

# Sustainability in the City

Welcome!

- This session is being recorded.
- Put your questions in the 'Chat'.
- Only the panelists' cameras and microphones will be on.
- We will ask you to take a poll near the end of the session. Please respond!





# Introductions

**PHILADELPHIA INTERNATIONAL AIRPORT**  
**2021 BUSINESS OPPORTUNITY FORUM**

**Nonstop PHL**

# Introductions of Session Presenters



**Api Appulingam, PE**

*Deputy Director of Aviation, Capital Development*  
City of Philadelphia, Division of Aviation



**James Clarkin**

*City Planner III*  
City of Philadelphia, Division of Aviation



**Christine Knapp**

*Director*  
City of Philadelphia, Office of Sustainability



# Sustainability at the Airport

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# Capital Development Program



# Sustainability Focuses: RENEW



Recycling

Reduce waste generation and increase diversion from landfills



Energy

Improve energy efficiency, increase use of renewable energy



Noise

Consider and reduce noise impacts to community



Emissions

Protect air quality and adapt to climate change



Water

Encourage water conservation and protect water resources

# Airport Sustainability

Airports Council International – North America defines airport sustainability as a holistic approach to managing an airport so as to ensure Economic viability, Operational efficiency, Natural resource conservation and Social responsibility.

***Innovating together toward a sustainable, resilient future***





Glimpse of our  
projects

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# Airfield Projects

## Remain Overnight Apron

- First enabling project that will allow for expansion of cargo operations as part of the West Cargo Development
- 58,000 SF of new aircraft apron
- Use of Ultra-Lightweight Foamed Glass Aggregate (UL-FGA) to mitigate settlement of pavement



## PNE Runway 6-24 Reconstruction

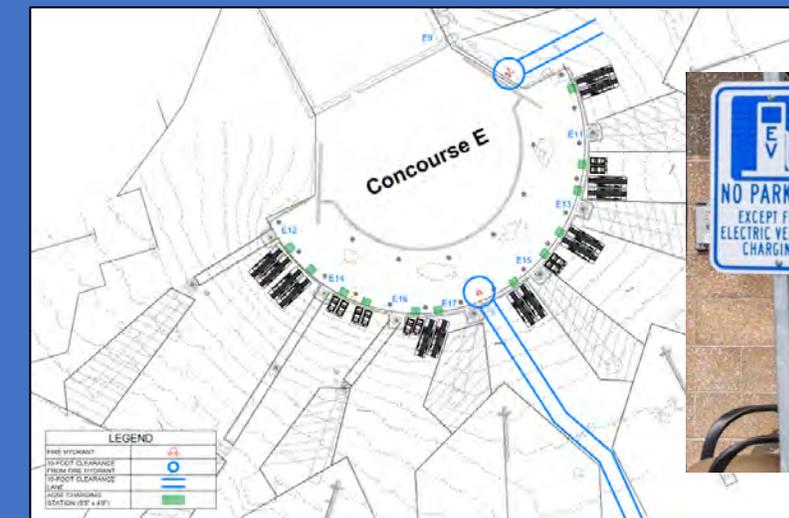
- The project involves full depth reconstruction phased over three years
- Subgrade stabilization method used to save time and cost resulting in a better product
- Installation of runway and taxiway edge lights and conversion from incandescent to LEDs



# Other Projects

## PNE Solar Farm

- Entering a Power Purchase Agreement for the installation, maintenance, and operation of photovoltaic panels to offset electric costs at PNE over the long term
- 6-acre site designated for this development



## eGSE Charging Stations

- Installed 13 dual-port electric charging stations
- Southwest Airlines will be replacing petroleum-based ground support equipment with electric GSE
- Received \$1M Voluntary Airport Low Emission (VALE) grant from the Federal Aviation Administration (FAA)



What's new?

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# Request for Proposals



## REQUEST FOR PROPOSALS ("RFP") For

ON CALL MECHANICAL, ELECTRICAL, PLUMBING ENGINEERING & CONSULTING SERVICES  
Philadelphia International Airport & Northeast Philadelphia Airport

Issued by:  
CITY OF PHILADELPHIA  
Department of Commerce, Division of Aviation

All proposals must be submitted electronically to the correct contract opportunity established for this RFP (identified by opportunity number), through the eContract Philly online application process at [www.phila.gov/contracts](http://www.phila.gov/contracts), choose eContract Philly.

Applicants who have failed to file complete applications through the eContract Philly online application process will not be considered for the contract.

Proposals must be received no later than 5:00 p.m. Philadelphia, PA, local time,  
on **OCTOBER 12, 2020**

An optional pre-proposal Conference will be held VIRTUALLY via Microsoft Teams (no in-person attendance) on  
**SEPTEMBER 17, 2020 @ 3:00 PM**  
Link: [See Section IV.C of this RFP](#)

James Kenney, Mayor  
City of Philadelphia

Rochelle Cameron, Chief Executive Officer  
Philadelphia International Airport

### c. Sustainability and Resiliency Integration

Consistent with the City of Philadelphia's and Aviation's climate adaptation and sustainability plans, policies, and guidelines, including Aviation's Architectural and Engineering Standards, it is the intent of Aviation to develop projects in a manner that is environmentally responsible, energy efficient, and resilient to climate change impacts.

The Proposal shall describe the proposed approach to Sustainable Design and Construction. This approach should demonstrate integration of sustainability and resiliency into all phases of the planning, design and construction process whenever practically feasible. At a minimum, the Proposal should include a description of the approach to:

- evaluation and integration of sustainable practices that lead to energy, waste, or water efficiency improvements to the greatest extent possible;
- utilization of energy modeling and other tools to assess and evaluate options for building systems, thermal plants, and other MEP systems beyond code requirements;
- energy/water cost savings analysis, life cycle cost analysis or other acceptable sustainability (triple bottom line) cost/benefit analysis;
- resource conservation and reuse technologies (water, energy, waste, fuel, coolants, soil and others);
- consideration of innovative sanitary, plumbing, graywater, electrical, and mechanical systems and equipment that improve building performance in the areas of energy and water consumption;
- protection of indoor and outdoor air quality, including efforts to reduce greenhouse gas emissions;
- adaptability to anticipated climate change impacts (including sea level rise, flooding, extreme heat, and extreme storm events), including consideration of flexibility, redundancy, operational resiliency, and increased self-reliant approaches such as on site energy generation and recovery, microgrids, closed loop systems, and other sustainable best practices;
- compliance with local, state and federal environmental regulations and guidance, including the City of Philadelphia's building energy performance policy requirements (§ 9-3404).

The proposal approach shall also demonstrate how the prime Applicants and subconsultants conduct and/or promote sustainable operating practices within their own organizations such as environmentally preferable purchasing, sustainable travel, and waste minimization.

# Design Standards

- DOA updating our design standards to capture more PHL projects to be LEED or Envision Certified
- This will help DOA and the City of Philadelphia meet its carbon neutrality goal by 2050
- Envision will allow flat infrastructure projects like RWYs and TWYs be more sustainable, have long term savings, and longer life of assets

## THE ENVISION™ RATING SYSTEM



### **Sustainable Design**

The Airport's LEED® green building program portfolio includes the LEED Silver® Ground Support Equipment Maintenance Facility and LEED Gold® Terminal F Baggage Claim Building. LEED® certification requires that facilities are designed to be resource-efficient, high-performing, healthy and cost-effective. Features of the airport's LEED® buildings include energy efficient roofing materials and lighting, reduced potable water consumption, and daylighting.

# Sustainability & Climate Plans

- Sustainability Management Plan Phase 2
  - Revise and update PHL's sustainability goals for the coming decade
  - Resource tool for Capital Development to be more sustainable
- Climate Adaptation and Resiliency Plan Phase 2
  - Document all of PHL's major assets and their vulnerability to climate stressors
  - Assist PHL in prioritizing the most critical assets to protect or mitigate from climate stressors most likely to impact PHL assets
  - Guide Capital Development projects with resiliency and mitigation incorporated into design.

# Building Energy Performance



- Division of Aviation decided to pursue a Level 2 ASHRAE audit to comply with City's BEPP ordinance
- Currently looking at Energy Conservation Measures that have a payback of 3 years or less to implement at PHL in the coming years.
- Continue upgrades of PHL's HVAC, thermal plant, and lighting systems to improve energy performance.

# Airport Carbon Accreditation

The program provides a framework for airports to reduce carbon emissions through four levels of accreditation.

- Applied to ACA for Level 1 Airport Carbon Accreditation
- Used 2019 as our Year 0 or base year
- Will consider upgrading to Level 2 in future years

## 1. Mapping

Determine Scope 1 and 2 carbon footprint and have it verified by a third party

## 2. Reduction

Provide evidence of effective carbon management and show that targets have been achieved

## 3. Optimization

Add Scope 3 emissions and engage third parties in sustainability

## 4. Neutrality

Offset remaining emissions over which airport has control to achieve carbon neutrality



# About the Office of Sustainability

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# Greenworks Vision at a Glance

VISION 01



All Philadelphians have access to healthy, affordable, and sustainable food and drinking water

VISION 02



All Philadelphians breathe healthy air inside and outside

VISION 03



All Philadelphians efficiently use clean energy that they can afford

VISION 04



All Philadelphians are prepared for climate change and reduce carbon pollution

VISION 05



Philadelphians benefit from parks, trees, stormwater management, and healthy waterways

VISION 06



All Philadelphians have access to safe, affordable, and low-carbon transportation

VISION 07



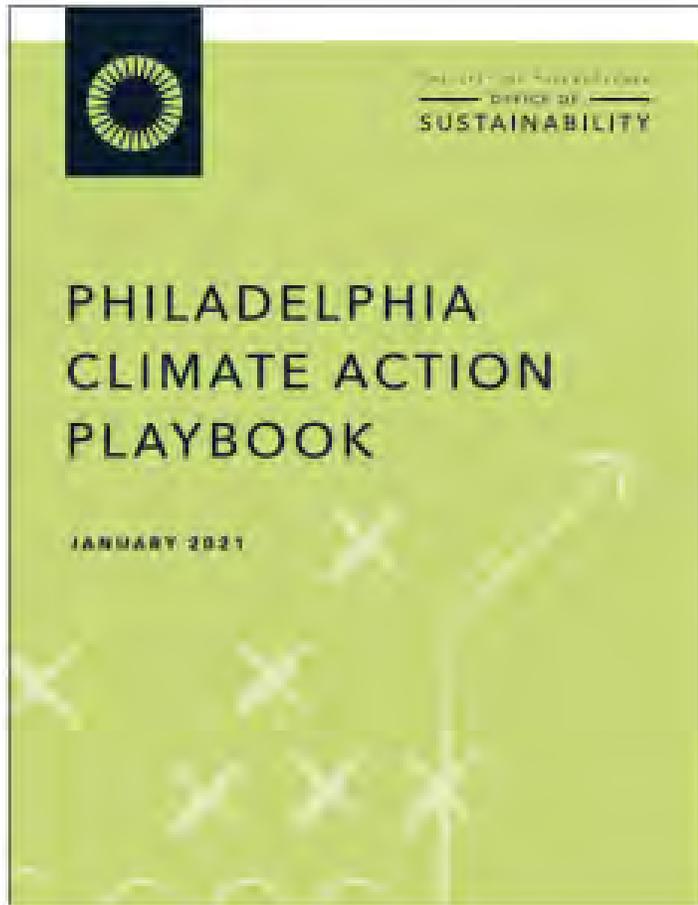
All Philadelphians waste less and keep our neighborhoods clean

VISION 08



All Philadelphians benefit from sustainability education, employment, and business opportunities

# Climate Action Playbook



The Playbook outlines climate actions in three areas:

1

## Reducing our Contribution to Climate Change

Actions to reduce carbon pollution.\*

2

## Utilizing Nature as a Solution to Climate Pollution

Actions to remove carbon pollution from the atmosphere.

3

## Adapting to a Changing Climate

Actions to prepare Philadelphia for a hotter, wetter future.



# Climate Mitigation

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# Reducing Philadelphia's Carbon Footprint



- Energy benchmarking and Building Energy Performance program
- Commercial Property Assessed Clean Energy
- PECO Smart Ideas and PGW Energysense programs

Built environment = 72% of local carbon emissions



- Solar power purchase agreement
- Solarize Philly
- Bright Solar Futures
- PGW diversification study



- Bike lane installations
- Indego bikeshare
- Direct bus service and bus only lanes
- Bus map remapping

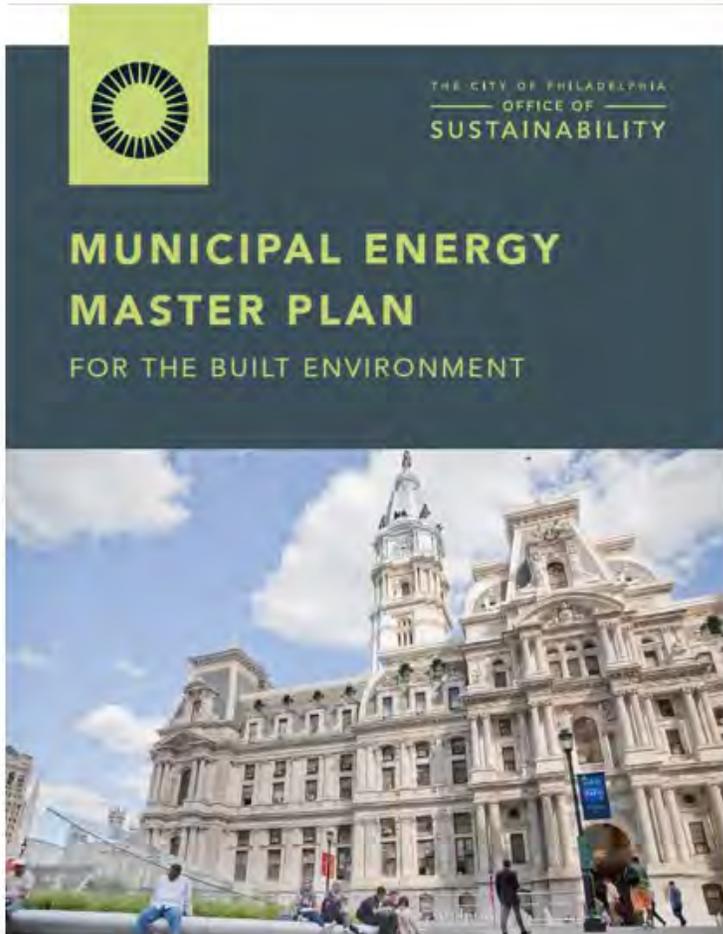
Transportation = 25% of local carbon emissions



- Recycling program
- Community composting program and city compost project
- Plastic bag ban
- Municipal waste audit
- Zero Waste Partnership

Waste = 3% of local carbon emissions

# Municipal Energy Master Plan



Reduce greenhouse gas emissions from the City's built environment 50 percent by 2030



Reduce the City's built environment energy use 20 percent by 2030



Generate or purchase 100 percent of all electricity for the City's built environment from renewable resources by 2030



Maintain or reduce the City's built environment cost of energy

# Municipal Energy Master Plan

## Use Less Energy:

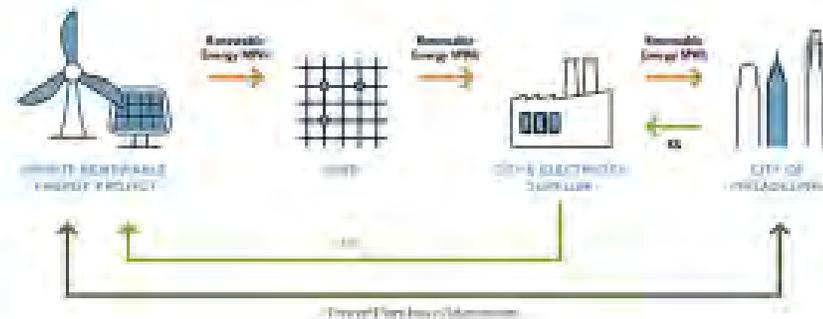
- Improve Operation Practices
- Energy Performance Contracts
- LED Street Lighting Conversion
- Capital and Rebuild Projects
- Greenworks Sustainability Fund
- SmartCityPHL Energy projects



## Use Cleaner Energy:

- Purchase Clean Energy
- On-Site Clean Energy Generation

OFFSITE POWER PURCHASE AGREEMENT



# Building Energy Performance Policy

- Builds off the success of the City's 2012 Energy Benchmarking ordinance
- Requires non-commercial buildings over 50,000 square feet to demonstrate achievement of a high performance building standard or to perform a tune-up on their building every five years
- Estimated to cut carbon emissions by 200,000 metric tons and create 600 local jobs
- First compliance period in 2022

VIRTUAL & IN-PERSON **37TH ANNUAL** OCTOBER 4 - 8, 2021

**PHILADELPHIA  
MED WEEK**  
MINORITY ENTERPRISE DEVELOPMENT

UNMUTE YOUR OPPORTUNITIES

**SPECIAL SESSION!**  
Building Energy Performance Policy  
& Potential Contracting Opportunities  
for Local Trades-Related Businesses



**JOIN US during MED WEEK!**  
Learn how Philadelphia's new [Building Energy Performance Policy](#) (BEPP) may lead to potential contracting opportunities for local companies that provide trades-related services such as HVAC, electrical, plumbing, roofing, and building maintenance.

When: October 7, 2021  
Time: 9:30 – 10:30am  
Where: Zoom Virtual Session  
→ [CLICK HERE TO REGISTER](#) ←

**For More Information, Contact:**  
Nidhi Krishen, Sr. Manager for Climate Mitigation, Office of Sustainability  
e-mail: [nidhi.krishen@phila.gov](mailto:nidhi.krishen@phila.gov)

*Sponsored by The Office of Sustainability and The Commerce Department*

# Municipal Clean Fleet Plan



- Sets new goals to create a pathway to zero emissions
- Institutes a clean fleet procurement policy
- Establishes a Clean Fleet Committee to oversee infrastructure issues and track goals
- Develops funding programs to connect capital procurement and fuel cost/operational savings
- Optimizes alternative fueling and EVSE infrastructure



# Climate Adaptation and Resilience

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# A Hotter and Wetter Philadelphia

Philadelphia is projected to experience four to 10 times as many days per year above 95°F, and as many as 16 days a year above 100°F by the end of the century. More of these hot days may arrive as heat waves, increasing the risk of residents experiencing heat-related health problem.

Philadelphia is projected to experience more frequent and intense storms- with the largest increase during winter months. Rising seas affect water levels in the Delaware and Schuylkill Rivers which will increase the depth and extent of flooding.



# Building Urban Resilience



# Building Urban Resilience





# Upcoming Opportunities

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# Professional Services

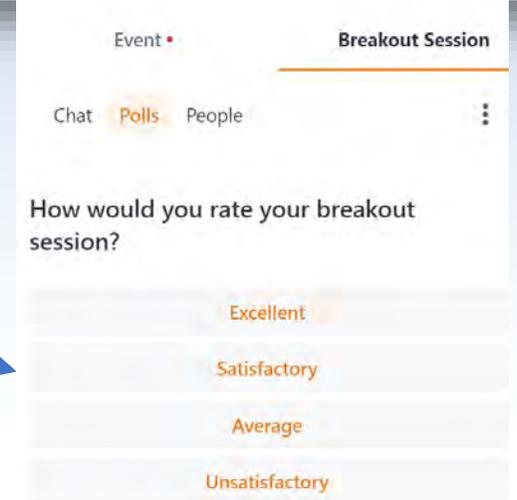
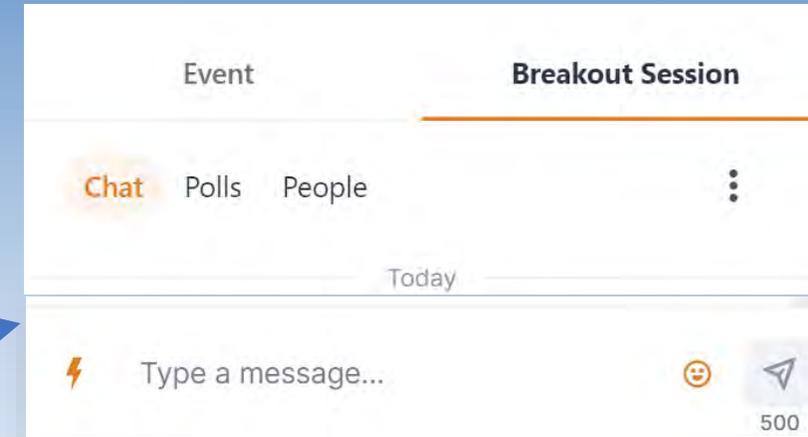
- On-Call Sustainability Consulting Services
  - Assistance with the Sustainability program & planning efforts
  - Assistance with ongoing implementation of goals, targets, and initiatives
  - Establishment of baseline metrics and projections for PHL and PNE
  - Involvement with comprehensive management programs related to waste, energy, air emissions, climate change, noise, wetlands, social/economic components, etc.
- RFP - Q2 2022





# Questions and Answers

- Questions and Answers
  - On the Breakout Sessions tab, put your questions in the 'Chat'
- Polling
  - Please click into the Poll tab and answer 3 short questions



PHL International • 3 hours ago

Did the Forum provide you with useful information on activities and opportunities at PHL?



**Nonstop PHL** *MOVING FORWARD TOGETHER*

# Thank you

- When instructed, click the link on the left of your screen for the Main Ballroom to meet the PHL Management Team for a Q&A Session.
- Answer “Yes” to Leave and return to the Main Ballroom.



Reception



Main  
Ballroom



Breakout  
Sessions



Networking



Expo