
Carbon Tech Alliance
Collaboration for Success
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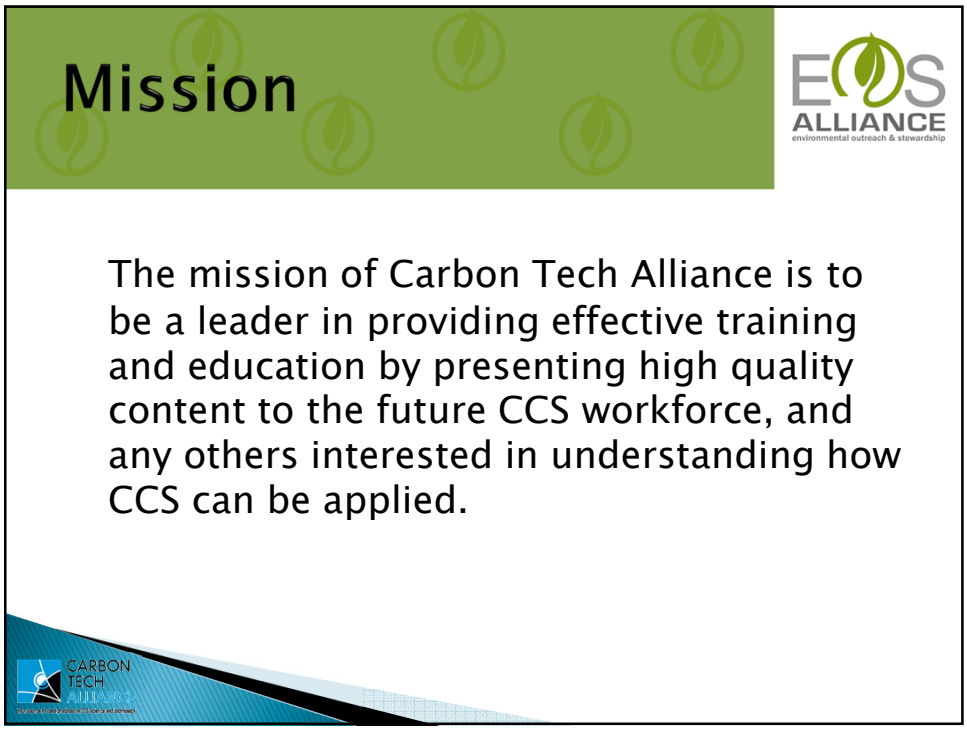
Executive Director, EOS Alliance
October 26, 2011
CARBON TECH ALLIANCE
Your source for best practices in CCS science and technology


Mission
EOS ALLIANCE
environmental outreach & stewardship
The mission of Carbon Tech Alliance is to be a leader in providing effective training and education by presenting high quality content to the future CCS workforce, and any others interested in understanding how CCS can be applied.
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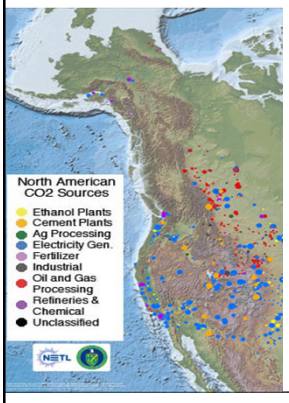
Initial Scope of Program

Topics:

- CCS overview
- site characterization
- site selection
- permitting and liability
- public perception and communication
- drilling issues
- CO_2 injection
- Monitoring/ verification

Initial Scope of Program



Geographic focus:

- Northwestern U.S. and western Canada

Credit Hours/Cert's:

- professional development Hours (PDHs)
- certification programs

Initial Scope of Program

Who:

- industry managers
- legislators and their staff
- engineers
- geologists
- technicians
- students
- general public

How:

- lectures and multiple-day short courses
- courses will integrate CCS topics
- tours of facilities conducting CO_2 sequestration research
- Symposiums

Carbon Tech Alliance Partners

- **Environmental Outreach and Stewardship (EOS) Alliance – Lead**
- **Pacific Northwest National Laboratory**

Project History

- **101 CCS Lecture** – presented May 2010 and developed into video
- **Advisory Board** recruited June 2010 and has met two additional times
- **Marketing Plan**– presented at Advisory Board meeting
- **Carbon Tech Alliance Website** – went live Oct. 4, 2010
- **Fundamentals of CCS** – 2 day course June 2011, produced video of entire training
- **Symposium –** organized with local University
- **CCS Exchange** – quarterly newsletter delivered

Fundamentals of CCS
Richland, WA June 2011

I. What is CCS?	Pete McGrail –PNNL
II. CCS Facility Siting	Tom Anderson – PNNL
III. CCS Project Permitting	John Storman – WA Dept. Ecology
IV. Risk Assessment on MVA	Wayne Rowe – Schlumberger
V. Managing Liability	Lee Gresham – Carnegie Mellon
VI. Site Characterization	Charlotte Sullivan – PNNL
VII. Public Perception	Gretchen Hund – PNNL
VIII. Status of CCS	Pete McGrail – PNNL
IX. Geological Core Analysis	Charlotte Sullivan – PNNL

Advisory Board

Dr. Stefan Bachu, PEng
Distinguished Scientist, CO2 Storage
Alberta Innovates – Technology Futures

John Biggane, RG, LG, LEG, LHg
Senior Principal/Geo Engineers, Inc.

Will Einstein
Manager of Emerging Technology and Climate Change Puget Sound Energy

Gretchen E. Hund
Senior Staff Scientist
Pacific Northwest National Laboratory

Dr. Wayne Lei, Chairman
Director of Research and Development
Portland General Electric

Charlotte Sullivan, Senior Research Scientist
Applied Geology and Geochemistry
Energy and Environment Directorate
Pacific Northwest National Laboratory

Lucinda Low Swartz, Esq.
Lucinda Low Swartz Environmental Consulting

David Szatmary, PhD
Vice Provost
University of Washington Educational Outreach

David Weatherby
Senior PM/Senior Geologist
URS Corporation

Malcolm Wilson, PhD
Director – Office of Energy and Environment
University of Regina

John Wolff, PhD
Professor & Director of GeoAnalytical Lab
School of Earth & Environmental Sciences
Washington State University

Training Platform

- Build on NWETC Training model
- Collaborate with high-quality partners
- Use the right approach with the right students
- Pre and Post Service Professionals
- Use Web and Social Media tools
- Utilize feedback cycle

Key Issues going forward

- Develop strength-based regional partnerships
- Develop Program – Train – Deliver
- $$$ Collaborative funding and resource utilization
- Target workforce – ????? What is it
  - Pre-service
  - Grad and post-grad
  - TAW – total available workforce
  - TNW – total necessary workforce
  - Job qualifications – general vs. specific

Big and Small Picture

- Big Picture – what is it?
  - Have we accurately assessed TAM?
  - Are we ready if/when the TAM hits?
- Small Picture
  - Feasibility
  - People to work
- Can good science become high quality work with greater meaning and family wages?

Building Community Via Web/ Social Media

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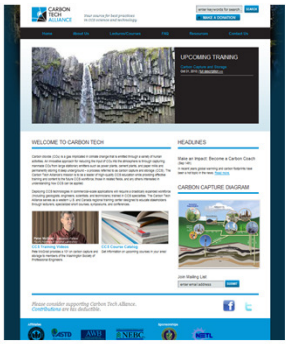
www.carbontechalliance.org



@CarbonTechNW

"Carbon Tech Alliance"

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Brief Questions or Comments

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Thank you.