



# On-the-Ground Strategies for Preparing your Organization for Climate Change



DELAWARE DEPARTMENT OF  
NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL

# Everyone is responsible for addressing climate change

- Federal Government
- State and Local Government
- Schools and Universities
- Businesses
- Non-profit organizations
- Families
- Garden clubs and scouts



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- **Non-profit organizations**
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# Climate change and your organization

There is no “right” way to prepare for climate change. Every organization is different and has unique needs, priorities, and challenges.



Each organization also looks at climate change through several lenses

**Operations and Maintenance  
(inward looking)**



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**Clients and stakeholders  
(outward looking)**

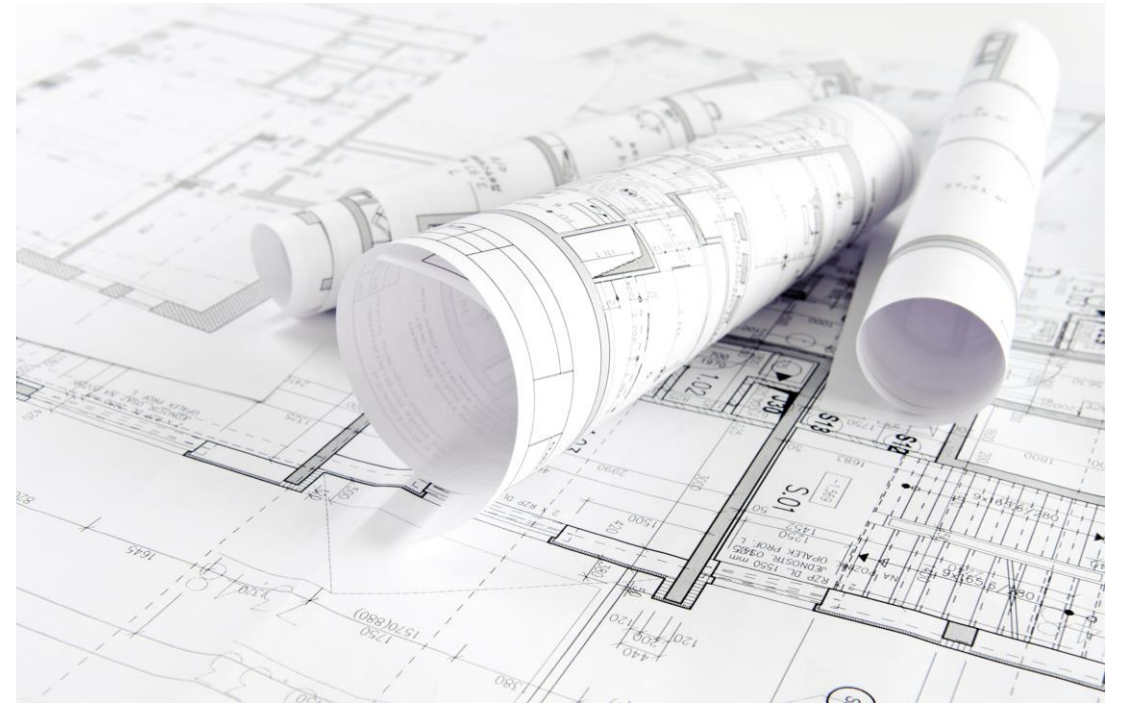


# There are two primary paths for you to address climate change

## Reduce Emissions (Mitigate)



## Resiliency (Adaptation)



Every nation in the world is committed to driving emissions down to near zero by 2050 and Delaware is doing its part



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The quickest and most cost-effective way to reduce greenhouse gas emissions in the short term (and longer term too) is through energy efficiency!





**What is MTCO<sub>2e</sub>?**

METRIC TONS OF CARBON DIOXIDE EQUIVALENT

Each greenhouse gas (GHG) has a different ability to trap heat in the atmosphere. We can compare each GHG's heat-trapping ability to that of the GHG carbon dioxide (CO<sub>2</sub>). This is called the CO<sub>2</sub> equivalent (CO<sub>2e</sub>) and allows us to use a single measure to calculate all GHG emissions: metric tons of CO<sub>2e</sub> (MTCO<sub>2e</sub>).

**CO-BENEFITS**

-  IMPROVED AIR QUALITY
-  JOB CREATION
-  COST SAVINGS
-  ENERGY RESILIENCE
-  ENHANCED MOBILITY

The values on top of each bar indicate the **2050 GHG emissions reduction potential** for implementing that strategy. Reduction potential values come from GHG modeling carried out in the summer of 2020, taking into account market feasibility for the earliest time each strategy could be put into place.

**4,333,200 MTCO<sub>2e</sub>**  
GHG reduction potential



**Renewable Energy**

Installation of on-site renewable energy at homes and businesses

More renewables in the grid

**1,184,500 MTCO<sub>2e</sub>**  
GHG reduction potential



**Zero-Emission Vehicles**

More electric, plug-in hybrid and fuel cell vehicles available

More charging infrastructure

Vehicle purchase incentives

**732,200 MTCO<sub>2e</sub>**  
GHG reduction potential



**Building Energy Efficiency**

Higher standards for energy performance

Buildings cost less to operate

More financial incentives available to implement upgrades

**649,800 MTCO<sub>2e</sub>**  
GHG reduction potential



**Fuel and Roadway Efficiency**

More efficient, cleaner running vehicles

More options to get around without a car

More walking and biking opportunities

**545,700 MTCO<sub>2e</sub>**  
GHG reduction potential

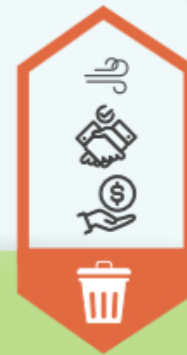


**Building Electrification**

Buildings increasingly rely on electricity for all energy uses to maximize renewable benefits

Options for homes and businesses to upgrade building systems

**211,400 MTCO<sub>2e</sub>**  
GHG reduction potential



**Waste Diversion and Reduction**

Increased options to divert waste through recycling and composting

Encourage the principles of "reduce, reuse, recycle (or compost)"

**What does it mean?**

# Adaptation = Adjusting to changing conditions, today and in the future



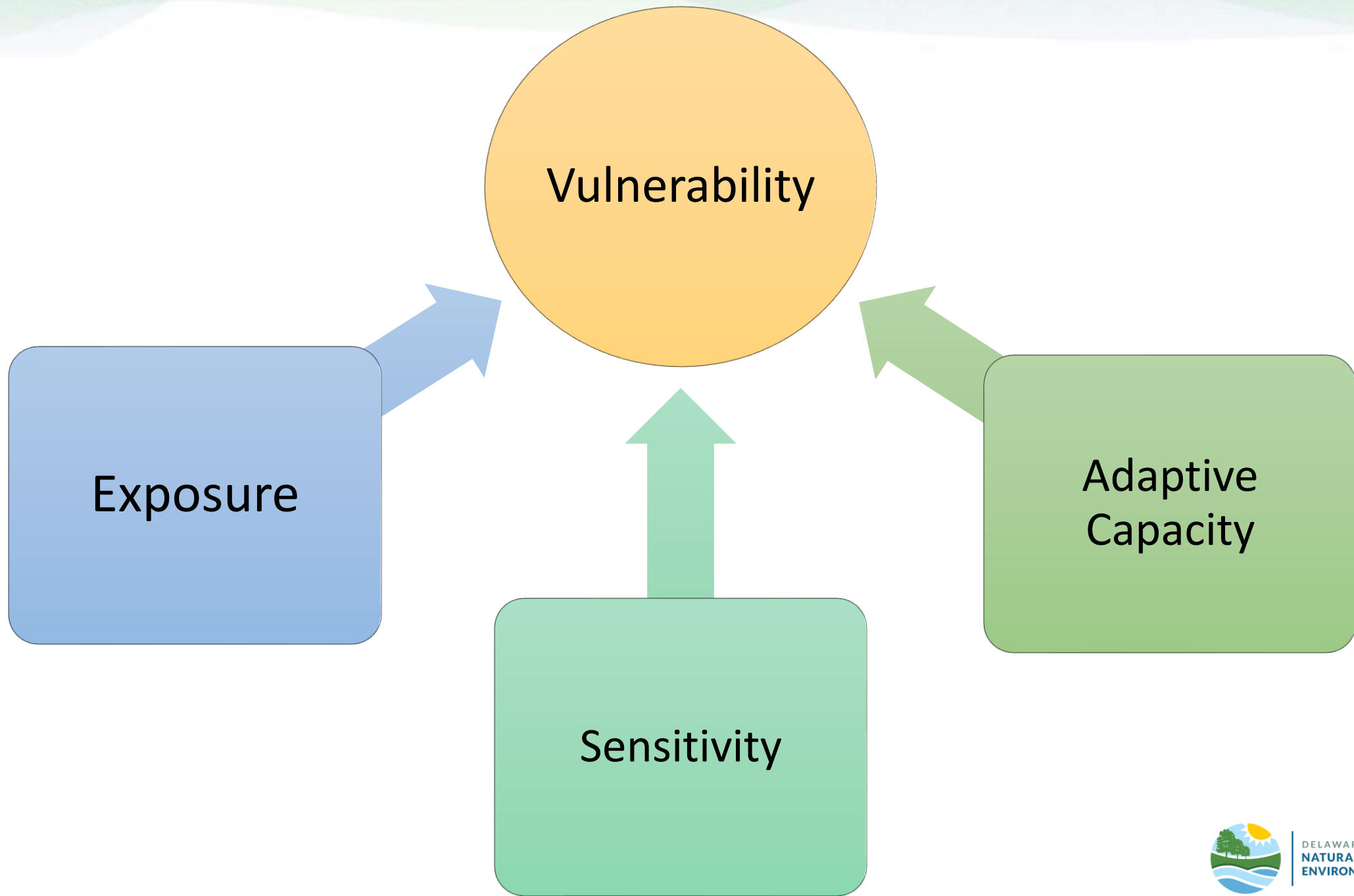
## EXAMPLES:

- Shifting work times for outdoor workers
- Avoiding driving on flooded roads
- Moving HVAC equipment from basement to 2<sup>nd</sup> story
- Moving operations out of floodplain



Adaptation is a continual process that should evolve over time as conditions change.





# Vulnerability to Wildfire Smoke

## Exposure

- Higher
  - Outdoor Workers
  - Homeless
  - Poor housing condition (no AC)
- Lower
  - Office workers

## Sensitivity

- Higher
  - Underlying Health Issues
  - Respiratory disease
  - Very young or old
- Lower
  - Healthy adults

## Adaptive Capacity

- Higher
  - Can wear mask
  - Can go inside
  - Can jet to Europe
- Lower
  - Cannot move indoors
  - Cannot shut windows



# Vulnerability to Wildfire Smoke - LOW

## Exposure

- Higher
  - Outdoor Workers
  - Homeless
  - Poor housing condition (no AC)
- Lower
  - Office workers

## Sensitivity

- Higher
  - Underlying Health Issues
  - Respiratory disease
  - Very young or old
- Lower
  - Healthy adults

## Adaptive Capacity

- Higher
  - Can wear mask
  - Can go inside
  - Can jet to Europe
- Lower
  - Cannot move indoors
  - Cannot shut windows



# Vulnerability to Wildfire Smoke - HIGH

## Exposure

- Higher
  - Outdoor Workers
  - Homeless
  - Poor housing condition (no AC)
- Lower
  - Office workers

## Sensitivity

- Higher
  - Underlying Health Issues
  - Respiratory disease
  - Very young or old
- Lower
  - Healthy adults

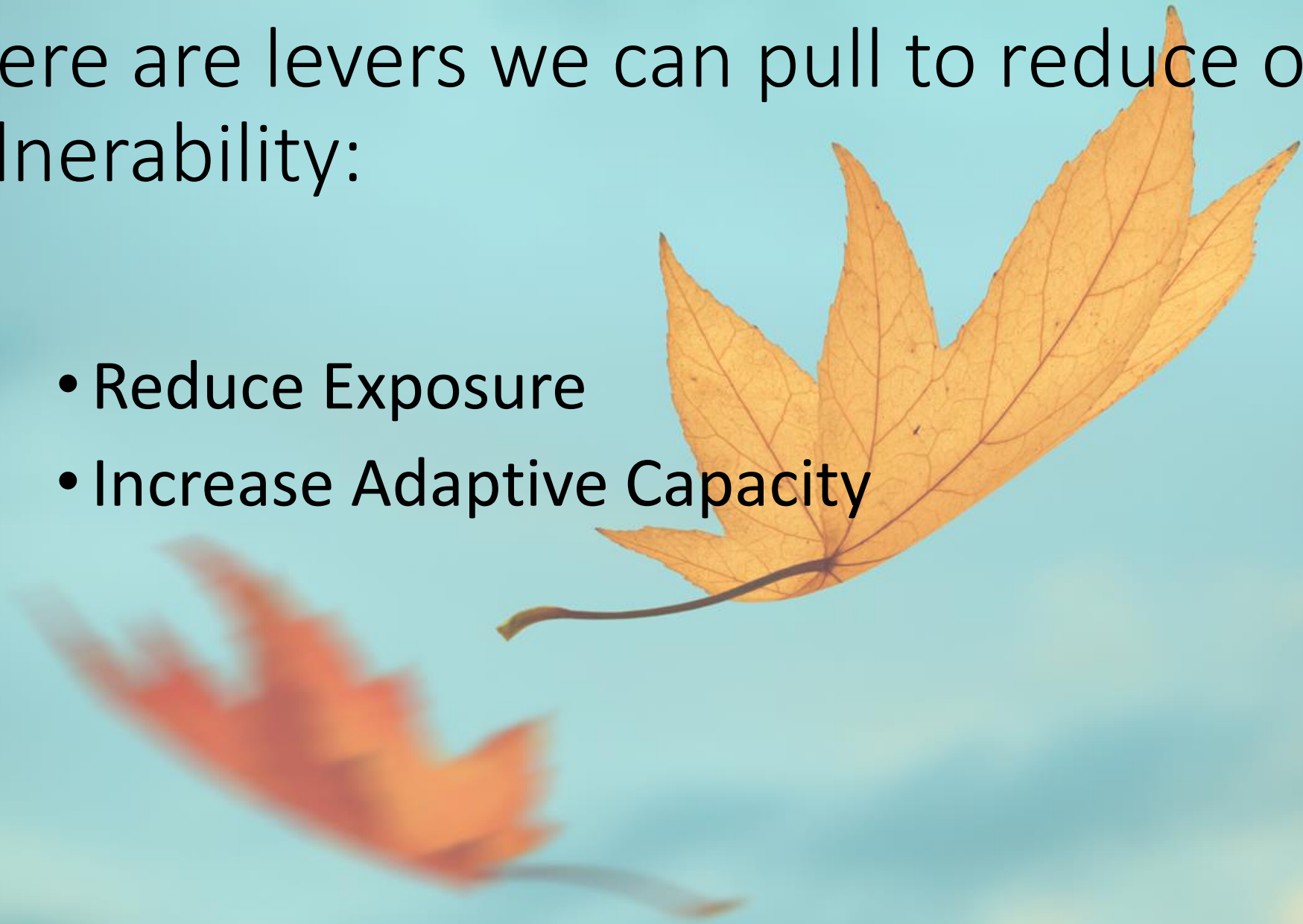
## Adaptive Capacity

- Higher
  - Can wear mask
  - Can go inside
  - Can jet to Europe
- Lower
  - Cannot move indoors
  - Cannot shut windows



There are levers we can pull to reduce our vulnerability:

- Reduce Exposure
- Increase Adaptive Capacity





# High Temperatures

## Reduce Exposure

- Low Cost/Effort
  - Update policies
    - limit outdoor time in high heat
    - Require breaks and water
    - Shift work times
- Higher Cost/Effort
  - Avoid new initiatives that would expose workers or clients to heat

## Increase Adaptive Capacity

- Low Cost/Effort
  - Plant trees to offer shade
  - Provide fans
  - Send high heat warnings
- Higher Cost/Effort
  - Upgrade HVAC system to provide better cooling
  - Create a cooling center for your community



# Flooding

## Reduce Exposure

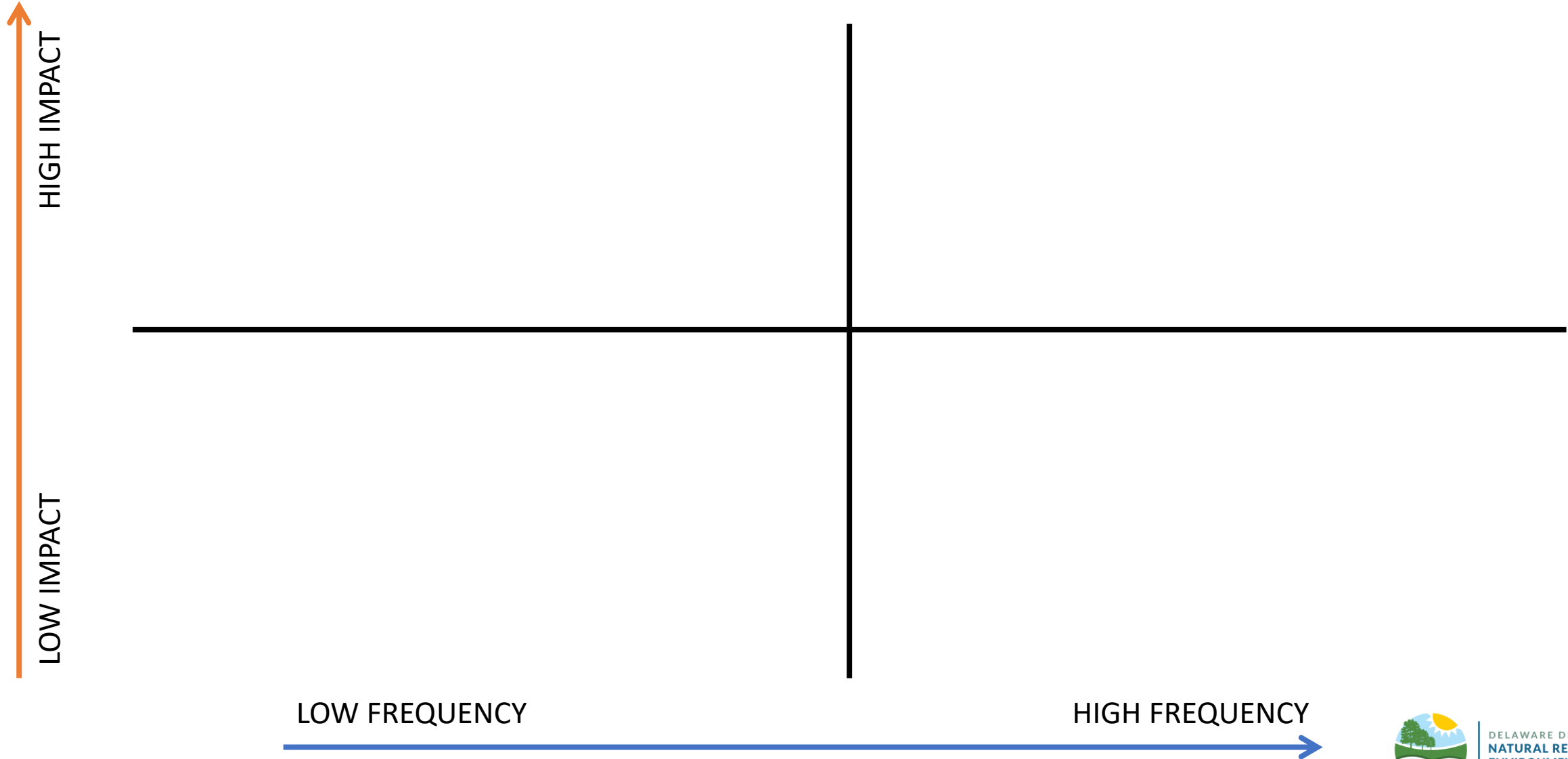
- Low Cost/Effort
  - Modify driving routes to avoid flood prone roads
  - Sand bags
- Higher Cost/Effort
  - Relocate your building if in flood prone area
  - Large scale drainage project

## Increase Adaptive Capacity

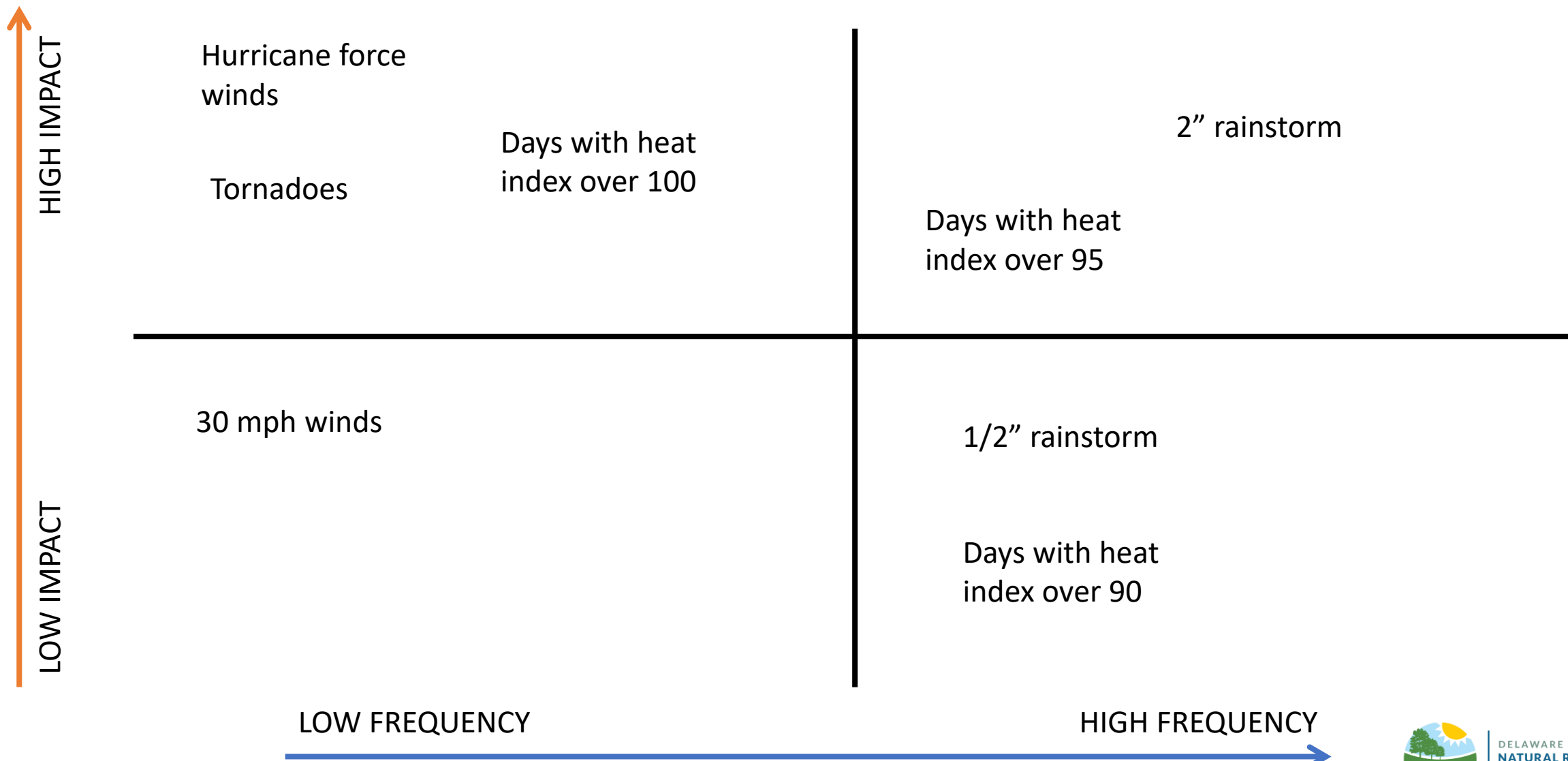
- Low Cost/Effort
  - Emergency response plans
  - Work flexibility
  - Pull leaves out of storm drains
- Higher Cost/Effort
  - Work with partners to improve stormwater systems
  - Install green infrastructure



# Getting Started



# Getting started



# Climate Change may also bring new stressors or opportunities for your organization

- New funding sources
- Changing donation behavior (plus and minus)
- Supply chain issues
- Increasing energy costs
- Regulations
- Insurance costs
- Changing client needs



# Moving forward

## Lower effort actions

- Incorporate climate change into your next strategic plan
  - Do a climate change SWOT
- Update your workplace policies for heat, smoke, flooding
- Conduct an energy assessment of your buildings
- Attend additional trainings



# Moving forward

## A bigger lift

- Conduct a stand-alone comprehensive climate change vulnerability assessment – with recommendations for action
- Install solar on your roof and battery back up
- Upgrade your vehicle fleet to electric



# Performance Contracting Program

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- Through Energize Delaware
  - [www.Energizedelaware.org](http://www.Energizedelaware.org)
- Covers assessment and implementation of energy and water efficiency improvements
- Uses long-term utility cost savings to pay for the upgrades
- Low interest financing also available for renewable energy





# Green Energy Fund

- Customers of DPL, DEC and some municipalities eligible for cash grants
- Covers a portion of the costs of solar panels, solar water heating, wind, and geothermal
- Can combine with additional federal programs
- <https://dnrec.alpha.delaware.gov/climate-coastal-energy/renewable/assistance/>



# Electric Vehicles

- Cash rebates available for purchase of electric vehicles
  - Couples with federal programs
- Rebates also available for installation of public and workplace charging stations
- [www.de.gov/cleantransportation](http://www.de.gov/cleantransportation)



# Look for opportunities to engage in Climate Change Planning at the state and regional level

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- Climate Action Plan meetings
  - Jan/Feb 2024 (tentative)
- Updated Climate Action Plan due Fall 2025
- Non-profits are key community partners, and we want to hear from you!



# Questions?

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- Feel free to reach out!
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  - [Lee.Aiken@delaware.gov](mailto:Lee.Aiken@delaware.gov)



# SWOT Analysis

**STRENGTHS**

**WEAKNESSES**

**OPPORTUNITIES**

**THREATS**

