

# The US Environmental Protection Agency's Report on the Environment (ROE): *Virtual Stakeholder Engagement*

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[www.epa.gov/roe](http://www.epa.gov/roe)

*The views expressed in this presentation are those of the author(s) and do not necessarily represent the views or the policies of the U.S. Environmental Protection Agency.*





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# Meet the US EPA ROE Team



Karlee Shadle



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Pat Murphy



Michael Pennino

- What is the US EPA's Report on the Environment (ROE)?
- What ROE Stakeholder Engagements were recently held?
- What did we learn?



<https://www.epa.gov/report-environment>

### What is an ROE Indicator?

EPA's Report on the Environment (ROE) indicators are simple measures that track the state of the environment and human health over time. [Learn about ROE indicators](#)



1 2 3 4

### What is the Report on the Environment?

EPA's Report on the Environment (ROE) shows how the condition of the U.S. environment and human health. The purpose of the [80+ ROE indicators](#) is to help answer [23 questions](#) critical to EPA's mission of protecting the environment. Thus, it is a priority of the EPA to provide updates to the ROE indicators frequently to provide the public with the most current information. The ROE represents the best available indicators of national trends in five theme areas:

#### Air



- [Air in the ROE](#)
  - [Outdoor Air Quality](#)
  - [Greenhouse Gases](#)
  - [Indoor Air Quality](#)

#### Water



- [Water in the ROE](#)
  - [Fresh Surface Waters](#)
  - [Ground Water](#)
  - [Wetlands](#)
  - [Coastal Waters](#)
  - [Drinking Water](#)
  - [Recreational Water](#)
  - [Consumable Fish and Shellfish](#)

#### Land



- [Land in the ROE](#)
  - [Land Cover](#)
  - [Land Use](#)
  - [Chemicals Used on Land](#)
  - [Wastes](#)
  - [Contaminated Lands](#)

#### Human Exposure & Health



#### Ecological Condition



#### Learn About the ROE





# What is the ROE?

The ROE Program (est. 2001) provides a nationwide view of progress toward EPA's mission of providing clean and safe air, water, and land.

The ROE relies on objective, scientifically defensible, up-to-date indicators to analyze, diagnose, and communicate their status and trends.

<https://www.epa.gov/report-environment>

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Air	Water	Land
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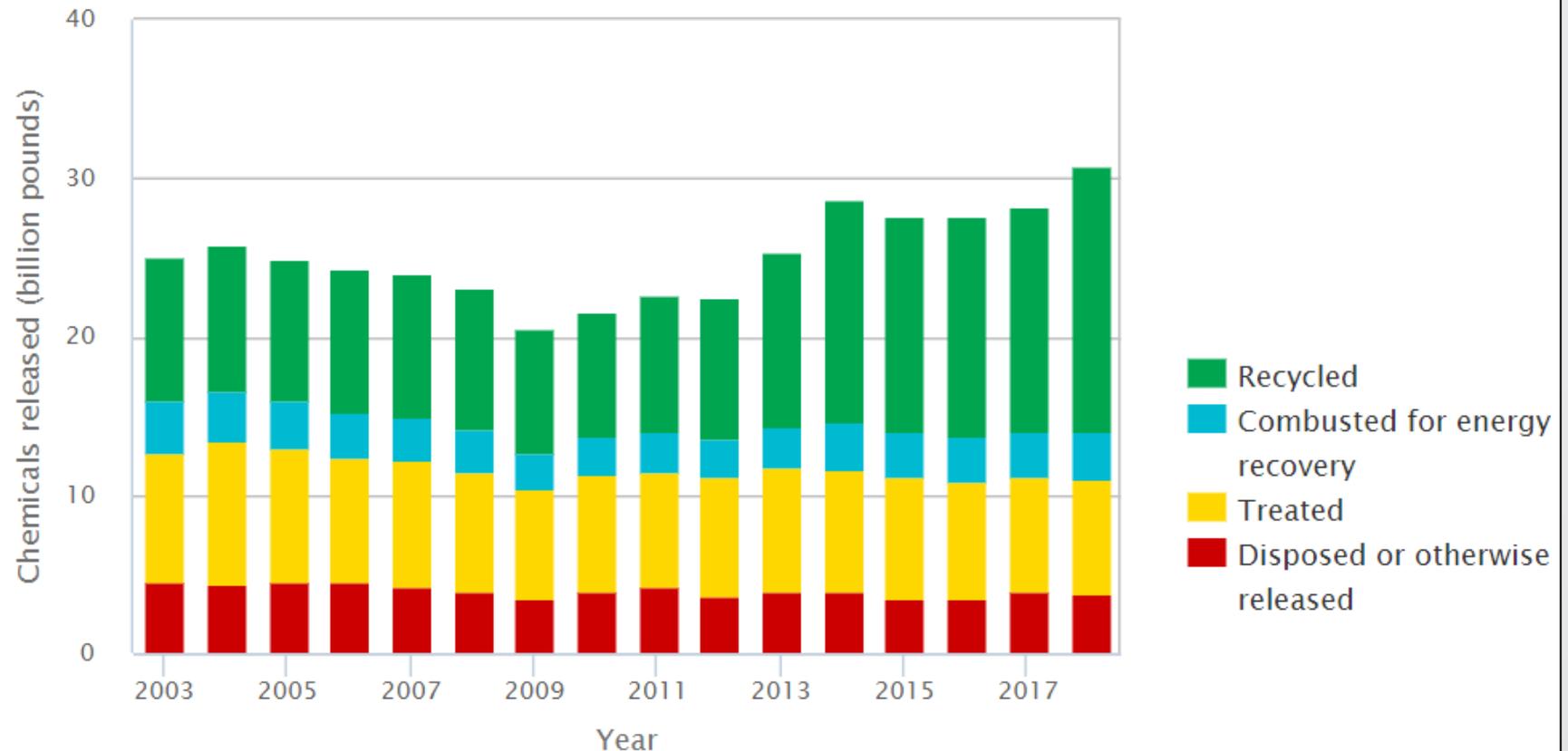
Human Exposure & Health	Ecological Condition	Learn About the ROE



# Importance of Indicators

- Powerful tools for monitoring and communicating information
- Support planning, identifying priorities, targeting resources, tracking progress towards societal and Agency mission and objectives

Exhibit 1. Quantities of toxic chemical wastes released, treated, combusted for energy recovery, or recycled, in the U.S., as reported to EPA's Toxics Release Inventory, 2003–2018





# Role of the EPA ROE Program

- Tracks environmental and health issues of concern
- Supports environmental decisions and policies
- Documents tangible environmental and public health results

Exhibit 1. Blood lead concentrations for the U.S. population age 1 year and older by sex, 1999–2016

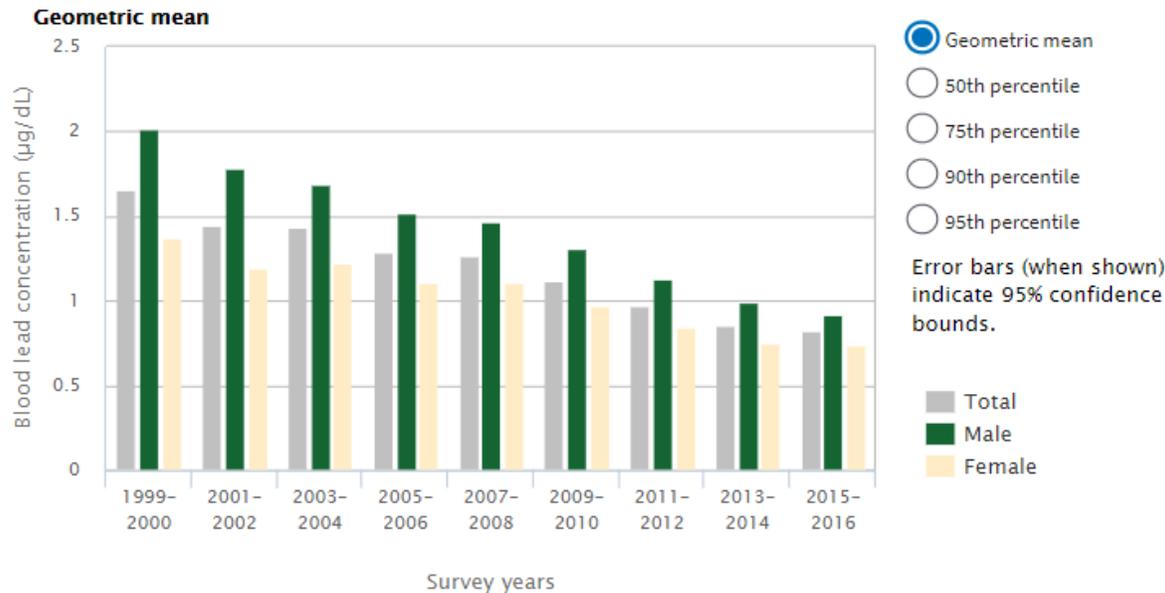
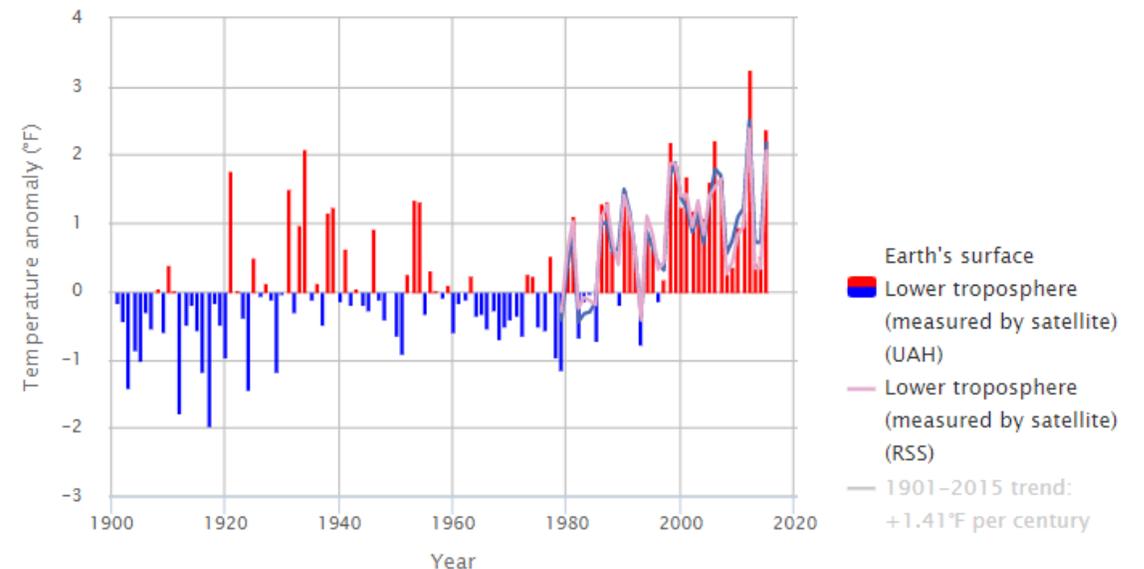
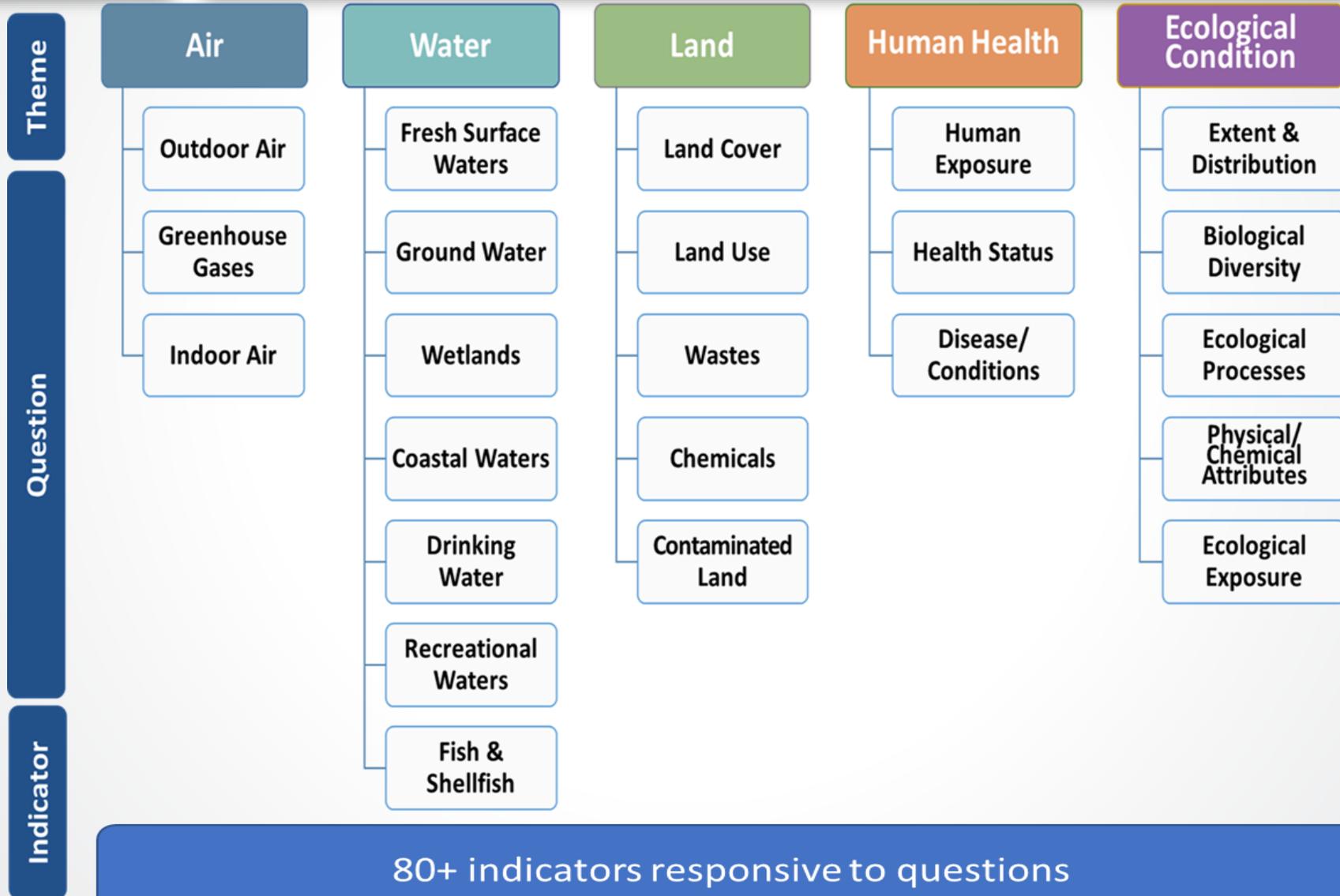


Exhibit 1. Annual temperature anomalies in the contiguous U.S., 1901–2015





# ROE Themes & Indicators





# ROE Stakeholder Engagement Goals

Update, refresh, realign the ROE with current EPA Program and Regional Office priorities and emerging issues by 2022:

- Evaluate the relevance and generate ideas to improve the ROE questions
- Generate and prioritize new indicators and indicators for trend investigation
- Identify potential cross-media issues
- Enhance user experience and develop communications and outreach strategy



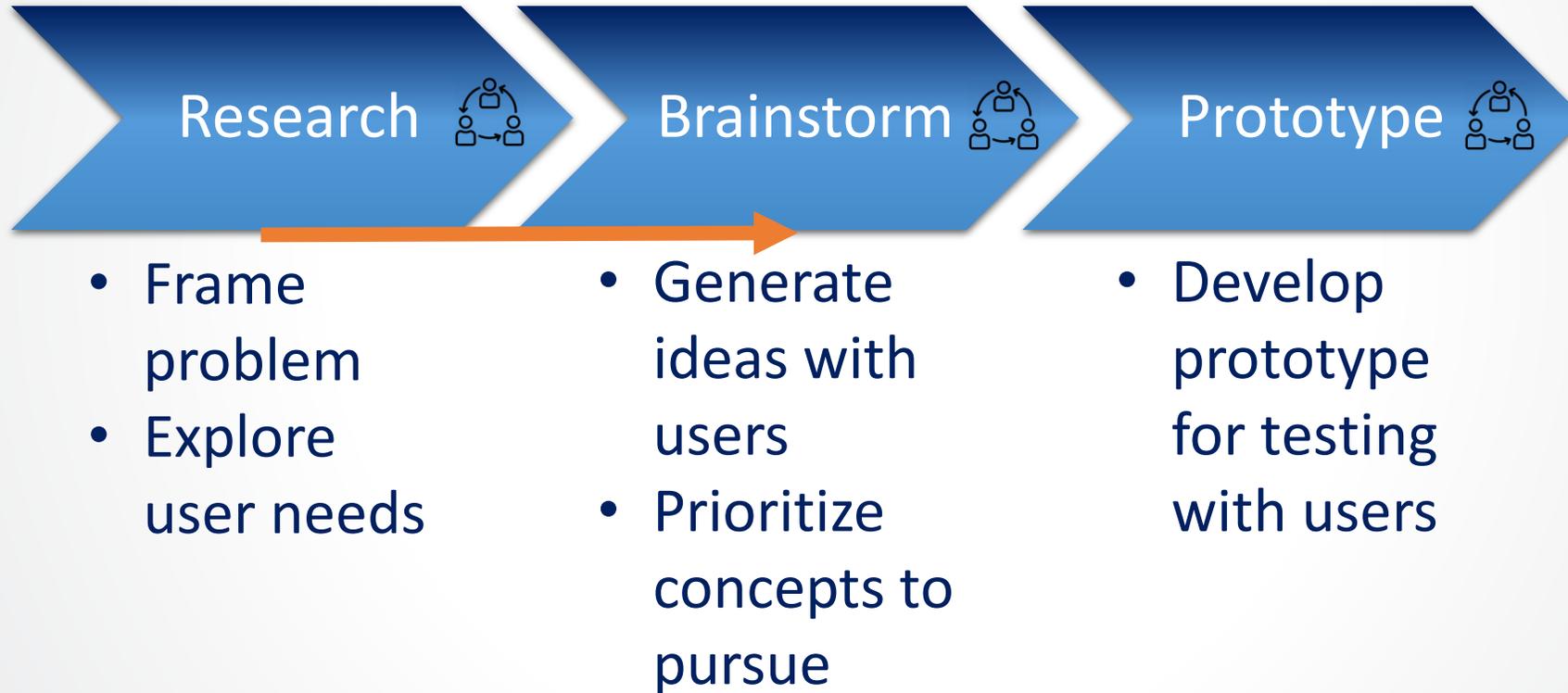
# How to Achieve these Goals

- Strengthen partner interest and engagement through workshop and beyond
- Initiate EPA-wide standing workgroups to implement priorities from workshop
- Provide periodic updates to partners and steering committee
- Elevate decisions (e.g., prioritization of new indicators) to steering committee
- Develop means to share information and generate ideas for future ROE capabilities

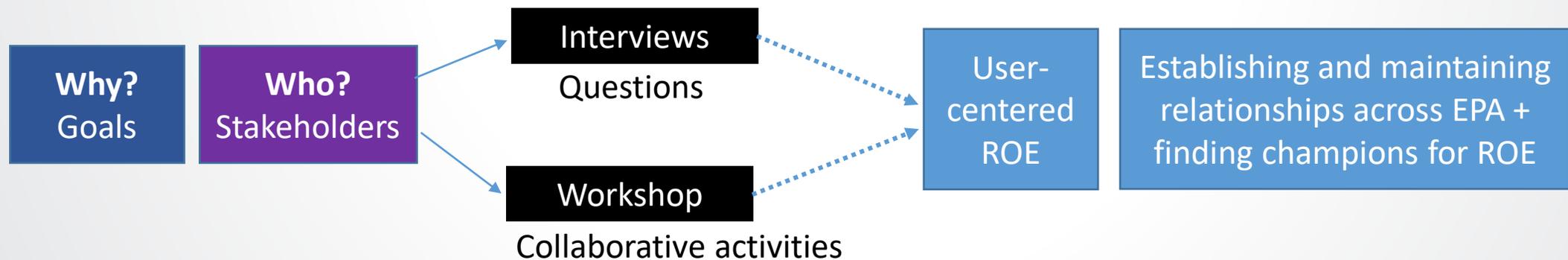




# Planning



1. ROE Team completed Virtual HCD Training (Spring 2020 by OPM Lab)
2. ROE Team practiced HCD (Spring/Summer/Fall 2020)
  - Group work sessions – using Mural
    - Goals for interviews and workshop
    - Stakeholders





# HCD + ROE Interview Goals

## Interview Goals: Immediate and Long-term Goals

In order to be successful,  
these interviews must:

Initiate dialog and establish relationship with PO\* partner

Re-establish a formal working relationship with PO partners

+ maintain partnerships

Each team member added goals and then answered "how?"

HOW?

A form for recording responses to the question "HOW?". It features two yellow rectangular boxes at the top, followed by three horizontal lines for writing. A dotted arrow points from the text "Each team member added goals and then answered 'how?'" to the first yellow box. At the end of the form, there is a checkbox and a checkmark.



**So that...**

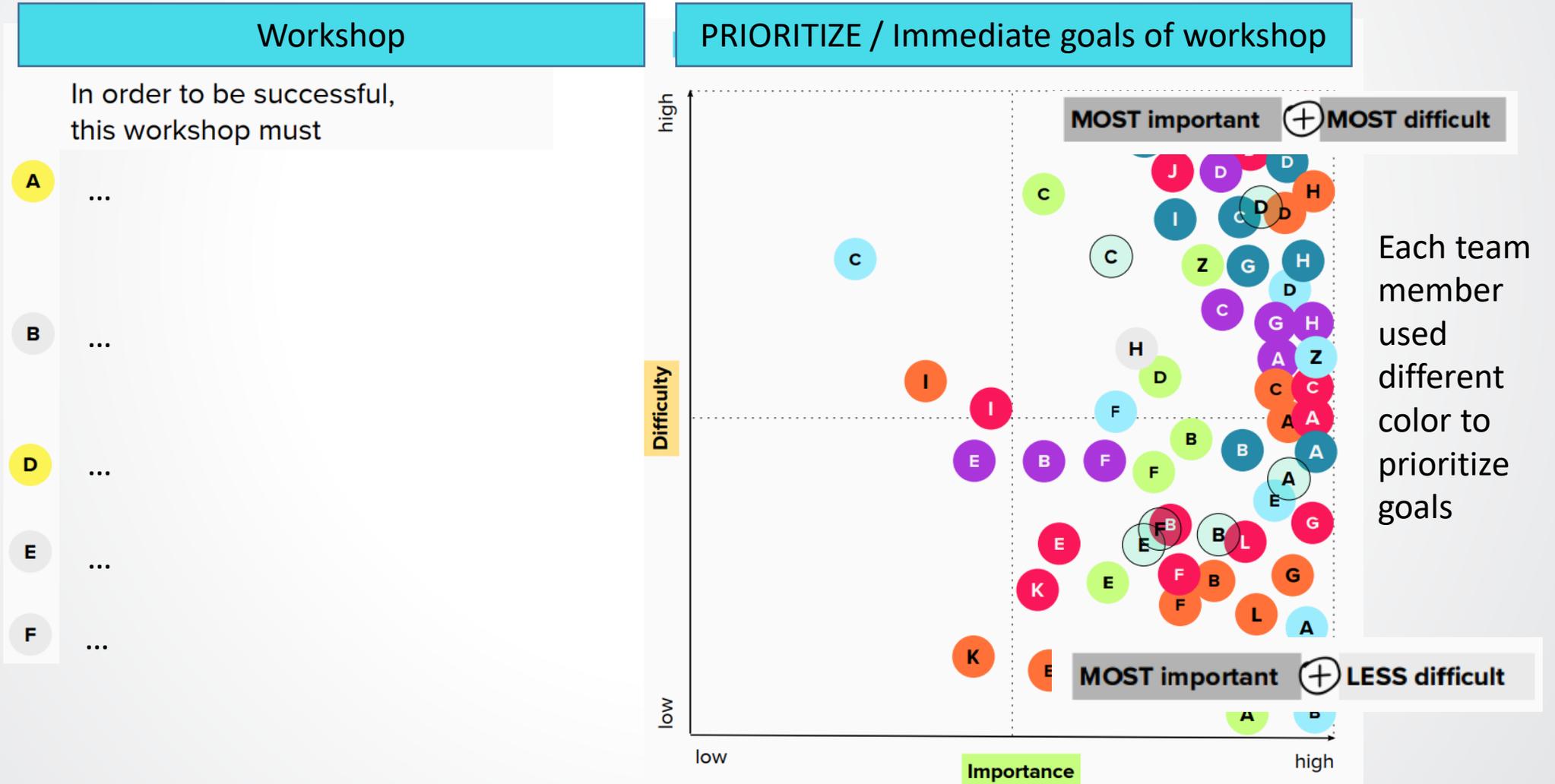
(Action --> Make sure we get what we need for next steps after interviews. )

\*Program Office (PO)



# HCD + ROE Workshop Goals

## Workshop Goals: Priority Matrix Activity

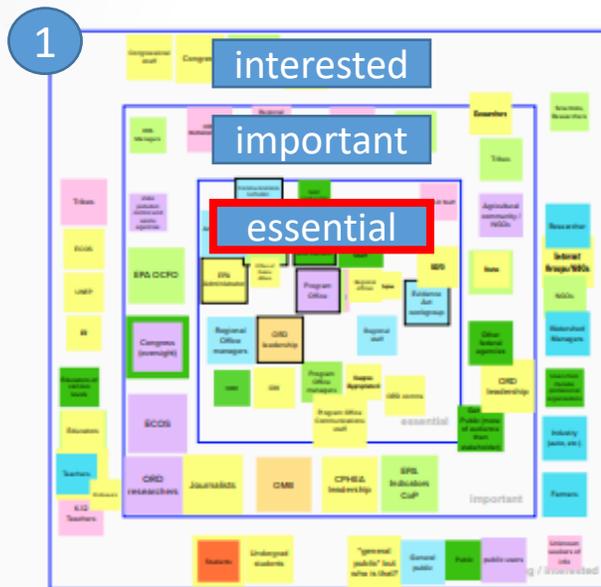


## Stakeholder Mapping Guiding Questions: Who and How?

Each team member considered participants and how to engage meaningfully

Whose buy-in do we need?	Who must be invited to participate?	...for generating support?	...for their specialized knowledge?	...for validation?	...for a fresh perspective?
Who is most important for the project to serve?	How are the people we invite to participate different / similar from one another?	...	How can we make the experience of participating positive and / meaningful?	...	...

## 1. Who are the **internal** stakeholders?



Experience of Stakeholder Mapping Exercises:

Team members' reflections on stakeholder mapping experience

## 2. Who are the **public** stakeholders?

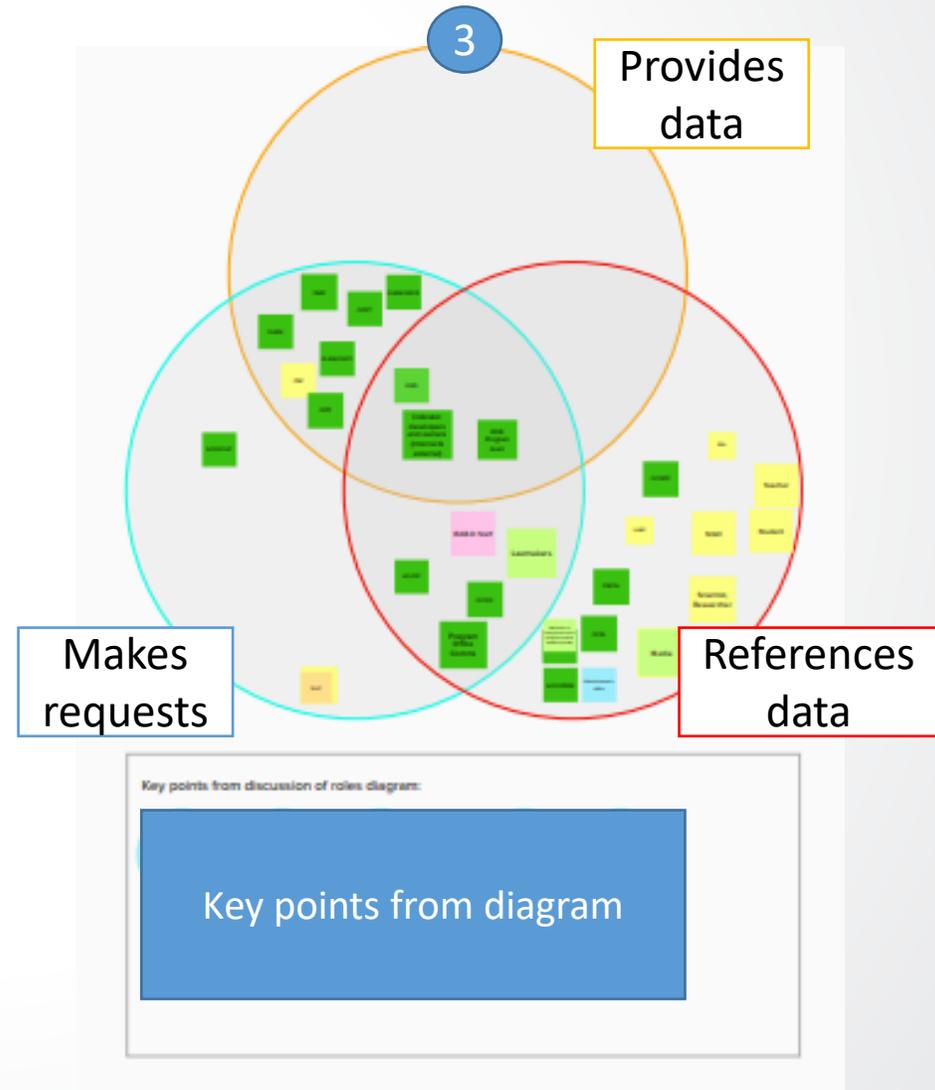


Key points from discussion of public-facing ROE stakeholder map:

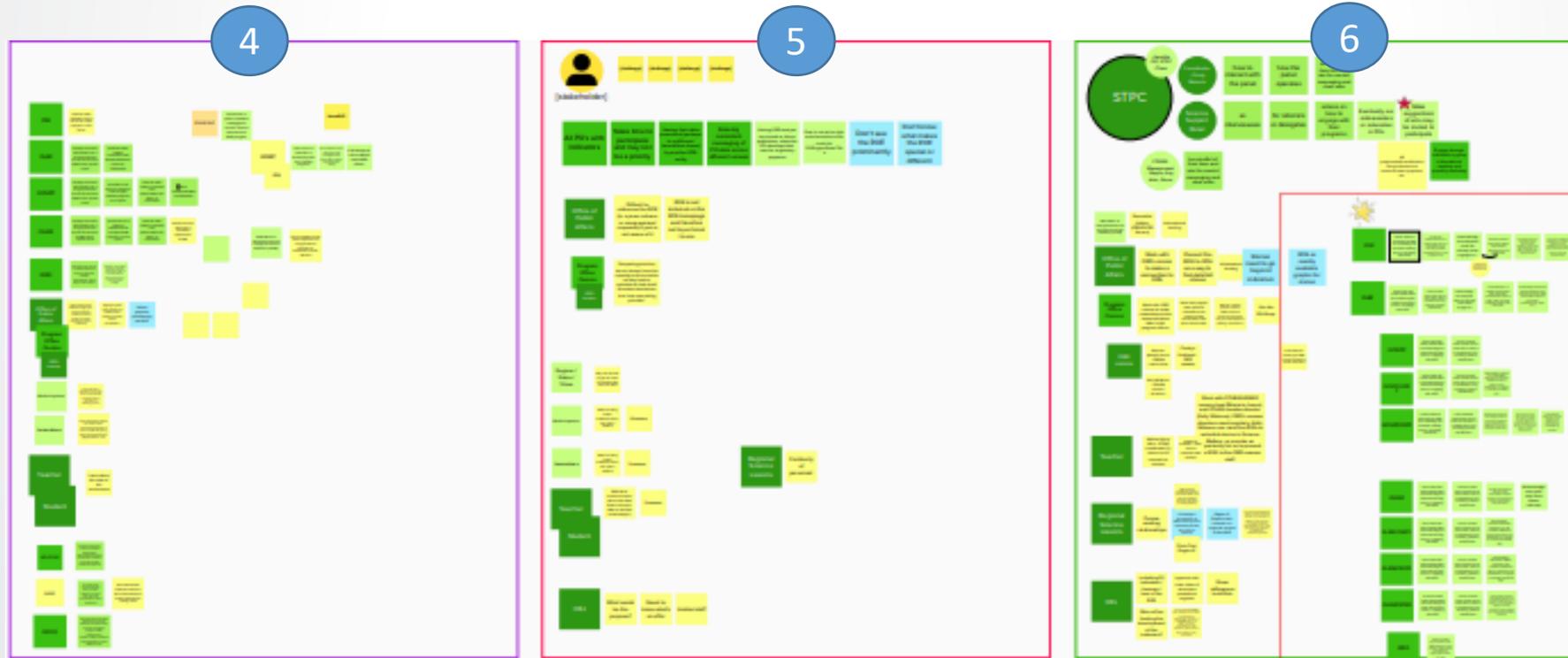
Other key points from stakeholder map

3. Which **role(s)** do each **essential internal** stakeholder take on?

- a) Provides data to ROE
- b) Makes requests of ROE Program
- c) References ROE



4. What are their perceived **benefits** of the ROE? (benefits for each stakeholder)
5. What are their perceived **challenges** with the ROE?
6. How might we **engage meaningfully** with each stakeholder?



1. Interview scripts created for individual stakeholder groups
2. Workshop Plenaries (Opening, Mid-Point, Summary) prepared for full group of participants
3. Breakout Group activities for 4 topics
  - Questions and new indicators
  - Cross-media issues
  - Trends analysis
  - User experience and communications

- Opening Plenary
  - Provide overview of workshop structure and breakout groups
- Mid-Point Plenary
  - Report outs from breakout groups
  - Opportunity for cross-pollination of ideas
- Closing Plenary
  - Summary of initial priorities
  - Next steps & recommendations



# Breakout Group Goals

Group	Goals and Outputs
ROE Questions & New Indicators	<ul style="list-style-type: none"><li>• Brainstorm new indicators and questions for the ROE of the future (looking out 5-10 years)</li><li>• Confirm existing, or develop new, ROE questions</li><li>• Develop prioritized list of new and revised indicators</li></ul>
Cross-Media Issues	<ul style="list-style-type: none"><li>• Brainstorm approaches for how cross-media issues might be addressed by the ROE</li><li>• Develop prioritized list of cross-media issues</li></ul>
Trends Analysis	<ul style="list-style-type: none"><li>• Develop list of potential methods/approaches for interpretation</li><li>• Develop list of potential areas for interpretation</li></ul>
User Experience & Communications	<ul style="list-style-type: none"><li>• Workshop ideas on improving user experience for an internal and external user</li><li>• Discuss a communications strategy/plan</li></ul>



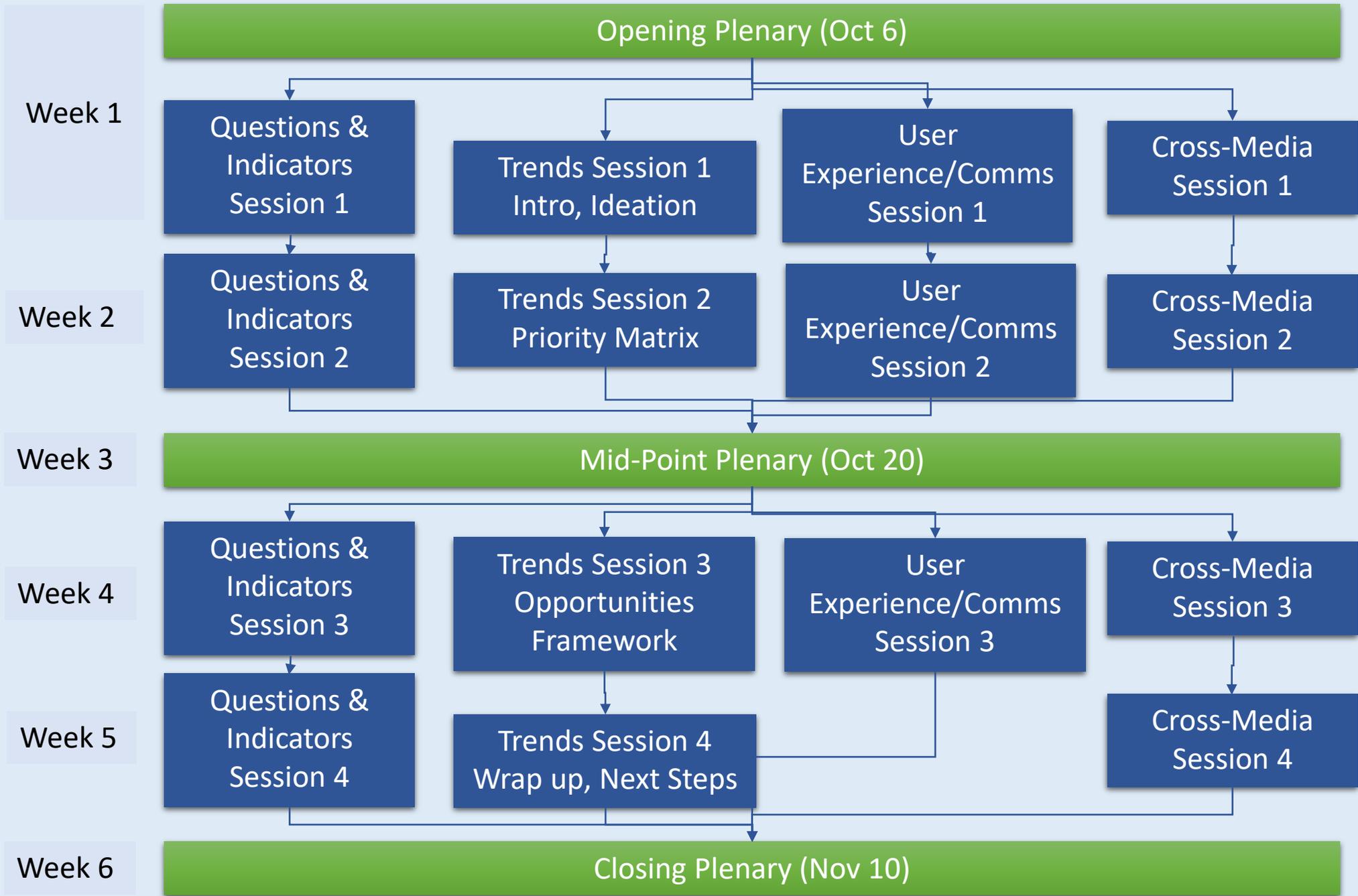
# Implementation

- **Step 1. Virtual Interviews**

- With 34 EPA staff from 7 offices (i.e., Air, Chemicals, Land, Water, Children's Health, Environmental Justice, Environmental Economics)
- Question changes? Indicator changes? New indicators?
- Suggestions for trends and cross-media topics

- **Step 2. Virtual Stakeholder Workshop (over 6 weeks)**

- With 3 plenary sessions (65+ participants from 10 offices and 8 regions)
- With 4 breakout groups that each met 3-4 times (total of 50+ participants)
  - Questions and new indicators
  - Cross-media issues
  - Trends analysis
  - User experience and communications
- Virtual input gathered using Mural ([www.mural.co/](http://www.mural.co/)) and Microsoft Teams



- Using Human-Centered Design
  - Participatory activities
  - Brainstorming, clustering of ideas, discussions, priority matrices
- Using Mural Board for virtual sticky notes and organization
  - Web browser-based whiteboard and virtual workspace
  - Share ideas & collaborate



- Generative Brainstorming

## 1.1 Brainstorming

1. Navigate to a post it.  
 2. Double click to write a cross-media issue.  
 3. Move to another post it and write another cross-media issue.  
 4. Continue until you've run out of cross media issues.

Cross-media examples from interviews

## 1.2 Find Patterns

Follow your instincts, move issues together and dissimilar ones apart. Stickies can go into groups. Ask us if you need help duplicating.

Once all issues are in a cluster, write a label that summarizes the issues in each cluster.

## 2.1 Finding gaps (brainstorming part 2)

Cluster 1: Name

1. Brainstorm any additional cross-media issues that belong in this cluster.  
 2. Find a post it and enter the issue.

Cluster 2: Name

1. Brainstorm any additional cross-media issues that belong in this cluster.  
 2. Find a post it and enter the issue.

- Discussing “value added” ideas
- Prioritizing ideas (e.g., by importance, need)
- Storyboarding ways to display ideas (e.g., graphs, tables, flowcharts)

**EXAMPLE** Wildfires through the lens of Health & Environmental/Ecological Effects

**Indicators**  
Existing Proposed

**1**

Temporal Trend

Spatial Trend

% Change in wildfires over time, by state

**2**

Story

Air, land, and water quality impacts

**3**

Temporal Trend

Stressor-Response

Health impacts to illustrate trends over time and stressor-response relationships between wildfire exposure and hospitalizations, other endpoints

**4**

Feedback Loop

Case study

Responses: how forest management is changing, how wildfires respond to changes, warning systems, evacuations - case study illustrations

**5**

Write a caption

**Build your cross-media story**



# Outcome of Engagements

***Learned how to successfully convene*** EPA stakeholders from a variety of disciplines, geographic locations, and levels of expertise to inform next steps for the ROE Program

***Reinvigorated interest*** in the ROE across EPA

- Established cross-EPA ROE Steering Committee
- Formed new cross-EPA ROE Technical Workgroups

***Identified key areas of focus*** moving forward

- Prioritized new issues in coordination with EPA Programs, initiated new ROE indicators
- Focused near-term efforts around high priority EPA issues
- Developed selection criteria for ROE trends investigations and cross media issues
- Expanded ROE Communications Plan
- Continued developing regional ROE efforts
- Strengthened alignment with US Foundations for Evidence-Based Policymaking Act (<https://www.congress.gov/bill/115th-congress/house-bill/4174/text>), measuring effectiveness and evaluating programs



# Questions

