1. Desired Outcomes
2. Project Status and Updates
3. Presentation: Technology Screening Criteria & Short List
4. “Gallery Walk:” More Information about Technology
5. Group Discussion: Maximizing Community & Sustainability Benefits
6. Wrap-up:
   - Stakeholder Engagement Updates
   - Next Steps
   - Meeting Evaluation
# Project Timeline

<table>
<thead>
<tr>
<th>Tasks</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jul</td>
<td>Aug</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Stakeholder Engagement**
- **Existing Conditions Analysis**
- **Risk & Vulnerability Assessment**
- **Evaluation of Project Technologies**
- **Feasibility Assessment**
- **Preferred Pilot**
- **Conceptual Design**
- **Environmental Review**

- **Public meeting #1, 10/16**
- **Public meeting #2, 1/17**
- **Public meeting #3, 3/17**
Recap: October 2016 Meeting

- Discussed key findings of risk and vulnerability assessment on building-level power outages, coastal flooding, heavy precipitation, and social resilience
- Asked for input on critical community facilities

<table>
<thead>
<tr>
<th>What we heard</th>
<th>Follow-up actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>People are experiencing basement backups.</td>
<td>Analyzed basement backup instances and are coordinating with DEP.</td>
</tr>
<tr>
<td>Transportation in and out of Hunts Point is critical.</td>
<td>Coordinating with DOT to assess traffic lights for energy backup and critical routes for flood-proofing.</td>
</tr>
<tr>
<td>Information about critical community gathering places.</td>
<td>Identified list of critical community facilities for resiliency projects.</td>
</tr>
<tr>
<td>Need more information about back-up generation and shoreline stabilization.</td>
<td>Providing information today about energy and flooding technologies.</td>
</tr>
<tr>
<td>Conduct robust community engagement.</td>
<td>Neighborhood Outreach Team is helping us to improve engagement capacity; ongoing AWG and EST engagement.</td>
</tr>
</tbody>
</table>
Recap: October 2016 Public Meeting
Progress Since October 2016 Public Meeting

**Data Collection**
- Energy usage and rates from Con Edison
- Site visits and interviews with markets, businesses, and community organizations for detailed feasibility assessments

**Task 3: Identification and Preliminary Evaluation**
- Screened 25 technologies to 10 based on feasibility criteria
- Developed order of magnitude costs

**Task 4: Feasibility Assessment and Analysis**
- Undergoing feasibility assessment
- Developing preliminary ideas for packaging options
- Identifying costs and benefits to be analyzed as part of Sustainable Return on Investment
Identifying Resiliency Projects

* To be funded with $45M from HUD and City.
TECHNOLOGIES SCREENING CRITERIA & SHORT LIST
Screening Criteria Overview

**HUD Grant Requirements**
- Advance resiliency
- Independent utility
- Financial feasibility

**Other Categories of Screening Criteria Based on City and AWG Input**
- Resiliency (additional criteria specific to Hunts Point)
- Constructability
- Sustainability
- Community Benefits
- Implementation Schedule
- Financial
## Critical Facilities and Future Threats

<table>
<thead>
<tr>
<th>Critical Facilities</th>
<th>Future Threats (2050-2100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produce Market</td>
<td>Outage, Heat</td>
</tr>
<tr>
<td>Meat Market</td>
<td>Outage, Surge, Heat</td>
</tr>
<tr>
<td>Fish Market</td>
<td>Outage, Heat</td>
</tr>
<tr>
<td><em>Oak Point Railyard</em></td>
<td>Surge</td>
</tr>
<tr>
<td>Pio Mendez Housing for the Elderly</td>
<td>Outage</td>
</tr>
<tr>
<td><em>Vernon C. Bain Correctional Facility</em></td>
<td>Surge, Heat</td>
</tr>
<tr>
<td>Certain road intersections</td>
<td>Surge, Outage</td>
</tr>
<tr>
<td>600 Food Center Drive (Citarella/Sultana)</td>
<td>Surge</td>
</tr>
<tr>
<td>Krasdale</td>
<td>Surge</td>
</tr>
<tr>
<td>Certain electrical transformers</td>
<td>Surge, Outage</td>
</tr>
<tr>
<td><em>Hunts Point Wastewater Treatment Plant</em></td>
<td>Surge</td>
</tr>
<tr>
<td>Primary School (PS) 48</td>
<td>Outage, Heat</td>
</tr>
<tr>
<td>Middle School (MS) 424</td>
<td>Outage, Heat</td>
</tr>
<tr>
<td>Hunts Point Recreational Center</td>
<td>Outage, Heat</td>
</tr>
</tbody>
</table>
Technologies Screened: Energy Resiliency

Power Generation
- Combined Cycle Microgrid
- Reciprocating Engine Microgrid
- Emergency Reciprocating Engines
- Simple Cycle Combustion Turbine
- Reciprocating Engine CHP
- Fuel Cell Applications
- Tidal Power
- Anaerobic Digestion

Solar Generation & Storage
- Solar PV and Battery Storage
- Rooftop Solar PV
- Ground Mounted Solar PV
- Power Hub

Other
- Ice Storage
- Electrification of Produce Market Parking Lot
- Produce Market Switchgear Replacement
- Compressed Natural Gas Vehicles

Top reasons why retained:
1. Clear resiliency benefit
2. Scalability
3. Cleaner Emissions
4. Range of uses during and outside of emergencies

Top reasons why screened out:
1. Not Resilient
2. Untested
3. Higher Emissions
Screening Results: Flood Risk Reduction

Area-wide
- Area-wide Levees
- Area-wide Floodwalls

Facility-Level
- Elevate Building
- Elevate Critical Equipment
- Facility-level Floodwalls
- Deployable Flood Barriers
- Deployable Pumps
- Hardening

Top reasons why retained:
1. Reliable
2. Scalable
3. Permitting Ability

Top reasons why screened out:
1. Space Availability
2. Elevations
3. Cost Prohibitive
GALLERY WALK (40 MINUTES)

1. ENERGY RESILIENCY TABLES

   COMBINED CYCLE MICROGRID; EMERGENCY RECIPROCATING ENGINES; POWER HUB; ROOFTOP PHOTO VOLTAIC (PV) WITH BATTERY STORAGE; ANAEROBIC DIGESTION

2. FLOOD RISK REDUCTION TABLES

   HARDENING; AREA-WIDE FLOODWALL; FACILITY-LEVEL FLOODWALL; ELEVATING BUILDINGS; ELEVATING EQUIPMENT
COMMUNITY BENEFIT CRITERIA AND VOTING
Task 4: Detailed Assessment and Analysis

- Technically Feasible
- Affordable
- Desirable
- Best Projects

Project Options

- Engineering Analysis
- Financial Analysis
- Sustainable Return on Investment Analysis
Feasibility Assessment steps include:

- Compare the technical, financial, and regulatory feasibility of the 10 screened technologies including:
  - Detailed, site-specific, feasibility analysis
  - Cost estimating
  - High-level benefit analysis

- Based on the above, package the technologies into project options to compare:
  - Districtwide solutions
  - Efficiencies and economies of scale
  - Community and sustainability benefits
Task 4: Sustainable Return on Investment

- Lifecycle Costs
  - Resiliency
    - Power Outage Reduction
- Capital, Operations, Maintenance
  - Environment
    - Greenhouse Gas Emissions
- Generation, Distribution Capacity
  - Social
    - Health (Other Air Emissions)
- Fuel
  - Economic
    - Employment
    - Training and Development Opportunity
  - Displacement Reduction
    - Health and Safety
    - Injury and Casualty Reduction
  - Displacement Reduction
    - Competitive Advantage
  - Noise

Sustainable Return on Investment
WRAP-UP:
NEXT STEPS
STAKEHOLDER ENGAGEMENT UPDATES
MEETING EVALUATION
* To be funded with $45M from HUD and City.
Nine members of the community comprise the Neighborhood Outreach Team; the Team is currently compiling the tools they need to share and present project information with the broader Hunts Point community.
Next Public Meeting

March 21, 6-8 pm at The Point
Staying in Touch

- Website – [www.huntspointresiliency.nyc](http://www.huntspointresiliency.nyc)
- Email - [Huntspointsresiliency@edc.nyc](mailto:Huntspointsresiliency@edc.nyc)
- Social media (Twitter and Instagram)
  - EDC @NYCEDC
  - ORR @NYClimate
- Regular mail
  - New York City Economic Development Corporation
    Attn: Charlie Samboy
    110 William Street
    New York, NY 10038