



PORT HOUSTONSM

PORT HOUSTON

Sustainability Action Plan

FINAL REPORT

AUGUST 30, 2021

Prepared by:



CASGROUP[®]
CITY AND SEA GROUP LLC

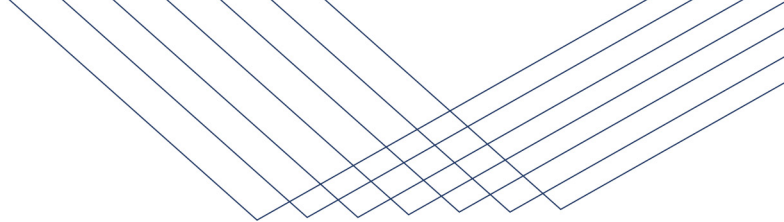


Table of Contents

| | |
|--|----|
| Executive Summary | 1 |
| 1. SAT Overview | 2 |
| SAT Workshop Process & Schedule | 2 |
| SAT Workshop Process | 2 |
| Electronic Polling Technology | 2 |
| SAT Execution Plan..... | 3 |
| Workshop Schedule | 3 |
| Foundation for ES2G & Sustainability at Port Houston | 4 |
| Port Houston’s Stakeholders | 5 |
| Seeding the Conversation: The Big Ideas Book..... | 6 |
| Context: Acknowledging Existing Initiatives | 7 |
| 2. Synthesis of SAT Results..... | 8 |
| Approach | 8 |
| Process to Move From Inputs to Action Plan | 8 |
| Role of Port Houston in Initiative Implementation | 8 |
| Summary of Findings..... | 9 |
| 3. The Sustainability Action Plan | 12 |
| Portfolio of Initiatives | 12 |
| Advisory Board Validation | 12 |
| Refined Action Plan initiatives & Definitions | 13 |
| Lead Initiatives..... | 13 |
| Partner Initiatives..... | 14 |
| Support Initiatives | 15 |
| Acknowledgements | 16 |
| Port Commission | 16 |
| SAT Advisory Board | 17 |
| Stakeholder Organizations | 18 |
| Port Houston Project Team | 18 |

Table of Tables

| | |
|---|---|
| Table 1: Common Terms..... | 5 |
| Table 2: Role In Initiative Implementation..... | 9 |

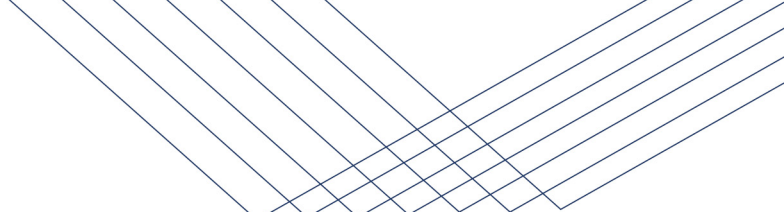


Table 3: ES2G Focus Areas. 11
Table 4: Action Plan Initiatives..... 12

Tables of Figures

Figure 1: SAT Workshop Process..... 2
Figure 2: SAT Execution Plan..... 3
Figure 3: Port Houston’s Stakeholders. 5
Figure 4: Inputs to Action Plan..... 8
Figure 5: Word Cloud of Important Sustainability Issues Identified by Participants. 9
Figure 6: Port Commission..... 16

Appendices

Appendix A – Sustainability Action Team Workshop PowerPoint Presentations

- SAT Workshop Round 1
- SAT Workshop Round 2
- SAT Workshop – Advisory Board
- Port Commission Status Update
- PCCAC Briefing

Appendix B – Big Ideas Book

- Introduction
- Environmental Sustainability
- Social Sustainability
- Governance Sustainability

Appendix C – PollEverywhere Workshop Reports

- SAT Workshop Round 1
- SAT Workshop Round 2
- SAT Workshop Round 3 – Advisory Board

Appendix D – Select Background Material

- Community Relations Meeting – Environmental Update
- ESG Criteria Discussion
- PCCAC Update
- Port Commission Update

EXECUTIVE SUMMARY

For the past two decades, pressure has increased across the US and around the world to lead organizations toward more transparency and accountability. Many private companies and public sector agencies have responded to this call by identifying and measuring environmental, social, and governance (ESG) criteria and standards. Sustainability issues are a concern across the full spectrum of Port Houston's stakeholders: customers, employees, suppliers, shareholders, and communities. The events of 2020 and 2021, bring forth the renewed urgency to adopt and enforce business core values to protect human rights, health, the environment, and corporate behavior, the very pillars of ESG. These principles are linked to Port Houston's Five-Year Strategic Plan and practiced through the planning, design and construction phases, and in our operations and maintenance processes.

Port Houston's Commissioners set a corporate goal for 2021 to establish an action plan for ESG. In the case of Port Houston, the acronym became ES2G as "Safety" criteria were added resulting in environmental, social & safety, and governance (ES2G). As part of Port Houston's overall sustainability and ES2G initiatives, Port Houston conducted a series of workshops to evaluate opportunities to further promote stewardship, known as the Sustainability Action Team (SAT) Workshops. These events focused on engaging Port Houston's stakeholders on the important question: "What more can Port Houston do to promote sustainability?" In addition to the SAT Workshops and in response to the Port Commission's directive, Port Houston will publish an annual Port Houston Sustainability Report in 2021.

The SAT Workshop process was conducted in June and July 2021. The objective was to work collaboratively with numerous port area stakeholders to define actionable projects and opportunities that the Port can lead, partner with others, or support from the side to produce tangible results. The three rounds of workshops were interactive and based on the principle that "all ideas are welcome." The stakeholders invited to participate represented a broad and balanced range of perspectives from industry, community, and subject matter experts, including environmental advocates. In total, 140 stakeholders were invited to participate and approximately 70 participants from the community, industry, and subject matter experts participated and shared their ideas and input. Port Houston greatly appreciates the contributions of all stakeholders who participated in the SAT. In addition, updates and briefings were provided to Port Commission and the Port Commission Citizens Advisory Council (PCCAC).

Port Houston recognizes that big challenges require big ideas and concerted action. The initiatives that emerged from the SAT are in addition to Port Houston's established and ongoing stewardship activities and are separate from but complementary to other discussions that Port Houston continually has with its stakeholders. The emerging Sustainability Action Plan resulting from the process includes 27 potential opportunities, which were validated by the SAT Advisory Board. Port Houston will now move into further developing and refining the Action Plan in order to implement new proposed sustainability initiatives in the months and years ahead.

This report is organized into the following sections:

- ▶ Executive Summary
- ▶ 1. SAT Overview
- ▶ 2. Synthesis of SAT Results
- ▶ 3. Refined Sustainability Action Plan
- ▶ Acknowledgements

1. SAT OVERVIEW

This section provides an introduction to the SAT process as well as to important background information that informed material shared with workshop participants.

SAT WORKSHOP PROCESS & SCHEDULE

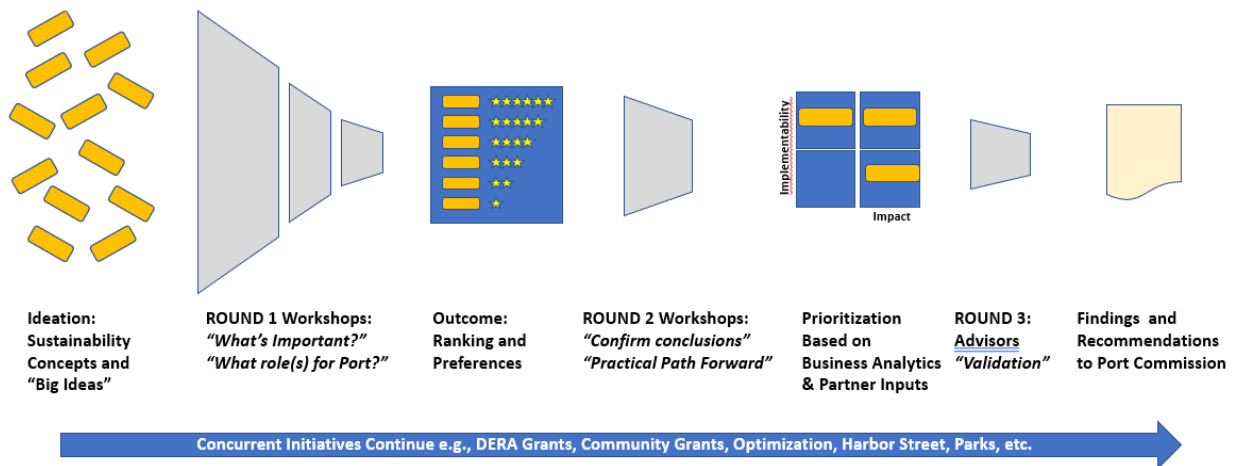
Port Houston conducted a series of cross-stakeholder virtual workshops – known as Sustainability Action Team Workshops – in June and July 2021 that included industry, citizens, and other organizations, to undertake a process of engagement, ideation, coordination, and collaboration. More than 140 stakeholders from industry, agencies and citizens were invited to participate.

The PowerPoint Presentations for each of the workshops as well as the input collected are included in the appendices.

SAT WORKSHOP PROCESS

The figure below illustrates the approach that was deployed during the process that brought the participants from divergent thinking to convergent thinking allowing them to coalesce around a series of sustainability initiatives.

Figure 1: SAT Workshop Process.



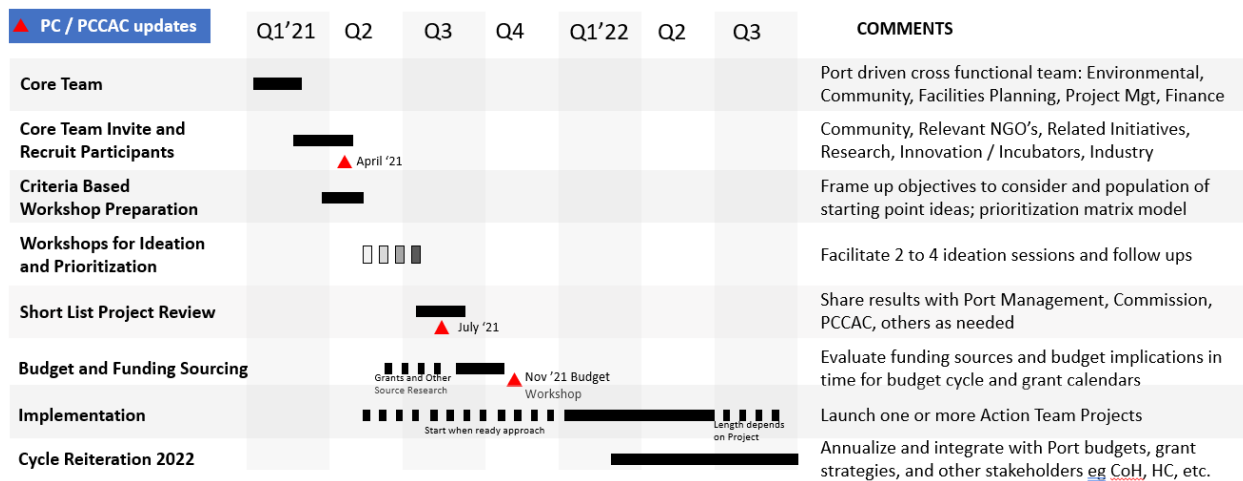
ELECTRONIC POLLING TECHNOLOGY

In recognition of the ongoing global pandemic, workshops were held virtually and included information sharing, free-form input, and electronic polling. Port Houston utilized the platform PollEverywhere as its participant response system. This allowed participants to easily rate, rank, and provide free-form ideas that were captured and documented in the polling platform allowing the Port Houston project team to quantify feedback as needed and also to view stakeholders’ verbatim input. Although an important component of the workshops, polling technology was not the sole method for engaging the stakeholders. Opportunities for comments and dialogue were incorporated into the workshop agenda. Outputs from PollEverywhere are included in the appendix to this report.

SAT EXECUTION PLAN

The figure below illustrates the overall process moving from establishing the SAT core project team through to implementation. It is anticipated that the Action Plan resulting from this process will be continually reevaluated and adjusted as needed.

Figure 2: SAT Execution Plan.



WORKSHOP SCHEDULE

As mentioned above, June and July 2021 were an intensive period for the SAT Process. Listed below are the dates and objectives of each of the SAT activities.

- ▶ **ROUND 1:** June 1, 2, and 3, 2021 from 10 AM to Noon
 - **Objective:** Explore what sustainability are more impactful, more resonating, or more valued by stakeholders and which are more suited for a Port to lead, partner on, or support from the side.
- ▶ **ROUND 2:** June 24, 2021 from 10 AM to Noon
 - **Objective:** Recap and discuss what was learned from Round 1 and what are the practical ways forward, together. (No decisions yet, but pivoting from divergent to convergent thinking.)
- ▶ **ROUND 3 SAT ADVISORY BOARD:** July 13, 2021 from 10 AM to Noon
 - **Objective:** A third workshop was held with a smaller group of advisers to independently validate the outcomes and make recommendations for plan execution.
- ▶ **PORT COMMISSION STATUS UPDATE,** July 20, 2021
- ▶ **PORT COMMISSION CITIZENS ADVISORY COUNCIL (PCCAC) BRIEFING,** July 2021

Outputs from the workshops is included in the appendix. In addition, PowerPoint presentations included in the appendix summarize the results from each of the prior workshops and are a good resource for detailed information on the process.

FOUNDATION FOR ES2G & SUSTAINABILITY AT PORT HOUSTON

Port Houston seeks to support the region and beyond through specific sustainability initiatives. Port Houston's plans, projects, and programs are developed on multiple fronts, each of which are grounded in its mission, vision, and values providing the foundation for our future. Collectively, these plans contribute to form a framework for day-to-day and long-term decision making.

From the goals and objectives of the Strategic Plan to the strategies and initiatives of the 2040 Plan to specific action plans, Port Houston's planning efforts are thoughtfully developed and implemented to ensure resource availability to achieve short, mid, and long-range goals. Values seldom change, but plans adjust as needed.

- ▶ Our mission is "to move the world and drive regional prosperity."
- ▶ Our Vision is to be "America's Distribution Hub for the Next Generation."
- ▶ Our Values are embodied in the statement "We are Ready."

For more information about Port Houston's mission and vision, please visit the Port Houston website.

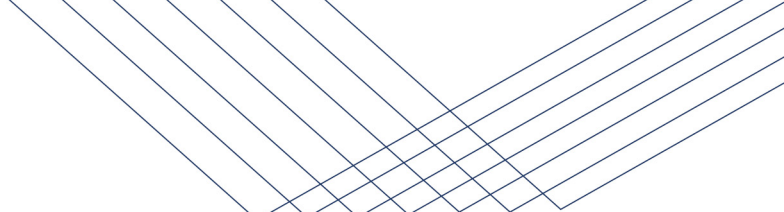
Listed below are both Port Houston documents as well as external documents that provide the foundation for Port Houston's sustainability and leadership efforts.

- ▶ Strategic Plan = Mission, Vision, Values, Strategic Goals
- ▶ Port Houston 2040 Plan = 20 Year Comprehensive Plan
- ▶ Environmental Leadership Strategy
- ▶ ESG Directive from Chairman Campo
- ▶ UNDP Sustainable Development Goals
- ▶ World Ports Sustainability Program
- ▶ And more...

For example, Port Houston takes into consideration numerous plans, projects, and programs of our partners, many of whom are participating in the SAT Workshops. For the 2040 Plan, Port Houston reviewed over 40 planning documents and identified seventy-five relevant themes which highlight potential synergies and common goals. The top themes – which are also relevant to our sustainability initiatives – include:

- ▶ Economic prosperity and resilience
- ▶ Environmental quality and resiliency
- ▶ Transportation Mobility, Connectivity, and Safety
- ▶ Quality of Life
- ▶ Partnerships

It is also important to note that in the current climate there is emerging emphasis on the need for social equity in every facet of life in our community from economy to environment, transportation, community, access, and more. In addition, Port Houston collects community feedback through a variety of methods. Some of the recurring themes we have received recently related to environmental projects and programs include: Reduce emissions, Mitigation needed, Be a good neighbor, Jobs, Hot spots, Transparency, Save the Bay, Plant trees, Promote justice, and Inclusion.



COMMON UNDERSTANDING OF COMMON TERMS

There are a variety of terms that are infused in the discussion of sustainability and ESG. As such, Port Houston’s understanding of those concepts is defined below.

Table 1: Common Terms.

| TERM | DEFINITION |
|----------------|---|
| Sustainability | “Sustainable development ...meets the needs of the present without compromising the ability of future generations to meet their own needs.” – United Nations |
| ESG | Data driven approach to collect, report, and act on three pillars of sustainability: Environment, Social, Governance Note that Port Houston has added “Safety” to the “S” resulting in ES2G. |
| Resilience | Capacity of businesses, institutions, communities, and individuals to survive, adapt, and grow even when faced with acute shocks and chronic stresses. |

PORT HOUSTON’S STAKEHOLDERS

Port Houston invited a broad range of stakeholders to participate in Rounds 1 and 2 of the SAT process to provide direction and build consensus for sustainability initiatives. As part of the initial process, the broad participation workshops will funnel down dozens of concepts to a shorter list that can then be validated with a smaller independent group of senior executives and professionals – the SAT Advisory Board – prior to presenting the results to our Board of Port Commissioners.

In total, 140 Stakeholders were invited and approximately half participated. A detailed list of the invited organizations and membership of the SAT Advisory Board are provided in the Acknowledgements at the end of this report. As highlighted in the figure below, approximately 30 percent of participants represented community, 60 percent represented industry stakeholders, and 10 percent were subject matter experts (this does not include members of the Port Commission or PCCAC).

Figure 3: Port Houston’s Stakeholders.



STAKEHOLDER WORKSHOP EVALUATION

Stakeholder evaluation of the workshops was generally quite positive. At the end of each workshop, participants were asked to evaluate the workshop on a Lickert scale of 1 to 5 where 5 = Excellent, 3 = Fair, and 1 = Poor. Across all workshops, more than 85 percent rated the workshops as a 4 or 5. Less than 15 percent rated it as 3 (Fair). No participant rated the workshops as 1 (Poor) or 2. Stakeholders also provided comments on the workshops which are included in the Appendix.

SEEDING THE CONVERSATION: THE BIG IDEAS BOOK

The common framework of Environment, Social, Governance (ESG) is being used to shape the discussion. Within this frame, there are many ways to accomplish sustainability goals. For example, the World Ports Sustainability Program (WPSP) identified a portfolio of 120 projects from 71 ports, across five themes including Resilient Infrastructure, Climate and Energy, Community and Port-City Dialogue, Safety and Security, and Governance and Ethics. Port Houston's draft Clean Air Strategy Plan (CASP) conducted a Best Management Practices Review (BMPR) which identified 257 initiatives being executed at 12 US ports, including 58 from Port Houston.

Port Houston prepared an extensive inventory of example sustainability initiatives to seed the conversation during the workshops entitled the "Big Ideas Book." The ideas included were intended to be illustrative of a broad spectrum of possibilities. These do not comprise an exhaustive list, but just a varied menu to stimulate thinking and help prepare for a fast-paced discussion. It did not include stakeholder ideas, which were shared during the conduct of the workshops, nor do they reflect the WPSP or BMPR concepts (which are documented separately), although arguably many are similar. All of the concepts in this book and other references are being implemented at ports or in related industry, and were defined for their fit with those specific situations. As such, this listing does not infer intent or imply that Port Houston will undertake any of the concepts included. This reference was meant to be an aid for discussion.



The Big Ideas: Environmental Sustainability • Carbon Capture, Utilization, & Storage (CCUS) • Circular Economy Innovation District • Cleantech Incubators for Emissions Reductions • Cleaner Port Area Locomotive Fleet • Containers on Barge • Convert Waste Heat into Process Energy • Decarbonization in Shipping • Electric Tugboat/Towboat • Electric Drayage Trucks • Electric Vehicles & Associated Infrastructure • Energy Technology • Freight Shuttle • Hydrogen Economy • Hydrogen Fuel Cell Drayage Trucks • Hydrogen Fuel Cell Container Yard Cranes • LNG Bunkering • Ocean-Going Vessel Emissions Capture-And-Control (Bonnet Scrubbers) • Ocean Vessel Port Call Scheduling Optimization • Plastics to Fuel Recycling • Ports Area Freight Mobility • Shore power for Ocean Going Vessels • Solar Buoys • Solar Panels and Energy Storage on Port Property • Surface Water Debris Removal Boats • Synthetic Biology for CO2 Absorption • Terminal Electrification • Truck Replacement Program • Wind Power on Port Property • Social & Safety Sustainability •

Community Beautification • Social & Safety Sustainability • Community Engagement & Strengthening • Community Revitalization • Diversity Equality and Inclusion (DEI) Initiatives • Environmental Enhancements & Restoration • Healthy Food Accessibility • Maritime Education • Parks, Green Spaces, & Community Gardens • Plastic Debris Reduction • Preventing Human Trafficking • Public Art & Beautification • Workforce Development • **Governance Sustainability** • ESG Tracking & Transparency • GIS for Sustainability • Minority and Women Business Enterprise.

CONTEXT: ACKNOWLEDGING EXISTING INITIATIVES

Port Houston has a number of existing and ongoing sustainability initiatives. Currently, the Port averages over \$10 million per year in sustainability related expenditures. These existing initiatives provide context for the additional efforts that could be undertaken as part of the Sustainability Action Plan.

- ▶ Annual Financial Reporting & Transparency
- ▶ Beneficial Use Group
- ▶ Carbon Footprint Reduction
- ▶ Clean Cities
- ▶ Community Grants Program
- ▶ Community Spaces Renewals
- ▶ DERA & TERP / CASP-GMEI
- ▶ Diversity, Equity & Inclusion
- ▶ Education & Workforce Development
- ▶ Electrification & Lighting
- ▶ Emissions Reduction / Alternative Transport
- ▶ Ethics and FCPA
- ▶ Freight Mobility (Traffic Network)
- ▶ Interagency Mentor Program
- ▶ Land Conservancy
- ▶ Local Community Strengthening
- ▶ Marine Habitats Restorations
- ▶ Nurdle Surveys
- ▶ Oyster Restoration
- ▶ Port Commission Citizens Advisory Council (PC-CAC)
- ▶ Port of the Future
- ▶ Safety and Security Programs
- ▶ Terminal Efficiency Improvements
- ▶ Waste Management / Recycling / Debris Reduction
- ▶ Water Quality and Environmental Restoration
- ▶ Wetlands Management
- ▶ Workforce Development
- ▶ ISO 140001 Environmental Management System

“At Port Houston, we know the importance of implementing sustainable practices now that will have far-reaching positive impacts. We prioritize this in how we operate, in our use of technology, and how we respond to the needs of the communities where we do business.”

Roger Guenther, Executive Director, Port Houston

Table 2: Role In Initiative Implementation.

| LEAD | PARTNER | SUPPORT |
|--|---|--|
| <ul style="list-style-type: none"> • Business case for Capital • Collaborative Forums / Working Groups | <ul style="list-style-type: none"> • Call for Projects • Memoranda of Understanding | <ul style="list-style-type: none"> • Partial FTE Participation in Working Groups • Challenge Contributions |

RESOURCES

Implementing the new sustainability initiatives that are part of the Action Plan will like take significant resources above and beyond what Port Houston is already spending and investing on sustainability. Currently, the Port averages over \$10 million per year in sustainability related expenditures. The Action Plan will require additional time and capital from Port, partners, stakeholders, and others. More specifically, it will likely require:

- ▶ Staff time for coordination of Sustainability Action Plan
- ▶ Capital, property, opportunity costs for partnered projects
- ▶ Financial and expertise resources for support initiatives
- ▶ Federal, State, Local and Industry / NGO funds

SUMMARY OF FINDINGS

The SAT Process generated a wealth of ideas and input. Outlined below are the key findings that have been distilled from the process. In addition, the figure below provides a word cloud of the most important sustainability issues identified by participants in the Round 1 workshops to provide an example of the type of input generated during the interactive sessions that helped to inform the findings listed below.

PARTICIPATION

- ▶ Three Rounds, 140 Stakeholders Invited, Approximately half participated
- ▶ The Outputs, Conclusions, and Draft Action Plan were validated by the Advisory Board

PRIORITY AREAS

- ▶ Clean Energy
- ▶ Air Quality
- ▶ Community
- ▶ Circular Economy
- ▶ Transparency

Figure 5: Word Cloud of Important Sustainability Issues Identified by Participants.



ACTION IMPERATIVES

- ▶ Closer to home is more important than global impact to stakeholders
- ▶ The near-, mid- and long-term impacts of initiatives are all equally important
- ▶ Collaboration and partnership is critical
- ▶ Projects and impacts must be measurable
- ▶ Initiatives should align with regional and community objectives and projects

ACTION PLAN

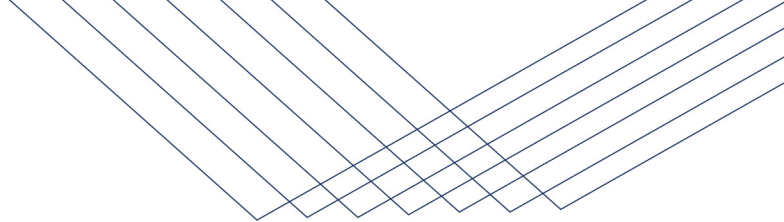
- ▶ There are 27 Initiatives included in the Action Plan. They are organized as follows: eight Lead initiatives, ten Partner initiatives, and nine Support Initiatives.
- ▶ Engagement Model includes Business Case Justification (Lead); Call for Projects / MOUs (Partner); and Contributions in Kind and Challenge Funds (Support).

EXECUTION COMPLEXITIES

- ▶ There are trade-offs between impact and ease of implementation.
- ▶ Different stakeholders want different impacts.
- ▶ There is no single “silver bullet.” There will need to be a multi-year focus to achieve tangible results.
- ▶ Partnerships may best combine project focus and ultimate impact, but require scoping, and ROI.
- ▶ Smaller programs provide smaller, near-term impacts, while larger impact investments can run into \$10’s or \$100’s of Millions, OPM funds, and longer timeframes.

THE GOOD NEWS

- ▶ Sustainability has “hit its stride” and many of the concepts contemplated are nearing a “tipping point.”
- ▶ There is high stakeholder energy and alignment for this emerging portfolio of sustainability initiatives.
- ▶ There are several partnership discussions already on-going.
- ▶ There are viable initiatives – “low-hanging fruit” – on the horizon can provide near-term, local impacts.



ES2G FOCUS AREAS

Listed below are the criteria / focus areas of Port Houston's ES2G. They are listed in order of importance to Port Houston's stakeholders based on SAT workshop results.

Table 3: ES2G Focus Areas.

| ENVIRONMENT | SOCIAL & SAFETY | GOVERNANCE |
|------------------------------|---|----------------------------|
| Air Quality | Occupational Health & Safety | Transparency |
| Clean Energy | Regional Resilience & Alignment | Ethics |
| Water Quality | Port Security | Risk Management |
| Maritime Safety & Efficiency | Human Rights & Social Justice | Sustainable Planning |
| Operational Efficiency | Workforce Development | Compliance |
| Waste Mgt / Circular Economy | Cybersecurity | Strategic Asset Management |
| Land Management | Economic Development | Financial Reporting |
| Communications & Training | Diversity & Inclusion | Procurement |
| | Quality of Life | |
| | Community Outreach & Port-Cities Dialogue | |
| | Jobs | |
| | Labor Relations | |
| | Employee Engagement | |
| | Port Accessibility | |

3. THE SUSTAINABILITY ACTION PLAN

The ultimate goal of the SAT process was to create a realistic yet impactful sustainability action plan that represents the priorities and has the support of a broad range of stakeholders. This section of the report presents the Action Plan that emerged from the SAT process. The material is presented in three formats:

- ▶ **PORTFOLIO OF INITIATIVES** – Provides a table of the sustainability initiatives organized by the priority category addressed by the initiative as well as the role that Port Houston will play in its implementation. It is important to note that there are initiatives that address more than one category (e.g. Clean Energy and Air Quality may overlap). Despite the multiple benefits an initiative may have, each is listed only in its primary category.
- ▶ **ACTION PLAN INITIATIVES & DEFINITIONS** – Basic details / definition are provided for each of the Lead, Partner, and Support Initiatives that are included in the refined Action Plan.

PORTFOLIO OF INITIATIVES

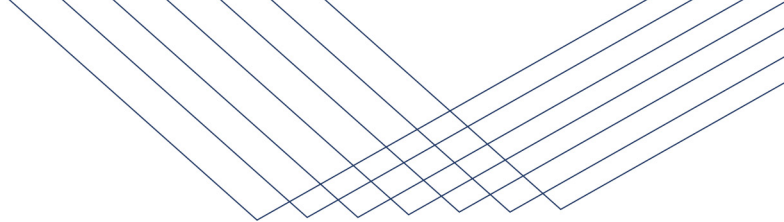
The table below provides the initiatives that are included in the refined action plan. It is an ambitious portfolio and will require intensive effort on the part of Port Houston, its stakeholders, and partners to achieve success. It is important to note that all of these initiatives are “new” to Port Houston having been proposed or initiated in 2021 as a result specifically of this SAT Process or as a result of parallel efforts. Descriptions of each of the initiatives can be found on the following pages.

Table 4: Action Plan Initiatives.

| Priority / PHA Role | Lead | Partner | Support |
|--------------------------------|--|--|---|
| Clean Energy | | Alternative Fuel Drayage Solar and Energy Storage Marine Fuel Alternatives | Blue Sky Maritime Coalition IEA Hydrogen Ports Innovation / Incubators Intermodal Alternatives |
| Air Quality | CHE Electrification Freight Mobility Renewal | Dockside Emissions Redux Repower Grants | TCEQ Monitors Regional CAP PortXchange |
| Circular Economy | | Plastics Pyrolysis Value Chain | |
| Community Strengthening | Maritime Education Outreach Community Engagement Events Parks & Green Spaces Revitalization Economic Development Job Creation | Harbor Street 50/50 Parks Board | Flood Resiliency Storm Resiliency / Coastal Protection |
| Transparency | ESG Tracking and Reporting | Legislative Advocacy | |
| Other | Diversity, Equity & Inclusion Initiatives M/S/W Business Equity Program | Environmental Mitigation Bank Co-Development | |

ADVISORY BOARD VALIDATION

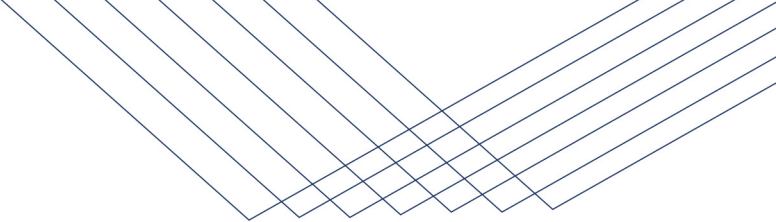
During Round 3 of the SAT workshops, the Advisory Board validated the Action Plan. Board Members were asked if the the draft Sustainability Action Plan is responsive, realistic, and will have positive impacts. One hundred percent (100%) agreed or strongly agreed with that statement. Not a single Board Member was undecided or disagreed. This is a great endorsement of the emerging Action Plan.



REFINED ACTION PLAN INITIATIVES & DEFINITIONS

LEAD INITIATIVES

| INITIATIVE | DESCRIPTION |
|---|---|
| CHE Electrification | <p>Electric Yard Mule Pilot Initiated from TCEQ sponsored Emissions Redux study (w/ AECOM, EDF).</p> <p>Fully evaluate technology ability to bear loads and develop fleet business plan.</p> |
| Freight Mobility Renewal | <p>Port Houston, Economic Alliance and others developed a freight mobility projects list in 2016.</p> <p>With numerous projects successfully executed, this effort requires a five-year renewal.</p> |
| Maritime Education Outreach | <p>Expanding Maritime Education opportunities to additional schools and students.</p> <p>Increasing partnerships with institutions that support Maritime workforce development.</p> |
| Community Engagement Events | <p>Organizing events that benefit and engage the community.</p> <p>Build awareness for environment, social and supplier diversity programs.</p> |
| Parks & Green Spaces Revitalization | <p>Constructing, repairing, and /or enhancing local parks, trails, gardens and other green spaces.</p> <p>Improve health equity and to strengthen communities near the Houston Ship Channel.</p> |
| Economic Development Job Creation | <p>Greater Port Economic Impact includes 3.2 MM jobs nationally and 1.35 MM in Texas.</p> <p>Port Houston Economic Development activity attracting new cargo generates more jobs.</p> |
| Diversity, Equity & Inclusion Initiatives | <p>Fostering a culture of diversity, equity, inclusion, innovation, and open communication.</p> <p>Creating a positive social and economic impact improving quality of life for communities we serve.</p> |
| M/S/W Business Equity Program | <p>Expand opportunities for minority, small, & women-owned business enterprise program.</p> <p>Create a Business Equity Division.</p> |



PARTNER INITIATIVES

| INITIATIVE | DESCRIPTION |
|--|--|
| Alternative Fuel Drayage | <p>Collaborate with Truck and Cargo Owners companies to accelerate adoption of class-8 electric trucks (powered by batteries or hydrogen fuel cell) for container drayage.</p> <p>Support innovative business and contract models to lower financial risks for truck owners.</p> |
| Solar PV & Energy Storage | <p>Solicit creative proposals to build Solar PV and energy storage systems on Port property.</p> <p>Potential sites include rooftop areas and long term land.</p> |
| Marine Fuel Alternatives | <p>Support Industry partners to facilitate alternative fuel bunkering marketplace and infrastructure.</p> <p>LPG/LNG, Ammonia, Methanol, Hydrogen supporting decarbonization in shipping.</p> |
| Dockside Emissions Redux | <p>Exhaust capture systems and/or shorepower infrastructure to mitigate emissions from vessels.</p> <p>Collaborate with regional Industry partners, global Ports, and ocean carriers to deploy systems.</p> |
| DERA/TERP Repower Grants | <p>Expand the use of DERA/TERP grants to other equipment like cranes and tugboats.</p> <p>Increase frequency of submittal of DERA/TERP grant applications.</p> |
| Plastics Pyrolysis Value Chain | <p>Plastics to fuel recycling is currently commercialized in the Port area by several companies.</p> <p>Potential for Port Houston to be a part of a sustainable business park, receiving cargo of post-consumer plastic materials and connecting it to an industry funded pyrolysis facility.</p> |
| Harbor Street | <p>Port Houston donated 22 Acres and augmented funds for Buffalo Bayou Partnership east end master planning to envision its potential for community development and resiliency facilities.</p> <p>Port Houston stands with Houston and BBP as the City's emerging project becomes reality.</p> |
| 50/50 Parks Board | <p>Port Houston accepted Houston Mayor Turner's challenge and committed \$1MM over four years as Founding Park Partner Level in Houston Parks Board park development program.</p> |
| Legislative Advocacy | <p>Discuss with our law makers to support carbon reduction technologies and infrastructure.</p> <p>Providing letters of support for our stakeholders to help tackle ongoing environmental and social/community justice issues.</p> |
| Environmental Mitigation Bank Co-Development | <p>Partner with Harris County Flood Control District for the creation of a wetlands mitigation bank.</p> |

SUPPORT INITIATIVES

| INITIATIVE | DESCRIPTION |
|--------------------------------------|---|
| Blue Sky Maritime Coalition | Acts to accelerate the US and Canada maritime value chain's pathway to net zero GHG emissions. Cross-functional collaboration will be utilized to enable swift mobilization and tangible, sustainable results. |
| IEA Hydrogen Ports | Clean Energy Ministerial Global Ports Hydrogen Coalition supporters Supports the scale up of clean hydrogen in global economies. |
| Innovation / Incubators | Economically viable and practically scalable solutions to address big bucket emission challenges. |
| Intermodal | Innovative ideas such as freight shuttle, automation, etc. |
| TCEQ Monitors | Worked with our community stakeholders and provided a formal letter for TCEQ in supporting the stakeholder's initiatives of adding more air monitors in our Port communities. |
| PortXchange (Port Call Optimization) | Scheduling transparency for terminals and vessels helping decrease port turnaround times. Improve efficiency leads to less vessel time and emissions at docks and at anchorage. |
| Regional Climate Action Plan (CAP) | City of Houston's Climate Action Plan seeks to reduce regional GHG emissions. Preventative measures to address the negative outcomes of climate change. |
| Flood Resiliency | Port participates in San Jacinto Regional Flood Planning Group. Members from various areas to work on tangible ideas for flood resiliency. |
| Storm Resiliency | Port to participate in Coastal Risk Reduction and Resilience. Focused on effective implementation of an integrated approach to flood and coastal flood hazard mitigation. |

ACKNOWLEDGEMENTS

A range of organizations and individuals participated in the SAT Process. The following section recognizes the contributions of the following:

- ▶ Port Commission
- ▶ SAT Advisory Board
- ▶ Invited Stakeholders
- ▶ Port Houston Project Team

PORT COMMISSION

The Port Commission played an integral role in the SAT process, first and foremost by issuing the directive to create ES2G criteria and prepare Port Houston's first annual Sustainability Report. Their leadership and ongoing support were critical to the successful development of the Sustainability Action Plan.

Figure 6: Port Commission.



SAT ADVISORY BOARD

Port Houston established a Sustainability Action Team Advisory Board to assist the Port with reviewing SAT workshop results and developing recommendations for consideration by the Port Commission. Port Houston greatly appreciates the time and consideration offered by the following Advisory Board Members.

Kinder Baumgardner – SWA Group, Managing Principal

James Caldwell – Coalition of Community Organization – Nonprofit Charitable Organization

Lara Cottingham – City of Houston, Chief of Staff & Chief Sustainability Officer

Judge Ed Emmett – Fellow in Energy and Transportation and Professor in the Practice at Rice University

Nelson Espitia – Community Relations Director, Harris County Precinct 2

Christine Galib – The ION Houston, Senior Director

Dr. Paula Gant – GTI Energy, Senior Vice President, Strategy and Innovation

Drew Nelson – Cynthia George Mitchell Foundation, Clean Energy Program Officer

Lance Nunez -- Dow Chemical, Global Modal Tech Leader &
North America Bulk Marine Operations Leader

Rachel Powers – Citizens' Environmental Coalition/ PCCAC, Executive Director

Craig Raborn – H-GAC, Director of Transportation

Bob Stokes – Galveston Bay Foundation, President

Filip Vandenbussche – Port of Antwerp North America Business Development Manager

Col. Timothy Vail – US Army Corps of Engineer (USACE), Galveston District Commander

Matt Woodruff – Kirby Corporation, Vice President of Public and Government Affairs

STAKEHOLDER ORGANIZATIONS

Listed below are the organizations that were invited to participate in the SAT Workshop and represent a broad range of important community, environment, and business interests in the region. Port Houston values these long-standing relationships to collaborate on issues of importance to the maritime sector, economic prosperity, environmental quality, and quality of life.

| | |
|---|--|
| Academy * | ITC * |
| Air Liquide S.A. | Jacinto City |
| Air Products and Chemicals, Inc. | Jetco |
| Bahri | Keep Houston Beautiful * |
| Center for Houston's Future | Kirby Corporation * |
| Chevron Corporation | Lazard |
| Citizens' Environmental Coalition * | Linde Gas |
| City of Houston * | Lyondell Bassell * |
| City of LaPorte | Maersk |
| City of Morgan's Point | Magellan * |
| CMA-CGM * | MSC * |
| Coalition of Community Organizations | ONE (Ocean Network Express) * |
| COSTCO | Pasadena Economic Development Corp |
| CPC Chem | Pleasantville Super Neighborhood Council * |
| ETC * | Port of Antwerp |
| East Harris County Empowerment Council | Port of Vancouver * |
| Economic Alliance Houston Port Region * | Public Citizen |
| Empresarios Latinos | Ravago * |
| Enterprise * | Resident, City of Seabrook |
| Environmental Defense Fund * | Rice University * |
| Evergreen Shipping | NYK Group Americas Inc. |
| ExxonMobil * | Sealand-Maersk |
| G&H Towing * | Shell Global |
| G2 Ocean * | Steve Silver Company |
| Galena Park Independent School District | SWA Group * |
| Galveston Bay Foundation * | Texas Health and Environment Alliance |
| Gethsemane Missionary Baptist Church | The Dow Chemical Company |
| GTI Energy * | Union Pacific Railroad |
| Hapag Lloyd * | United States Army Corps of Engineers |
| Harris County Precinct 2 * | University of Texas * |
| H-E-B | Vector Consultants |
| Home Depot | VOLKSWAGON Group of America, Inc. * |
| Houston Advance Research Center * | Walmart |
| Hyundai Merchant Marine America Inc. * | West Gulf Maritime Association |
| IHS Markit Ltd | YangMing * |
| IKEA * | ZIM Line |

* Those who participated in the workshops.

PORT HOUSTON PROJECT TEAM

Listed below are the leadership, staff, and supporting consultants that coordinated and conducted the SAT process.

Roger Guenther, Executive Director

Rich Byrnes, Chief Infrastructure Officer

Trae Camble, Environmental Affairs Director

Maria Aguirre, Community Relations Director

Ryan Dixon, Lead Environmental Compliance Coordinator

Dr. Elwanda M. Bennett, Employee Development Specialist

Adithya Dahagama, Energy & Infrastructure Strategy, Technical & Business Analytics

Ken Gathright, Environmental Compliance Coordinator

Roxanne Muniz, Environmental Planning Analyst

Therese Bilnoski, Administrative Assistant

Prepared by:



Jennifer Lindbom, AICP, CAS Group

Nataly Blumberg, CAS Group

Rosa Brand, CAS Group