

SURVEY ON SUSTAINABLE REMEDICATION

**Results of Survey Submitted to SURF Members and
Regulators**

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What is SURF?

Mission Statement

To establish a framework that incorporates sustainable concepts throughout the remedial action process, that provides long-term protection of human health and the environment, and that achieves public and regulatory acceptance.

What is SURF?

- **Collaborative forum focused on developing ability to use sustainable concepts in remedial action decision making**
- **Place to share perspectives, experiences, site-specific examples**

What is SURF?

- **Includes representatives of:**
 - **State and federal agencies**
 - **Industry**
 - **Consultants**
 - **Academics**
 - **Public stakeholders**
- **Meeting records are publicly available; website under development**
- **Currently chaired and facilitated by DuPont**

The White Paper

- *“Integrating Sustainability Principles, Practices and Metrics Into Remediation Projects”*
- **Collects, clarifies, and communicates thoughts and experiences of SURF members on sustainability in remediation**

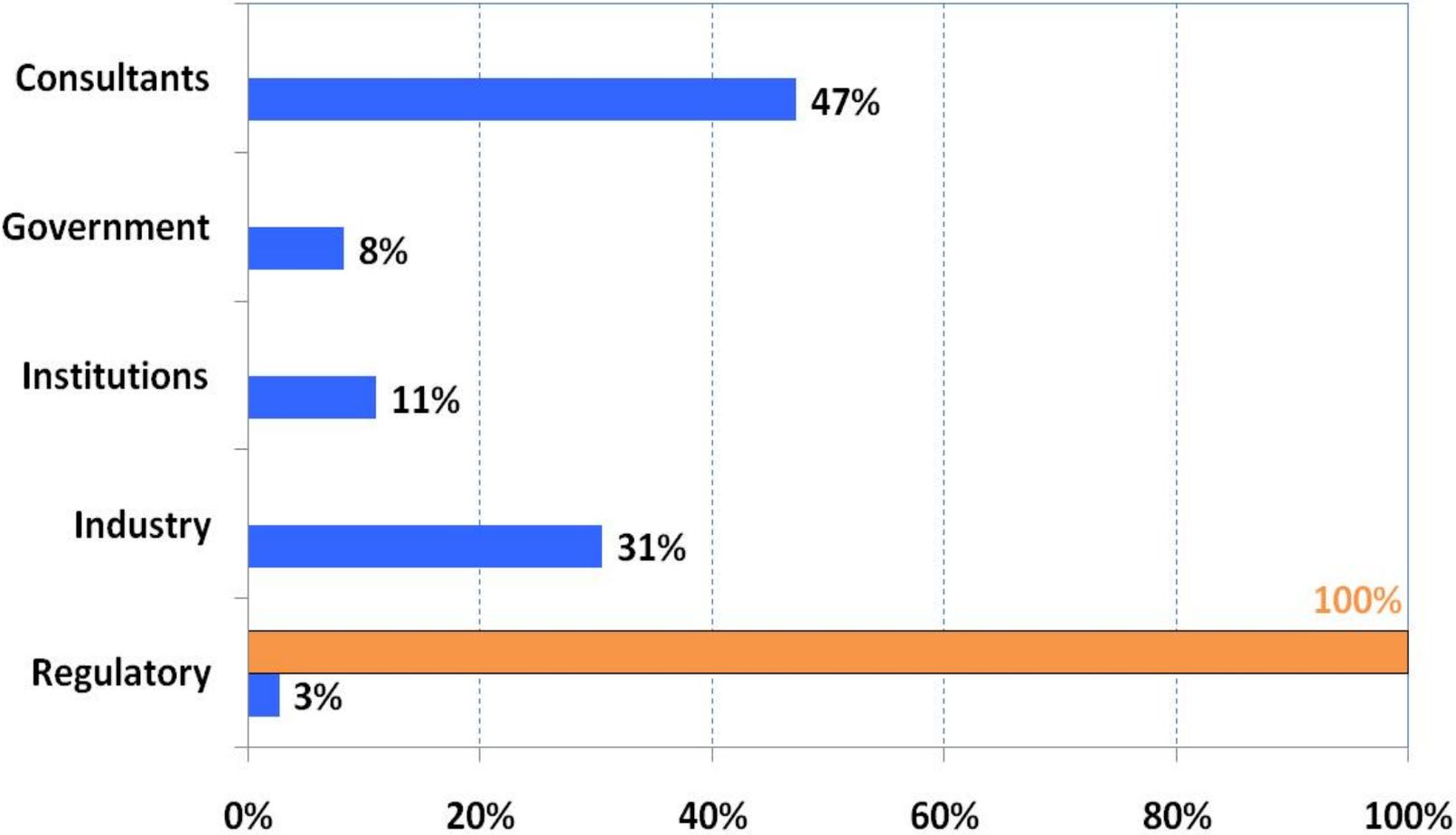
Survey Background – SURF Members

- **To help answer questions for the White Paper**
- **One set was provided to SURF members on the emailing list**
- **36 responses were received from SURF members**

Survey Background - Regulators

- **Another set was sent to >160 regulators (50 US states and Canada) to:**
 1. **Help gauge level of knowledge and understanding of sustainable remediation by environmental regulators**
 2. **Support “Impediments and Barriers” section of White Paper**
- **Received 56 full responses**
- **38 from 19 different states; 14 Federal; 1 Ontario; 3 anonymous**
- **Important to note that this was not a scientific survey**

Composition of Responses

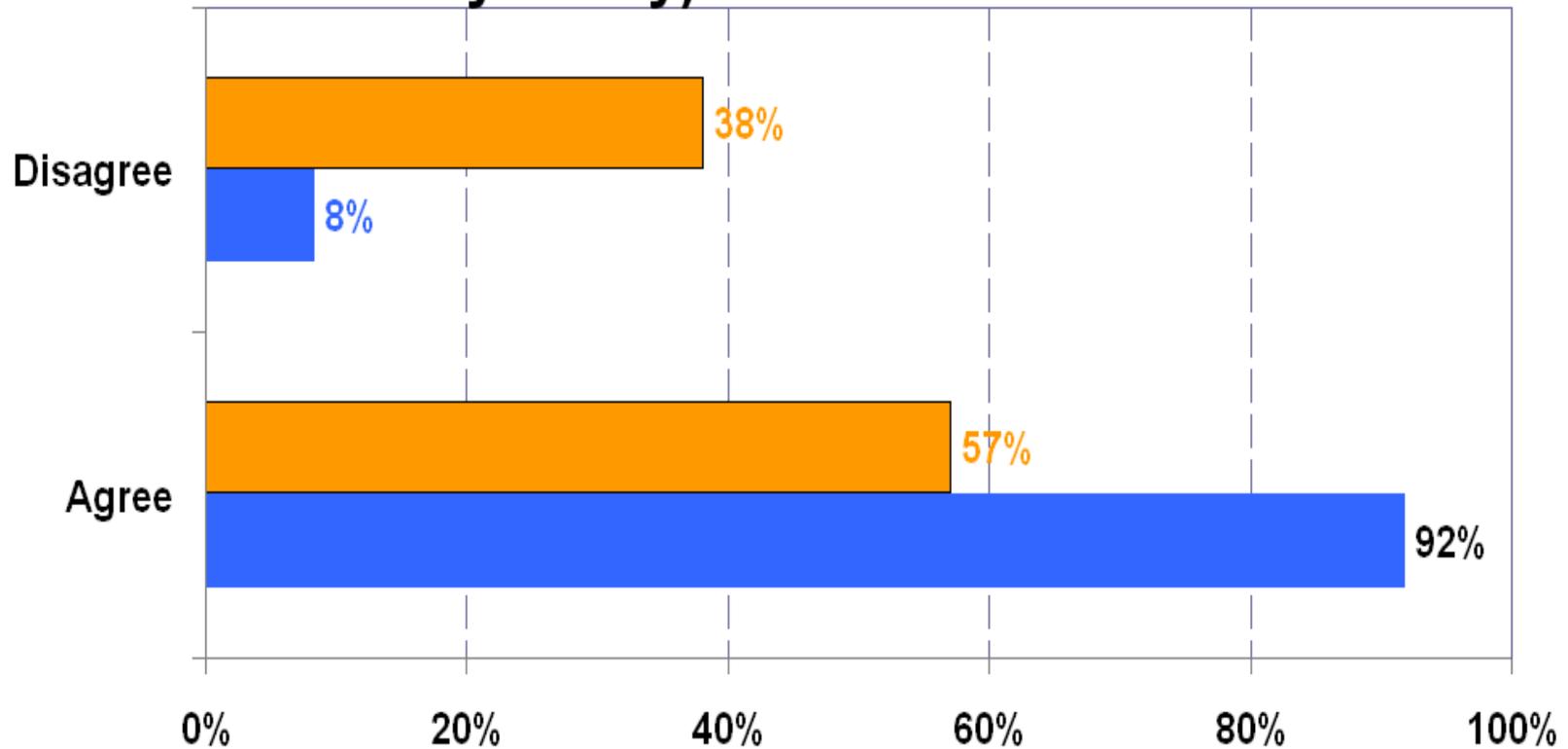


Regulators Survey



SURF Members Survey

Sustainability Should Be an Evaluation Criteria for Remediation Assessment (e.g., in a Feasibility Study):

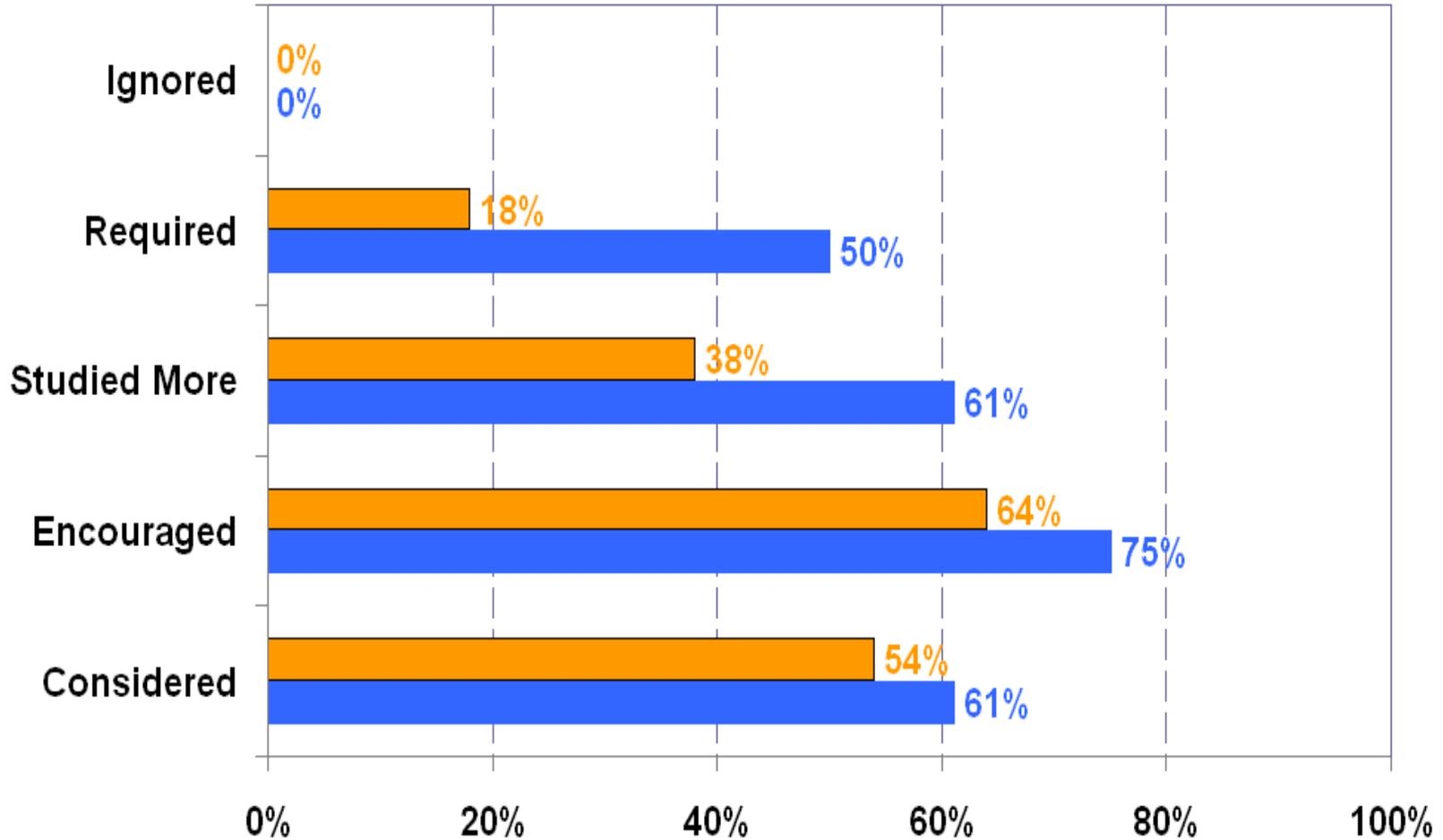


Regulators Survey



SURF Members Survey

Sustainable Remediation Should Be:



Regulators Survey

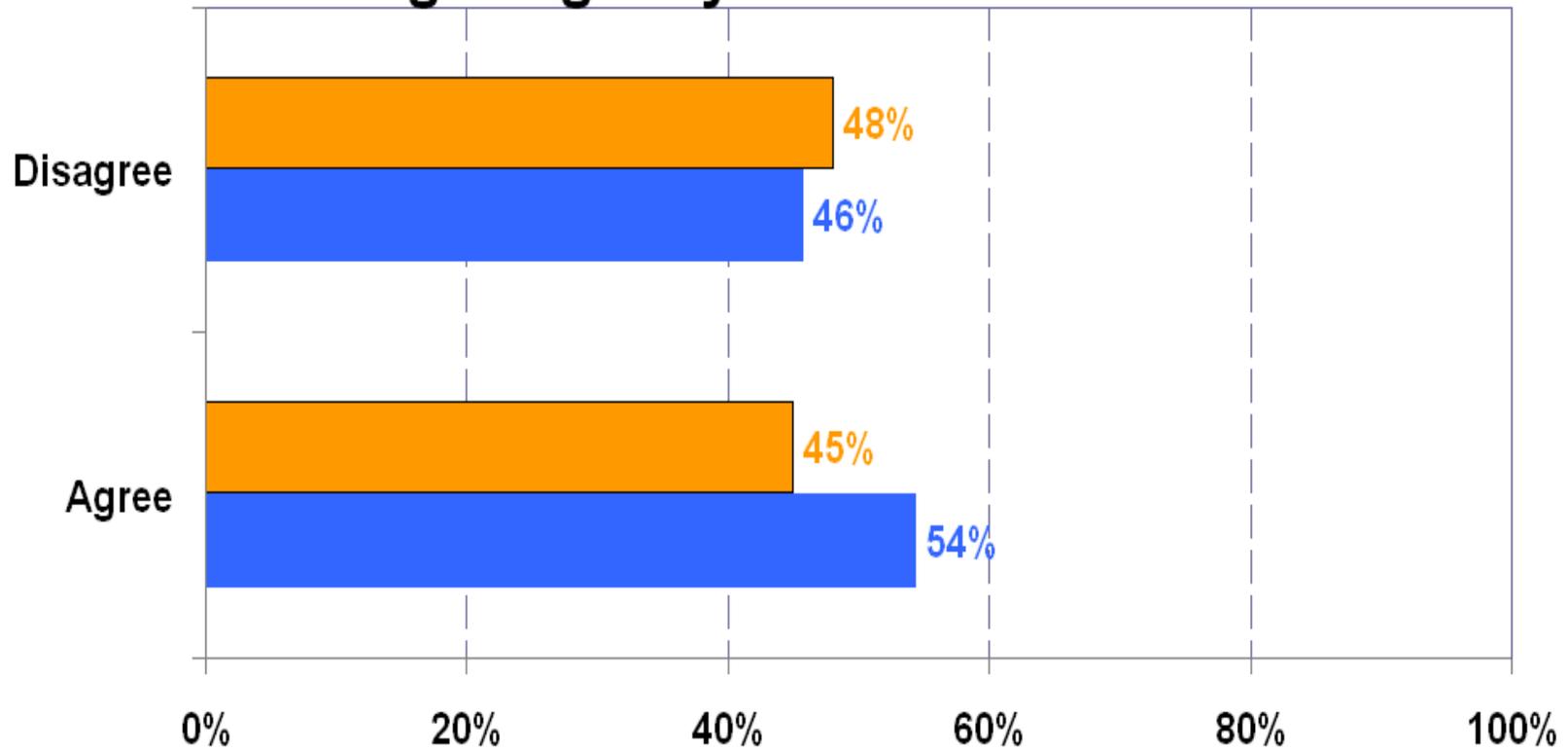


SURF Members Survey

How do you Think Sustainability should be Measured (SURF Members)?

- **Life Cycle Cost Assessment through various environmental, social, and economic indicators (majority of responses)**
- **Concerned about combining sustainability factors into NCP criteria in the form of metrics (one response)**
- **Should start including sustainability as an evaluation criteria in FS (one response)**
- **Involve all stakeholders – One size fits all will not work (one response)**

The Sustainable Aspect of Remediation Alternatives Should be Regulated by the Oversight Agency:



Regulators Survey



SURF Members Survey

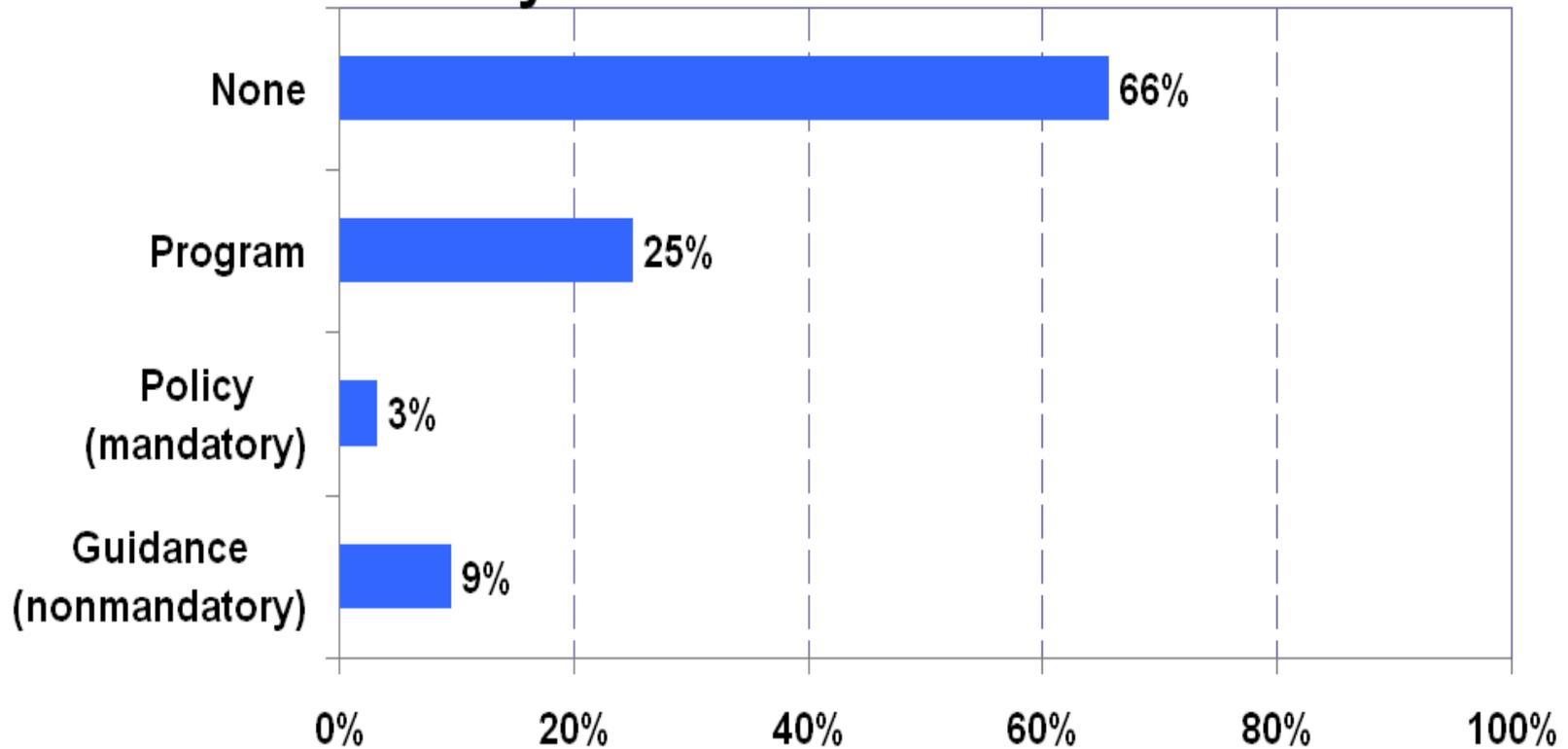
Under what Mechanism can Sustainable Remediation be Regulated?

- **Law**
 - **SURF Members (11 responses)**
 - **Regulators (4 responses)**
- **Guidelines**
 - **SURF Members (8 responses)**
 - **Regulators (10 responses)**
- **Not the role of the regulator**
 - **SURF Members (0 responses)**
 - **Regulators (5 responses)**
- **Include it in the decision making process that gives sustainability a “weight”, and set values so that sustainability alone does not force a particular outcome (one response)**
- **Involve all stakeholders – One size fits all will not work (one response)**

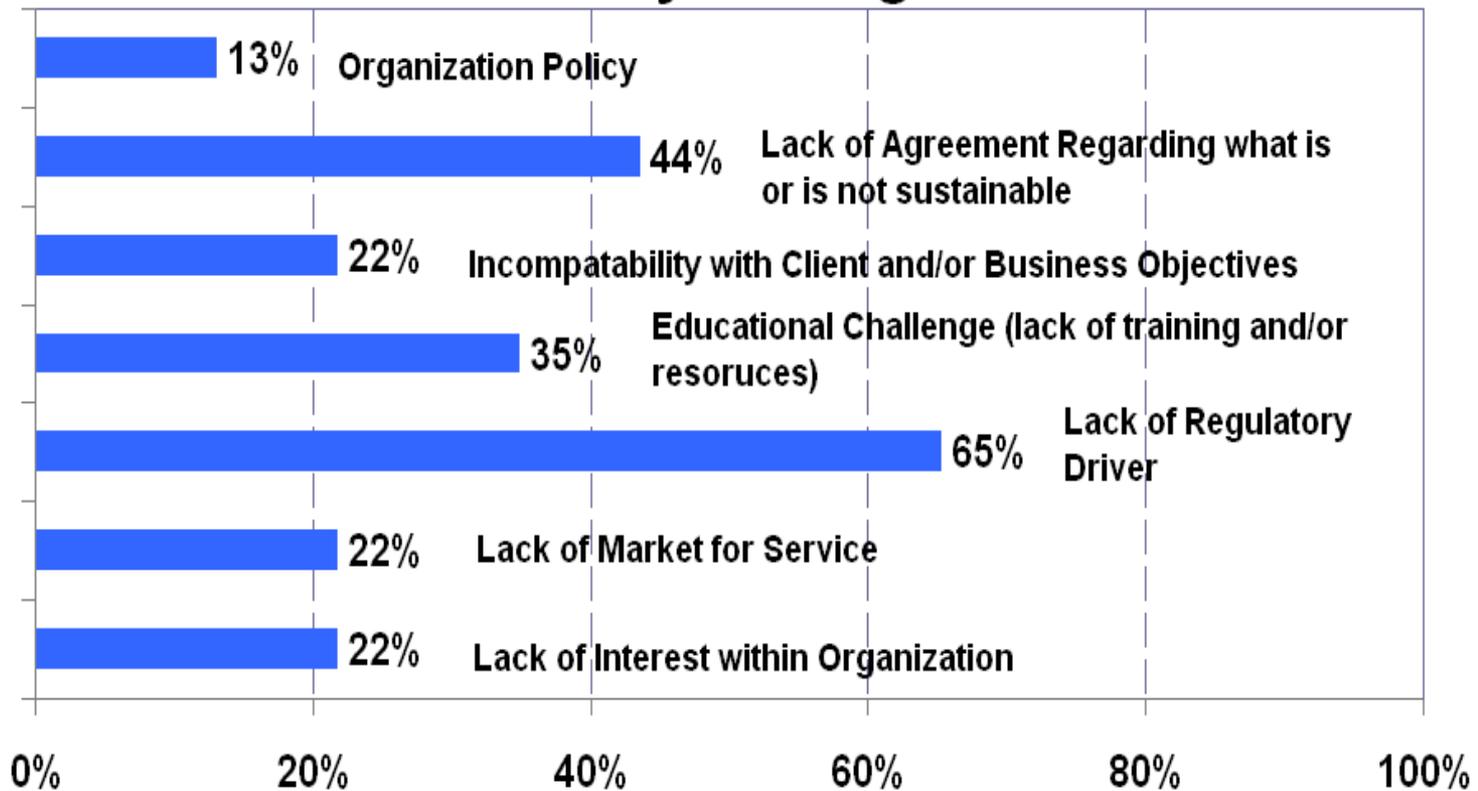
For Projects that Included Sustainability Element, What were some of the Challenges Encountered (SURF Members)?

- **Regulatory complications/resistance. Time issues lead to complications with communities and regulators**
- **Doing the work**
- **Problems when sustainability metrics make the decisions without considering other influencing factors**
- **Valuation of resources (e.g., how much is groundwater worth?)**
- **Education of the community and regulators**
- **How to incorporate sustainability in the remedy selection**
- **NIMBYism**

Does your Organization Have any Guidance, Policy, or Programs that Address Sustainability Practices in Remediation?



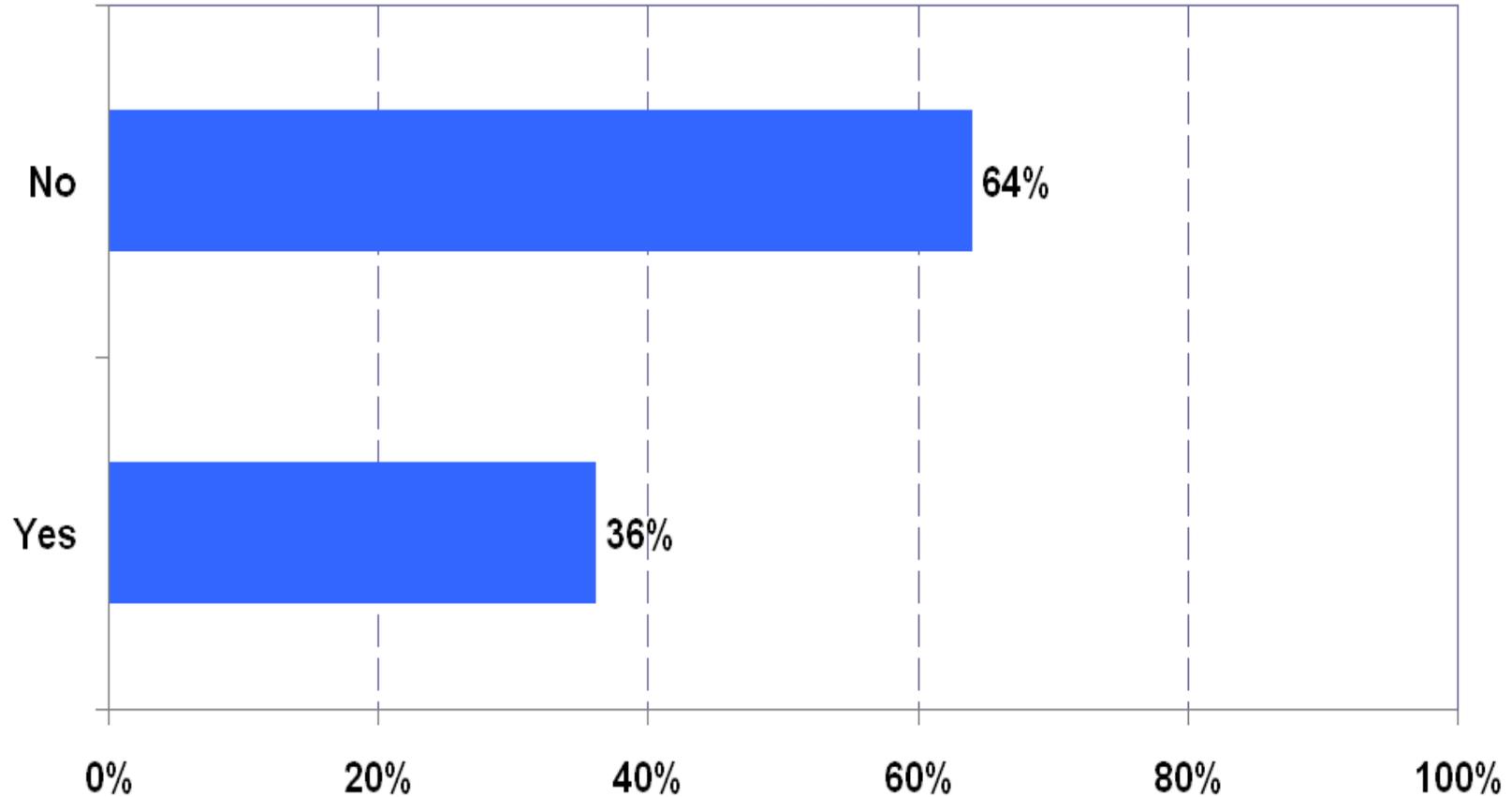
What do you Believe is the Most Significant Barrier to Incorporating Sustainable Remediation within your Organization?



Name one Change to Make Sustainable Remediation an Integral Part of Your Organization's Approach to Remediation (SURF Members)

- **Education (9 responses)**
- **Include sustainability in Project Startup Forms**
- **Incentives for sustainability in regulatory process**
- **Create a web tool to evaluate metrics for each technology**

Is Sustainable Remediation Marketed as a Service within your Organization?



Survey questions were prepared with the participation of:

- Carol Dona, U.S. Army
- John Englert, KL Gates
- William Gates, KL Gates
- Elie Haddad, Locus Technologies
- Mike Houlihan, Geosyntec
- Lowell Kessel, G.E.O.
- Dave Major, Geosyntec
- Chuck Newell, GSI
- Dick Raymond, Terra Systems
- Charlie So, Shaw Environmental
- Curtis Stanley, Shell
- Elizabeth Wells, RWQCB San Francisco Region

Discussion