructure development policies to align with zero emissions goals

What We've Done So Far

The LBCT **Net Zero Leadership Team** is in full swing. This executive-level team consists of representatives from across the organization dedicated to our swift and efficient transformation to zero emissions. They have begun with important safety considerations and partner conversations on emissions reduction, and they have integrated zero emissions into our RFPs, budgeting procedures, procurement policies, and infrastructure investments.

In 2023, **LBCT made a commitment to form three Net Zero Action Plan Committees** to institutionalize net-zero planning at all levels of the organization. The committees include Terminal Operations and Fleet Management; ESG, Sustainability & Risk Management; and Workforce Inclusion, Grant Funding & Finance. Highly motivated employees were identified for each of these committees based on their commitment to the environment and influence within the organization. Going forward, the committees will help create action plans and ways to engage the LBCT workforce in the net zero transition. They have planned three workshops beginning in January 2024.

Employee Initiatives: Carbonauts Training

In 2023, LBCT launched the exciting **Carbonauts training and employee initiative** to encourage its employees to reduce their personal environmental footprints. Approximately 50 employees participated in weekly workshops to learn more about environmental topics and ways to minimize environmental impacts at work and at home. They also completed a survey and network mapping exercise.

As part of this effort, employees were asked to take personal pledges to reduce their environmental footprints, and they responded in a big way. Nearly 240 pledges were made, from electrifying appliances and reducing food waste to driving a hybrid vehicle. LBCT is now forming employee-driven committees to help identify new ways of reducing environmental impacts on the terminal.

Voluntary Carbonauts Training Participation

55	47	23
Signed Up For Training	Attended At Least One Workshop	Attended All Workshops!
68% of 81 Survey Respondents	85% of 55 Training Signups	49% of 47 Training Attendees

Additionally, 27 participants created Personal Climate Action Plans during the 6 week Carbonauts training and:

PLEDGED	STARTED	COMPLETED
235	142	36
actions during training	actions during training	actions during training

TOP 5 ACTIONS PLEDGED DURING TRAINING

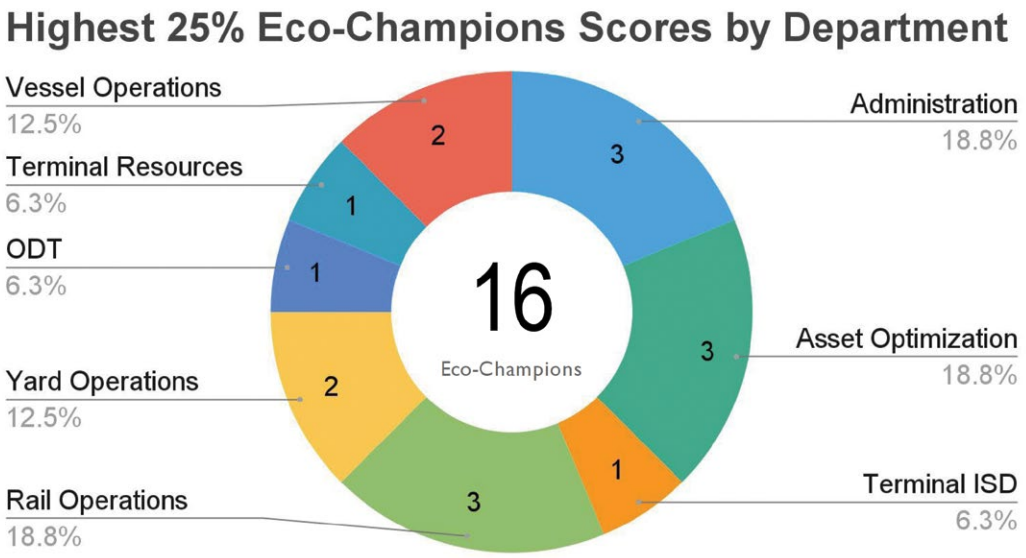
1. Electrify Appliances
2. Buy Green Flights
3. Get a house audit
4. Switch to a hybrid
5. Offset some emissions

TOP 5 ACTIONS STARTED DURING TRAINING

1. Start reducing food waste
2. Cut down on short drives
3. Reframe how you think about flying
4. Go less often, but longer
5. Start meal planning

TOP 5 ACTIONS COMPLETED DURING TRAINING

1. Eliminate "Standby Power"
2. Start reducing food waste
3. Do a kitchen audit
4. Reframe how you think about flying
5. Move to a more plant-rich diet



PRIORITY ACTION 2

EQUIPMENT, FACILITIES & INFRASTRUCTURE

Ensure Zero Emissions in All Aspects of the Organization

GOAL Convert fossil-fueled equipment and vehicles to zero emissions over the next 5 to 7 years and ensure sufficient infrastructure to support the goal

What We Promised

- Develop a 5 to 7 year equipment plan to replace fossil-fueled equipment and vehicles. This timeframe meets the 2030 Net Zero goal, spreads capital expenses over multiple years, maximizes grant funding opportunities, and allows time for zero-emission technology to mature where needed
- Develop engineering design drawings, construction schedules, and cost estimates for required infrastructure
- Conduct annual technology feasibility assessments to determine the state of zero-emission technologies, identifying opportunities to accelerate procurement timelines and/or challenges to meeting the 2030 goal
- Pursue all available port, state and federal agency funding for CHE and non-CHE
- Volunteer to participate in technology demonstrations for emerging zero-emission equipment, particularly equipment in the early prototype phase, such as sweepers, top handlers, and generators
- Require third-party vendors (vehicle/equipment providers) to develop 5 to 7 year plans for transitioning to zero emissions for all equipment/vehicles that operate at LBCT
- Add 6 additional solar installations and buy out the power purchase agreement on the existing solar installations
- Explore new on-site power generation projects to reduce dependence on the grid and further reduce Scope 2 emissions
- Conduct an energy audit every three years to identify ways of reducing the load from buildings and equipment

What We've Done So Far

LBCT completed a master infrastructure design plan and an **equipment replacement plan** to ensure the entire fleet is zero emissions by 2030. LBCT continues to work with innovative technology developers to accelerate the advancement of zero-emissions terminal equipment and creative charging solutions. Even as we prepare for the fleet transition, we are looking at our facilities and energy load, and are developing plans for solar and other renewable energy sources to improve resilience and minimize grid reliance.

This year was a banner year for developing revised designs, schedules and cost estimates as technology evolved and equipment prices soared. Several RFPs have been drafted, harbor development permits were obtained, legal counsel was brought on board, an energy audit was completed, and two more major grant proposals were submitted in 2023. Full speed ahead!

PRIORITY ACTION 3

FUNDING & ADVOCACY

Stimulate Systemwide Change in Goods Movement

GOAL Support supply chain partners in the systemwide transition to Net Zero through policy advocacy; secure grant funds to offset LBCT's own risk as an early actor

What We Promised

- Develop a 5-year funding strategy identifying potential projects and funding sources
- Actively engage the Port of Long Beach to seek grants for which only public agencies can apply to projects on LBCT's behalf
- Advocate for grants from state and federal agencies
- Educate regulatory agencies on the impacts of proposed new laws through meetings, terminal tours, formal comment letters, and coordination with Pacific Merchant Shipping Association (PMSA)
- Support shipping lines, trucking companies, harbor craft operators, railroads and third party vendors in complying with and ideally exceeding zero-emission regulations through preferential access, incentives, and joint grant applications, as appropriate

INFRASTRUCTURE INVESTMENT & JOBS ACT

U.S. Department of Transportation Maritime Administration

CalSTA CALIFORNIA STATE TRANSPORTATION AGENCY

What We've Done So Far

Creating the nation's first net zero emission terminal requires an incredible investment. LBCT estimated a cost of about $200 million to install all necessary charging infrastructure and to convert every vehicle and piece of equipment to zero emission. We anticipate increases, and we cannot do it ourselves.

We are so grateful for the support we received over this past year: **$67 million in grants is a tremendous achievement.** This amount includes $35,929,000 from the Port and Freight Infrastructure Program under the California State Transportation Agency and $30,141,080 from the Port Infrastructure Development Program under the Maritime Administration. We also received about $1 million from the Diesel Emissions Reduction Act Program, Carl Moyer, and CORE, making our 2022/2023 year a $67 million win for the Port, LBCT and the community.

But we still have a large gap to close.

In 2023, we submitted more than $100 million in grant requests to the federal government above and beyond what we've already been awarded. Some requests are still pending, but others were not successful, which points to our immense challenge. Still, we cannot give up. We need public funding to complete all the necessary zero-emission infrastructure at one time, ensuring a full transition to net-zero emissions by 2030. The funds also would allow us to convert every remaining vehicle and piece of equipment – from the maintenance trucks to the shuttle buses that transport dockworkers – to zero emissions.

We continue to work with our legislators to create funding opportunities. Over this past year, **LBCT has met with countless elected officials in Long Beach, Sacramento, and Washington, DC, to rally support for our ambitious environmental goals.** Our success would demonstrate that cleaner, more efficient goods movement is possible for every seaport across the world.

PRIORITY ACTION 4

COMMUNITY RESPONSIBILITY

Taking an Active Role in Stewardship

GOAL Effectively integrate community considerations into LBCT climate actions

What We Promised

- Evaluate specific projects to incorporate community benefits into Net Zero projects
- Develop a 305-acre watershed management program that yields emission benefits
- Partner with the City, County and the Port of Long Beach on programs that support the local community and ecosystems
- Explore ways to prioritize education, workforce development, and jobs for our neighbors
- Consider wind and tidal projects, other renewable electricity projects, and offsets that benefit the community directly or indirectly

What We've Done So Far

LBCT has forged enduring partnerships with numerous community groups. In 2023, **we became a major sponsor of Coalition for Clean Air's events**, helping to spread the word about the importance of reducing air pollution. **We shared our environmental accomplishments with hundreds of Long Beach residents at the 2022 Green Port Fair,** hosted by the Port of Long Beach, and **sponsored CANstruction, a unique community event to fight food insecurity.** This year, we hosted meetings and tours for many environmental and neighborhood groups, including the Natural Resources Defense Council, Long Beach Alliance for Children with Asthma, and Earthjustice.

LBCT's community presence continues to grow. In early 2023, **we sponsored the Rancho Los Alamitos Cottonwood Awards and the Coalition for Clean Air's Clean Air Awards**, showcasing our leadership in community-based environmentalism. We are committed to doing more in the coming year.

LBCT is proud that we came in to baseline compliance with stormwater regulations this year and was audited by the State Water Board and the Port. The facilities team made great strides in the use of biochar to prevent metals or solids from entering the waterways, and, more importantly, in executing dozens of best management practices. This year the State Board will require a new Commercial and Industrial Permit that LBCT and the industry are assessing actions for.

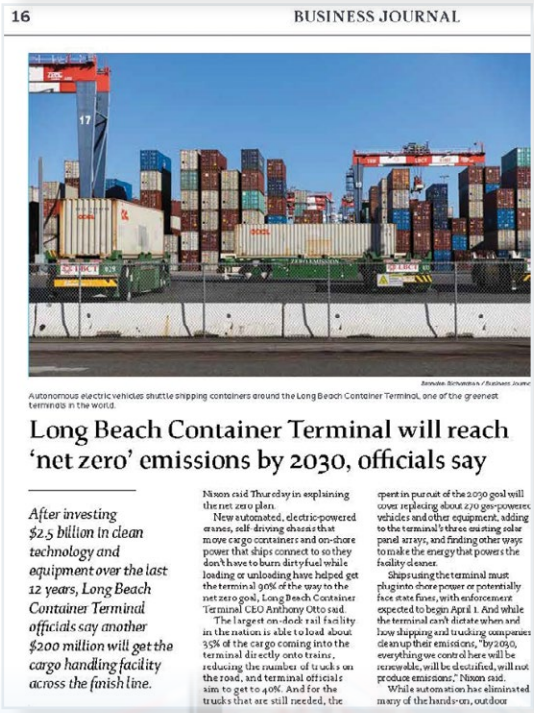
Environmental Leadership

LBCT is recognized as a global leader in environmentally sustainable goods movement. **We were invited to the White House** to provide input on how the administration can better support net zero transitions, and **we were awarded the prestigious Sustainable Innovation Project of the Year** by the U.S. Green Building Council Los Angeles.

LBCT presented to conferences across the world, from the **TOC Europe Conference in Rotterdam** to the **National Association of Waterfront Employers Conference in Vancouver,** to **Accelerate Change Together (ACT) Anaheim**. The Port of Long Beach even asked LBCT to represent the region and its progress at the **Tri-State Commission in Eugene Oregon this past September, presenting to the appointed California, Oregon and Washington Transportation Commissions.**

This past year, our incredible progress was showcased in the **Long Beach Press Telegram, Long Beach Business Journal, Reuters, Bloomberg** and other major media outlets with six front-page news stories and photographs. The coverage resulted in more than 185 million impressions within North America and an additional 87 million impressions outside of North America. Our story is being told, and the world sees LBCT as a leader.

This leadership extends not only to our own operations, but to partnerships with our employees, the community, and the waterfront workforce. We could not accomplish our ambitions, effect the regional and national change and quite frankly work as productively as we do without our dedicated workforce.



16 BUSINESS JOURNAL

Autonomous electric vehicles shuttle shipping containers around the Long Beach Container Terminal, one of the greenest terminals in the world.

Long Beach Container Terminal will reach 'net zero' emissions by 2030, officials say

After investing $2.5 billion in clean technology and equipment over the last 12 years, Long Beach Container Terminal officials say another $200 million will get the cargo handling facility across the finish line.

Nixon said Thursday in explaining the net zero plan.

New automated, electric-powered cranes, self-driving chassis that move cargo containers and on-shore power that ships connect to so they don't have to burn dirty fuel while loading or unloading have helped get the terminal 30% of the way to the net zero goal, Long Beach Container Terminal CEO Anthony Otto said.

The largest on-dock rail facility in the nation is able to load about 35% of the cargo coming into the terminal directly onto trains, reducing the number of trucks on the road, and terminal officials aim to get to 40%. And for the trucks that are still needed, the

spent in pursuit of the 2030 goal will cover replacing about 270 gas-powered vehicles and other equipment, adding to the terminal's three existing solar panel arrays, and finding other ways to make the energy that powers the facility cleaner.

Ships using the terminal must plug into shore power or potentially face state fines, with enforcement expected to begin April 1. And while the terminal can't dictate when and how shipping and trucking companies clean up their emissions, "by 2030, everything we control here will be renewable, will be electrified, will not produce emissions," Nixon said.

While automation has eliminated many of the hands-on, outdoor

PRESS-TELEGRAM

Friday, February 10, 2023

PORT OF LONG BEACH

LAST HURDLE IN GREEN SHIPPING

The Long Beach Container Terminal, shown Thursday, is the world's most sustainable major port cargo facility, according to officials. The Port of Long Beach has invested $2.5 billion in its effort to reach net-zero emissions.

Final $200M needed to reach 2030 goal of net-zero emissions at Container Terminal

By Donna Littlejohn

The Long Beach Container Terminal is on a mission to find $200 million to finish its more than decade-long task of becoming the first port terminal in North America to reach net-zero emissions – a mission that, officials said, is on a fast track.

The Port of Long Beach terminal hosted a media tour on Thursday to highlight how close it is to reaching that goal and to spread the word that it will be aggressively seeking federal and state grant funding going forward.

While $30.1 million from the 2021 federal Infrastructure Investment and Jobs Act was recently announced for the terminal, LBCT will need even more cash to meet its emissions goal by 2030 — or perhaps sooner, if the terminal can swing it.

Long Beach Container Terminal CEO Anthony Otto, above, speaks about the facility on Thursday. Otto envisions the terminal becoming the "preferred operating model"

TURKEY AND SYRIA

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8 LOS ANGELES BUSINESS JOURNAL — FEBRUARY 27, 2023

It's Electrifying

PORTS: Long Beach Container Terminal, armed with $2.5 billion in capital funding, well on the way to zero-emission operations.

By ZANE HILL *Staff Writer*
Photos by THOMAS WASPER

Net-zero emissions are well on their way at the **Long Beach Container Terminal**, located at the **Port of Long Beach**.

If the operation has its way, it'll get there by 2030, thanks in large part to a $2.5 billion redevelopment project that has targeted a plethora of ways to electrify the facility's equipment. Terminal officials showcased much of that new equipment to media earlier this month.

"While climate change poses a significant threat to the movement of goods worldwide, it also presents an opportunity," Chief Executive **Anthony Otto** said in a statement. "At LBCT, we've clearly demonstrated that through the adoption of green-energy heavy equipment and operations it is possible to dramatically increase our cargo-handling capacity while simultaneously reducing emissions. Our significant investments are now paying dividends."

Much of that investment includes the machinery that handles cargo as soon as it docks at the port.

There are the electric-powered dual hoist cranes — the largest in the United States — as well as the battery-powered container ground movers. In addition to reducing greenhouse gas operations by 80%, officials say those upgrades have also quadrupled the processing capacity to 3.3 million containers annually.

Spending on equipment

An additional $200 million will be spent in the next several years toward procuring additional zero-emission equipment and producing on-site renewable power generation — including a $30.1 million federal grant to acquire electric yard tractors.

According to data from the **Harbor Trucking Association**, these upgrades at LBCT have already yielded the lowest average truck idling and total terminal time at the rest of Port of Long Beach as well as at the neighboring **Port of Los Angeles**.

"Our industry-leading plans should incentivize new clean-energy technologies, further increase our throughput capacity and make LBCT an even brighter climate star in the global supply chain," said **Bonnie Nixon**, LBCT's director of sustainability. "This is more good news for the environment, our communities, our customers and the workforce."

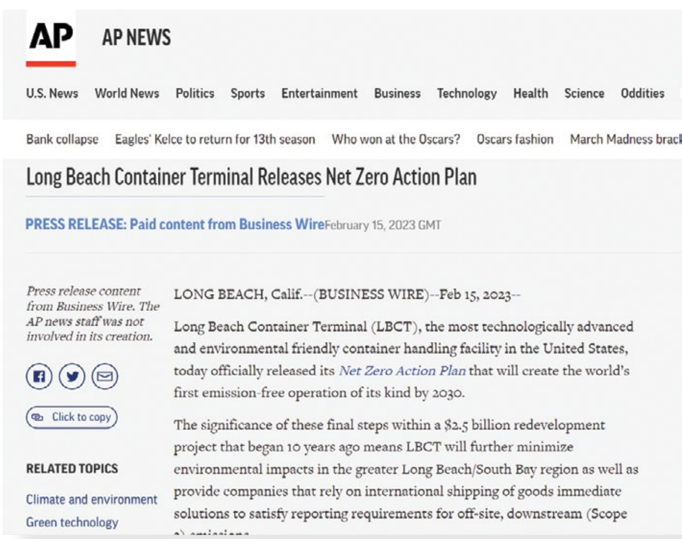
Through these upgrades, LBCT's plan, called the Net Zero 2030 Climate Action Plan, also serves to benefit the third-party partners who use the facility — because they're participating in a zero-emissions act, those companies and organizations can count it under their own similar plans and regulations. Similarly, the facility benefits from clean energy provided by **Southern California Edison**.

"LBCT continues to set the industry standard in terms of its commitment to deploying zero-emission technologies in the maritime sector," said **Joseph Lyou**, president and chief executive of downtown-based **Coalition for Clean Air**. "With the recent release of its Net Zero Action Plan, they are providing a blueprint for carrying that environmental commitment into the next decade. We applaud their efforts in converting cargo-handling equipment to finalize their goals of becoming a completely zero-emission facility by 2030."

Chart: The LBCT's Bonnie Nixon gives a status update at the port.

HQ: The offices of the Long Beach Container Terminal at the port.

Merchandise: Cargo containers at the Port of Long Beach.



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Long Beach Container Terminal Releases Net Zero Action Plan

PRESS RELEASE: Paid content from Business Wire February 15, 2023 GMT

Press release content from Business Wire. The AP news staff was not involved in its creation.

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Climate and environment
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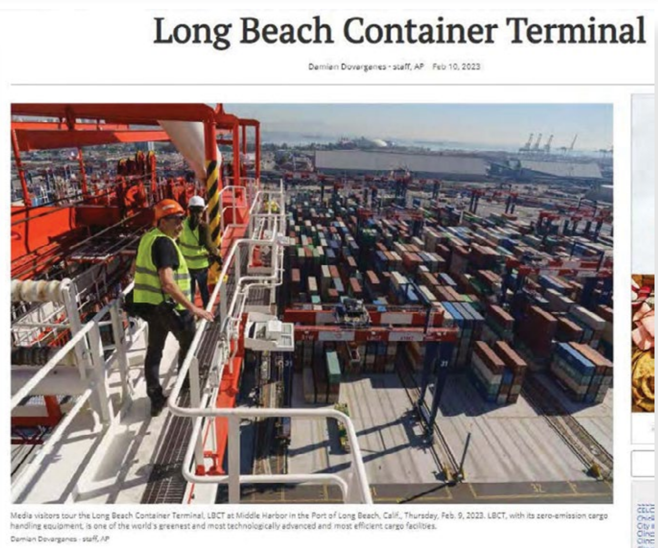
LONG BEACH, Calif.--(BUSINESS WIRE)--Feb 15, 2023--

Long Beach Container Terminal (LBCT), the most technologically advanced and environmental friendly container handling facility in the United States, today officially released its *Net Zero Action Plan* that will create the world's first emission-free operation of its kind by 2030.

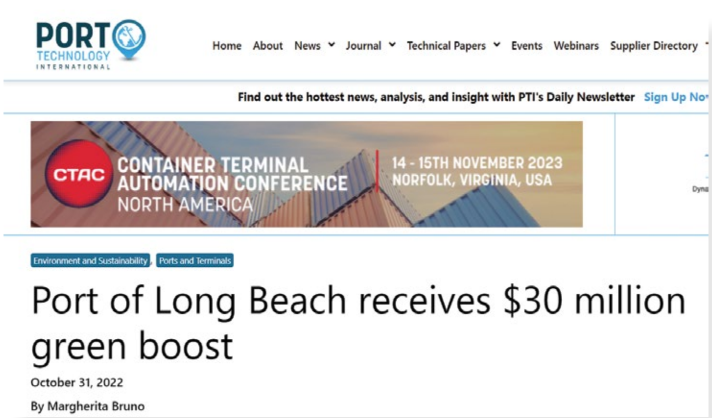
The significance of these final steps within a $2.5 billion redevelopment project that began 10 years ago means LBCT will further minimize environmental impacts in the greater Long Beach/South Bay region as well as provide companies that rely on international shipping of goods immediate solutions to satisfy reporting requirements for off-site, downstream (Scope 3) emissions.



Long Beach Container Terminal

Damian Dovarganes - staff, AP Feb 10, 2023

Media visitors tour the Long Beach Container Terminal, LBCT at Middle Harbor in the Port of Long Beach, Calif., Thursday, Feb. 9, 2023. LBCT, with its zero-emission cargo handling equipment, is one of the world's greenest and most technologically advanced and most efficient cargo facilities.
Damian Dovarganes - staff, AP



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Environment and Sustainability | Ports and Terminals

Port of Long Beach receives $30 million green boost

October 31, 2022

By Margherita Bruno

Member-supported LONG BEACH POST News

PORT OF LONG BEACH — FEB 9 5:18 PM

Long Beach Container Terminal will reach 'net zero' emissions by 2030, officials say

Alicia Robinson

After investing $2.5 billion in clean technology and equipment over the last 12 years, Long Beach Container Terminal officials say another $200 million will get the cargo handling facility across the finish line to "net zero" — which means terminal operations will produce no environmentally harmful emissions — by 2030.

The earlier three-phase improvement project at the 304-acre terminal has already dramatically increased how many 20-foot equivalent containers (a standard measure) can be loaded and unloaded daily, while also significantly shrinking emissions since the first phase of upgrades opened in 2016, Long Beach Container Terminal ESG and Sustainability Director Bonnie Nixon said Thursday in explaining the net zero plan.

New automated, electric-powered cranes, self-driving chassis that move cargo containers and on-shore power that ships connect to so they don't have to burn dirty fuel while loading or unloading have helped get the terminal 90% of the way to the

Labor Partnerships

LBCT continues to maintain strong partnerships with waterfront labor and other union partners. In 2023, we were thrilled to see the **International Longshore and Warehouse Union (ILWU)** agree on a long-term contract with the terminals, ensuring that **we will continue to have highly skilled workers handling our record levels of cargo.**

New zero-emission equipment deployed on our terminal will be human operated and built by American manufacturers, which allows us to keep a strong waterfront workforce. The two grants LBCT received in 2023 clearly state that these requirements must be met. **Infrastructure will be installed by members of the International Brotherhood of Electrical Workers (IBEW).** LBCT is also committed to upskilling and training its workforce on any new equipment and charging solutions. We will continue to partner with the Port of Long Beach on new workforce initiatives, such as the Port of Long Beach and Port of Los Angeles Goods Movement Training Campus.

We are also working to prepare our own employees for the zero-emission transition. As part of the Carbonauts program, we are developing an "Upskilling Program," which is a series of workshops over several months to help employees learn new skills so they can better contribute to Net Zero committees and initiatives.

Port of LONG BEACH
THE PORT OF CHOICE

Community Showcase

LBCT is redefining the advancement of equity in the green transition. Every day, we strive to improve the quality of life for the community and our workforce. Agencies and organizations travel from all over the nation and the world to see our operations and to understand our commitment to transparency and equity. These efforts have included:

- Participating in the **San Pedro Bay Ports Clean Air Action Plan** stakeholder meetings and directly engaging with environmental justice organizations, including:

  Coalition for Clean Air
  Pacific Environment
  Natural Resources Defense Council
  Long Beach Alliance for Children with Asthma
  Communities for a Better Environment
  West Long Beach Association
  Coalition for a Safe Environment
  Comito Pro Uno
  Liberty Hill Foundation
  Earthjustice
  East Yard Communities for Environmental Justice

COALITION FOR CLEAN AIR

NRDC NATURAL RESOURCES DEFENSE COUNCIL

PACIFIC ENVIRONMENT

- Showcasing our work and environmental ambitions through tours and meetings with the following federal, state, and regional agencies:

  US Environmental Protection Agency
  US Department of Transportation
  US Department of Energy
  US Navy
  US Coast Guard
  Federal Emergency Management Agency
  Federal Highway Administration
  CA Energy Commission
  CA Department of Transportation
  CA State Transportation Agency
  CA Transportation Commmission
  CA Air Resources Board
  LA Metropolitan Transportation Agency
  LA County Department of Public Health
  SC Air Quality Management District

LBCT Spotlights its Accomplishments

Many presentations and tours were given in 2022/2023 to various customer and industry organizations, agencies, community groups, elected officials, and the media.


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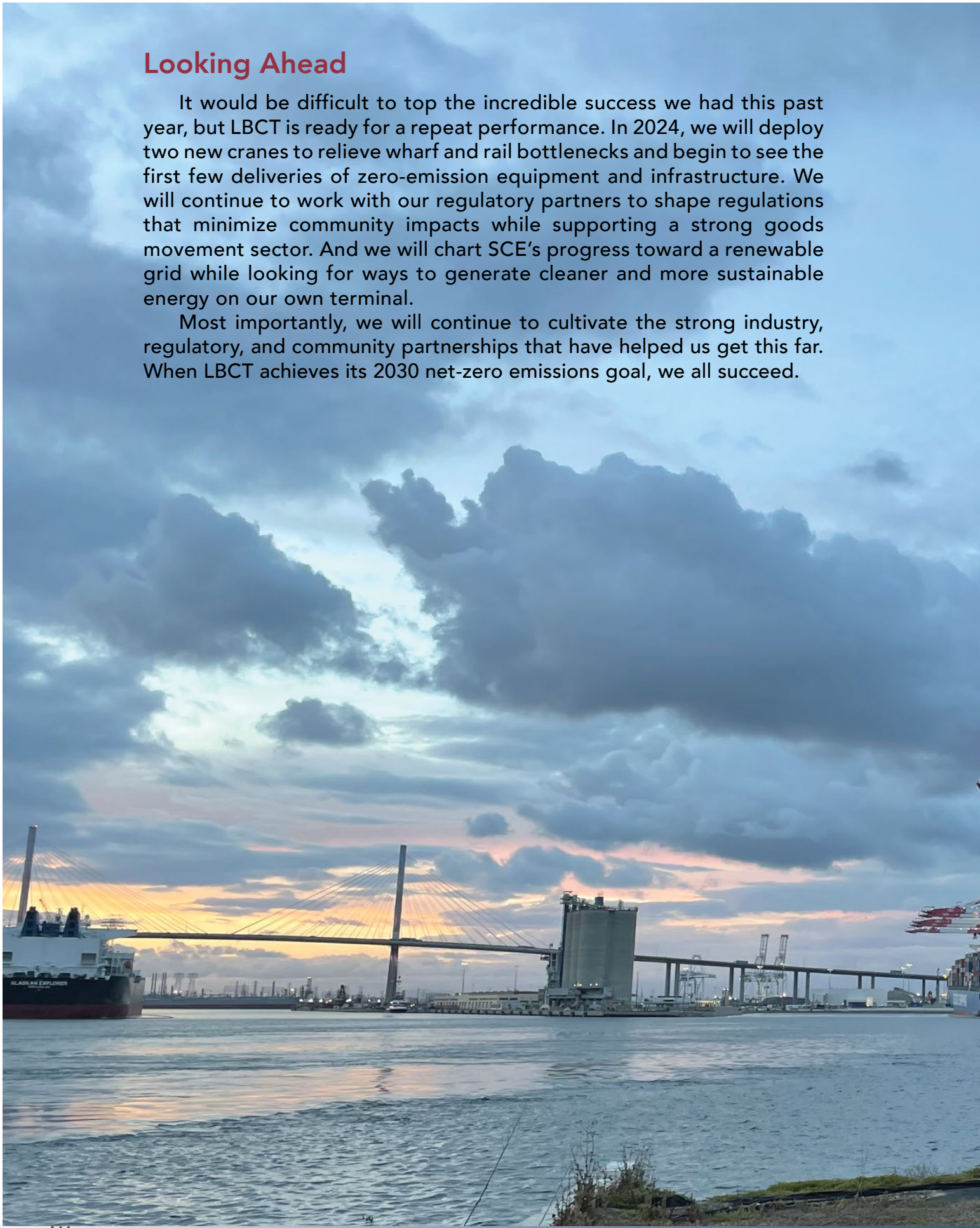
Looking Ahead

It would be difficult to top the incredible success we had this past year, but LBCT is ready for a repeat performance. In 2024, we will deploy two new cranes to relieve wharf and rail bottlenecks and begin to see the first few deliveries of zero-emission equipment and infrastructure. We will continue to work with our regulatory partners to shape regulations that minimize community impacts while supporting a strong goods movement sector. And we will chart SCE's progress toward a renewable grid while looking for ways to generate cleaner and more sustainable energy on our own terminal.

Most importantly, we will continue to cultivate the strong industry, regulatory, and community partnerships that have helped us get this far. When LBCT achieves its 2030 net-zero emissions goal, we all succeed.

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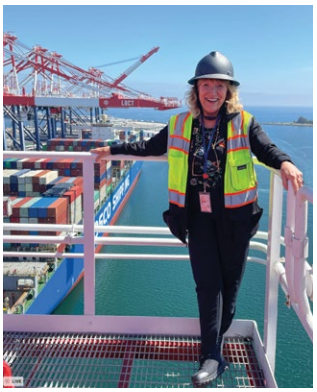


This past year has been an exciting time for LBCT. We achieved all we set out to do – and more – thanks to the commitment of the LBCT team and the collaboration of the Port of Long Beach and other public agencies, community members, vendors and industry partners. LBCT is proving that efficiency, productivity, and outstanding customer service can go hand-in-hand with clean air and a healthy environment. We do not need to compromise and we believe our customers will reward us for this.

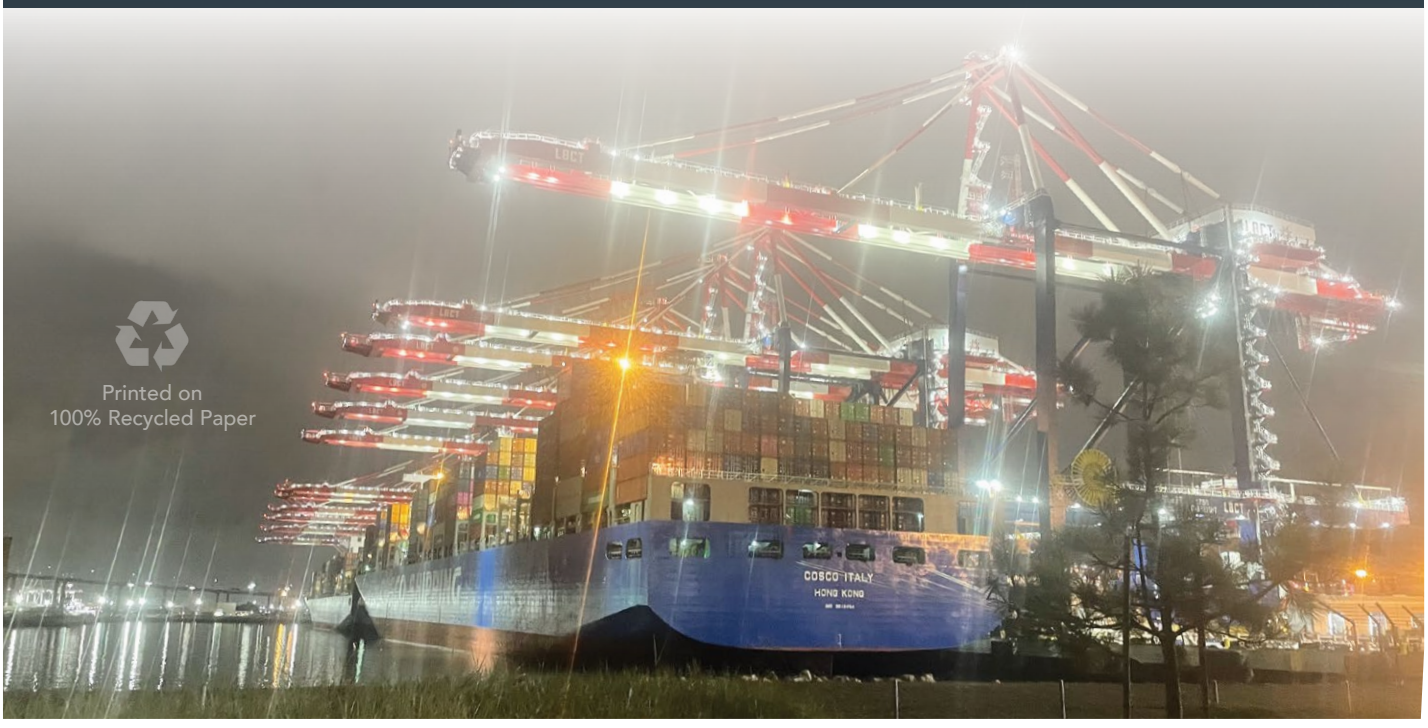
LBCT will continue to raise the bar for the entire goods movement industry. This will require even more resources, stronger partnerships, and an unwavering commitment to action. Together, we can do it. Thank you for joining us on our journey to Net Zero.

Bonnie Nixon
LBCT Director of Sustainability
bonnie.nixon@lbct.com

The original Net Zero Report (released in December 2022) can be found here

net zero EMISSIONS by 2030

Progress Report 1 2023



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