

Draft – In Progress Work for Discussion Only

# Environmental Monitoring Recommendations

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# #4a: Utilize IoT to estimate and mitigate **scope 3** carbon emissions

Promote the adoption of IoT-based solutions across multiple economic sector to accurately estimate and manage indirect carbon emissions associated with goods and services.

- Increased interest and adoption of GHG gas reporting across supply chain
- Accurate monitoring across economic sectors help identify emissions hotspots and inform targeted mitigation strategies
- IoT enables continuous monitoring, systematic mgmt. of carbon emissions at low cost and effort
- Combining IoT data with other estimation methods improves accuracy of scope 3 data

## Implementation

- Develop standardized framework for integ. Of IoT in scope 3 emissions monitoring
- Encourage/fund R&D of IoT tools and data analytics tools
- Support pilot projects
- Provide training and tech assistance to stakeholders to implementors
- Facilitate collaborating and data sharing among stakeholders, researchers and policy makers

## Barriers

- Different practices across supply chain hinder development and implementation of IoT solutions
- Industry stakeholder resistance
- Cybersecurity risks and investments

## Agencies

- USDA
- EPA
- NIST
- DOE
- NOAA

## Federal considerations

# #5: Use IoT to support wide area environmental situational awareness proactive monitoring

Promote the use and integration of IoT technologies to complement and support wide area environmental situational awareness capabilities to proactively monitor and inform on a variety of environmental conditions and hazards in environmentally sensitive areas

- Existing systems use proprietary technologies (e.g. stream gauges for river monitoring)
- Early detection of events allows for rapid response and actions

## Implementation

- Specification of IoT into grants and federal grants for environmental monitoring
- Collaboration with federal, state and regional agencies to define missions, requirements
- New connectivity methods needed for remote areas

## Barriers

- Wide area monitoring spans multiple jurisdictions with different missions, requirements, and goals
- IoT sensors based on different technologies, which may not meet use reqts, use cases
- Owners lack the new skills to support, maintain and operate IoT

## Agencies

- EPA
- FEMA
- USGS
- USACE
- DOI
- US Forest Service
- NOAA

## Federal considerations

- Agencies support a number of monitoring platforms or provide network oversight. Agencies need to identify IoT opportunities within these platforms