



TETRA TECH

Paths Forward: Current International and US Initiatives to Support More Sustainable Options for Uranium Production

**NMA/NRC Uranium Recovery
Workshop**

**Denver, Colorado
29 April 2008**

**Michelle Rehmann
Director of Uranium Projects**

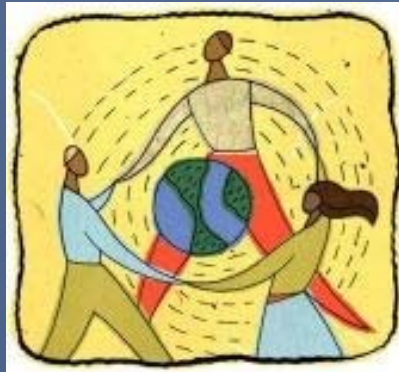
**Tetra Tech Inc.
USA**

Overview

- Sustainability
 - Why is it good for the uranium mining industry and stakeholders?
- IFSOUP
- IFSOUP Outcomes



SUSTAINABILITY



Sustainability

"Meeting the needs of the present without compromising the ability of future generations to meet their needs."

World Commission on Environment and
Development

"Our Common Future"

1987



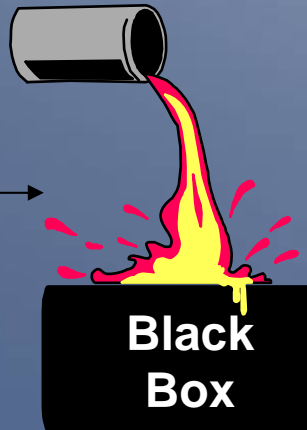
Evolution of Environmental Management

No Action



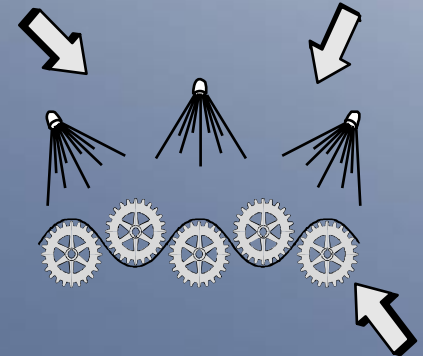
“See no evil,
Hear no evil,
Speak no evil”
Pre-1950

Control



**Black
Box**

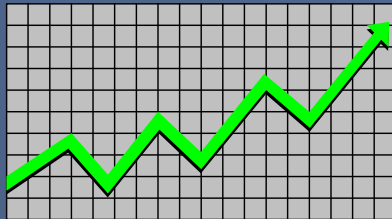
Prevention



“Attacking the Source”

1990 - 1998

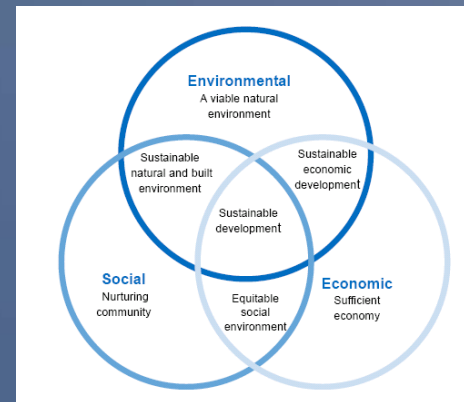
EMS/ISO 14001



“Continuous
Improvement”
1997 - present

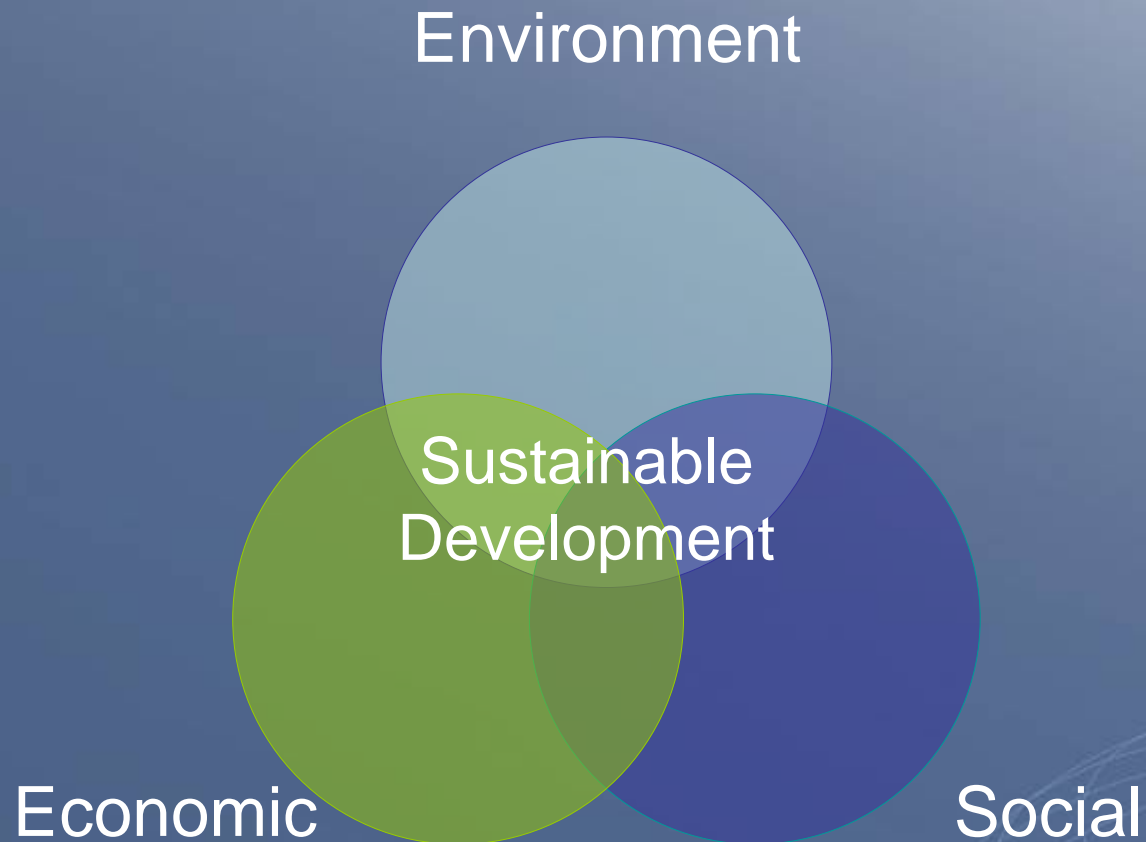
“The Technology Fix”
1950 - 1990

Sustainability



2000 - present

The Triple Bottom Line



Sustainable Development

“One of the slipperiest pieces of soap you are ever likely to find in the shower.”



Peter Woodward
Shell Expo SD Workshop
March 2000

Operating in a Fishbowl



Implementing Sustainability...

depends on your perspective



Common Principles



- Transparency
- Valuation
- Integration
- Community
- Conservation
- Equity
- Global Integration
- Best Practice
- Human and Natural Capital
- Continual Improvement
- Governance



Relevant Initiatives

- National Mining Association
- Global Mining Initiative
- Mining, Minerals, and Sustainable Development Initiative
- International Council on Mining and Metals
- Global Reporting Initiative



Taking the Next Step

■ MMSD

- 7 Questions to Sustainability
- 9 Key Sustainable Development Challenges for Mining

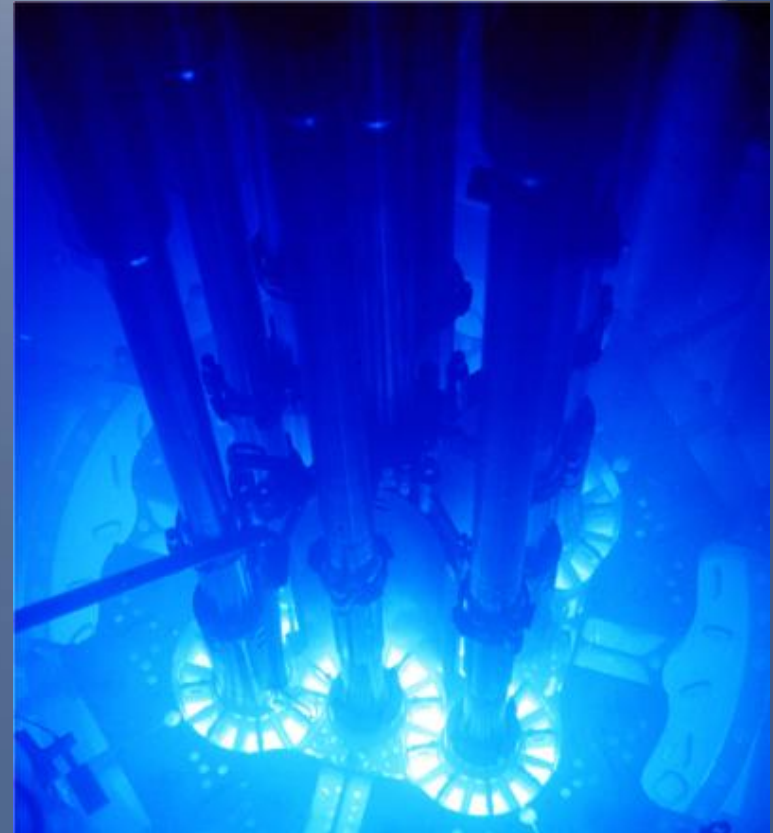
■ ICMM

1. 10 Principles for Sustainable Development Performance
2. GRI Reporting
3. Independent Verification



Nuclear Demand

- 16% of worlds electricity and 18% of US electricity
- 103 nuclear reactors in US
- 30 new nuclear reactors over next 15 years
- 74 million pound annual shortfall anticipated



Driving the Demand for Uranium – a global “Nuclear Renaissance”

- Domestic Uranium Production 2 – 3 million pounds
- 104 Power Reactors in United States – with 31 more planned by 2015
 - Annual Requirements 51 – 52 million pounds
 - 71% of US carbon-free electricity
 - New reactor requirements
- Energy Security/Dependence on Foreign Sources of Energy



Sustainability Contacts

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International Forum on Sustainable Options for Uranium Production IFSOU

IFSOUP

- Originated during ICEM 07 Conference in Bruges-Belgium
- Concept: adopt sustainability practices to avoid legacy sites
- Means to organize:
 - Workshops
 - Training courses
 - Forums for debate
 - Information dissemination



IFSOUP

- Independent think tank entity developed to bring together:
 - Industry
 - Regulators
 - NGOs
- Purpose: foster and implement sustainable options for uranium production
- Inaugural meeting held as a separate forum during WM Symposium 2008 in Phoenix in February
 - Hosted by Tetra Tech
 - Participant support of industry, regulators, and NGOs

IFSOUP Inaugural Meeting Participants

- IAEA
- US NRC
- International Institute for Indigenous Resource Management
- WNA
- CETEM, Brazil
- CNEA, Argentina
- BLM
- Saskatchewan Environmental Assessment Branch
- CAMECO
- WM Mining Inc.
- Virginia Uranium Inc.
- University of Texas El Paso
- Tetra Tech
- Talisman

IFSOUP Objectives

- International forum to discuss and exchange experience on sustainable uranium mining
- Solution holders ↔ problem holders
- Technology transfer
- Promote stakeholder participation
- Mining company assistance



IFSOUP Objectives Continued

- Multi-sector, forum for workshops, panels, and short courses
- Globally driven
- Aid junior operators, state-owned enterprises, regulators and other stakeholders
- Cooperate with IAEA's efforts



Topics

- Define sustainability in context
- Coordination of worldwide initiatives
- Indigenous peoples
- Principles of Code of Practice
- Cameco Sustainability Approach
- ISL – technical and environmental issues
- Uranium mining in previously unmined countries
- Success stories



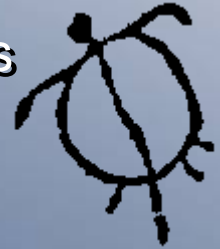
Results

- Good examples exist
- Challenge to disseminate
- Further discussion of ISL technical issues
- Communication constraint
- Further discussion of specific needs of indigenous peoples



Tribal Member Delegation

- Coordinated with the International Institute of Indigenous Resource Management
- Tribal Member Participants
 - Navajo
 - Spokane
 - Oglala Sioux
 - Acoma
- Industry Donors
 - Black Range Minerals
 - Uranium Energy Corp.
 - Uranium Resources Inc.
 - Powertech Uranium, Inc.
- Pre-Workshop Sustainability Discussion and Attendance at NMA/NRC 2008 Uranium Recovery Workshop



Thank You!



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Next Steps

- IAEA's Network of Centers of Excellence on Environment Remediation
- UMREG September 2008 meeting in Germany
- Present results at NMA/NRC 2008 Uranium Recovery Workshop
- International Journal of Mining and Mineral Engineering
- Secretariat
- SME 2009 Annual Meeting and Exhibit:
22 – 25 Feb 2009



IFSOUP Contact

www.wmsym.org/html/ifsoup.cfm

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TETRA TECH

Review

- Sustainability in Uranium Mining
- IFSOUP
- IFSOUP Outcomes





QUESTION PERIOD

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