

“Hot Off the Press: Results of the 2016 Crystal Ball Workshop”

Dallas, TX

April 13 & 14, 2016



Crystal Ball Workshop History

- Look over the horizon
- Spot the coming trends
- Share with the Members
 - Practice Alerts
 - Conference Presentations

Geo-Institute Co-Sponsorship



2016 Crystal Ball Workshop

- Kurt Fraese
- Beth Gross*
- Dan Harpstead
- Youssef Hashash*
- Charlie Head
- Art Hoffmann
- Kevin Hoppe
- Rich Johnson
- Mark Kramer
- Jay Martin
- Brad Melocik
- Nigel Miller
- Gerry Salontai
- Marty Taube
- Steve Thompson
- Woody Vogt

2016 Crystal Ball Workshop

Subject Matter Experts

- David Curtis, Vice President, WEST Consultants, Inc.
- Jack Hand, CEO, Power Engineers
- Jerry Sehlke, Bechtel Marine Propulsion Corp.

Facilitator

- Mark Cook, The Cross Group

Nexus of Water and Energy

thirsty energy

energy
and water's
interdependence

energy needs water

Energy production
processes require
water

- hydropower
- thermoelectric cooling
- power plant operations
- fuel extraction and refining
- fuel production

water needs energy

Water production, processing,
distribution, and end-use require
energy

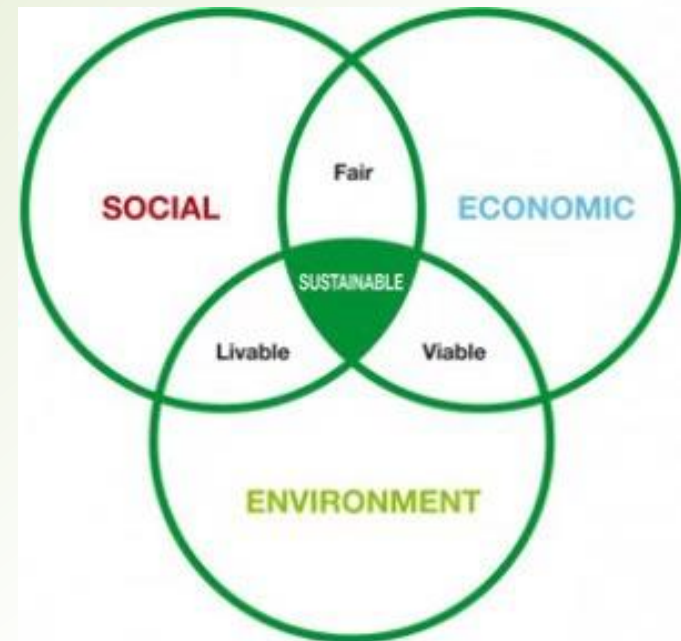
- extraction
- treatment
- transportation

CBW Process

- Reviewed Past CBW Trends
- Expert Presentations
- Captured topics of interest, importance, overlap
- Narrowed to the top 4 topics
- Developed and clarified topics in small groups
- Stated topics in form of a trend
- Identified drivers, opportunities and threats

Drivers / Disruptors

“Traditional planning and design approaches will be disrupted by changing social, economic and environmental demands.”



Trend 1

Resilience

"Society will demand infrastructure owners to consider long-term impact, life cycle cost, and resilient design concepts."



Trend 2

Storage

“Demands on our water and energy systems are changing and will require more flexible storage and conveyance infrastructure.”



Trend 3 Replacement

“Technology continues to make multiple energy sources viable. New replacement facilities will be built using a mix of those energy sources.”



Lightbulb Moments



What's Next?

