

CHIARA TRABUCCHI

Ms. Trabucchi's primary areas of expertise are corporate finance, accounting and environmental economics. As a Principal with Industrial Economics, Incorporated (IEc), Ms. Trabucchi is a nationally recognized expert in financial responsibility and liability risk management models. She is an expert in evaluating the financial integrity of business, non-profit and governmental organizations. She often is asked to apply her expertise in the context of rigorous verification and auditing standards. She regularly consults to public- and private-sector clients, assisting in the design of financing and liability management frameworks to hedge risks from environmental obligations.

Short descriptions of recent projects that highlight Ms. Trabucchi's experience follow.

- Directed an assessment of the economic impacts associated with the Securities and Exchange Commission's proposed proxy access rule. Analyzed the degree to which proxy access reform would be beneficial to market performance, stock performance and board performance. Client includes CFA Institute.
- Providing expert economic and financial analysis in support of settlement negotiations involving the phosphate and nitrogen fertilizer industries for the U.S. Department of Justice. Environmental obligations at issue span properties in Florida, Mississippi, Louisiana, and Texas, with total environmental obligations in excess of \$2 billion.
- Provided expert analysis to the State of California in a litigation case involving the assessment of differential fees charged to nonresidents for four California fishing permits, licenses and registrations.
- Provided expert analysis in a private, civil litigation case involving alleged property damages from environmental contamination in excess of \$50 million. Derived estimates of economic damages associated with lost profits, property diminution and natural resource damages.
- Provided expert analysis in a private, civil litigation case involving alleged environmental contamination in connection with the redevelopment and reuse of waterfront property. Designed a financial risk management framework to address near, medium and long-term financial assurances associated with the investigation, remediation and long-term care of property parcels.
- Directing a team supporting the U.S. EPA's efforts to design financial instruments and analyze the economic impacts of various financial responsibility options under the prospective CERCLA 108(b) rulemaking. Efforts include designing a suite of financial assurance mechanisms applicable to the mining, oil and gas and electric power generation sectors, including analysis of economic impacts to the hard rock mining and electric power sectors.

- For myriad public- and private-sector clients, directed the review of approximately 1,500 financial instruments. Reviews spanned 40 states, all 10 EPA Regions, and approximately 1,000 corporate entities for an estimated total face value of \$4 billion in financial assurance associated with closure and post-closure obligations, and an estimated total face value of \$1.2 billion in financial assurance associated with long-term care, corrective action obligations. Reviews spanned myriad industry sectors, including chemical manufacturing, waste management, energy and utility, air travel, auto manufacturing, oil and gas, pulp and paper, pharmaceutical, mining, lumber and wood products, agricultural, and metals mining. Reviews address myriad statutory requirements, including RCRA, SDWA, TSCA and CERCLA.
- Directed a compliance and improper payments audit on behalf of the U.S. EPA's Office of the Chief Financial Officer and the EPA's Office of Grants and Debarment, related to funds appropriated under the American Recovery and Reinvestment Act. Efforts involved designing and implementing a compliance audit framework to validate and verify management integrity and fiscal accountability associated with \$7.18 billion in activities funded under ARRA. Structured the audit, and related verification protocols to align with established GAO Internal Control Standards, as well as OMB ARRA accountability criteria. Audit objectives focused on identifying areas of fraud, waste and abuse with respect to appropriated funds across EPA funded programs, including its multi-billion dollar State Revolving Funds. Findings were presented before the OIG and OMB.
- Directing a team in implementing a risk-based probabilistic model (CCSvt) to evaluate the potential financial consequences of carbon capture and storage at a coal-fired power plant in the Southeastern United States. Clients include members of US DOE's Southeastern Regional Carbon Sequestration Partnership.
- Directed a team to design, develop and implement a risk-based probabilistic model (CCSvt) to evaluate the potential financial consequences of CO2 migration at three candidate carbon capture and storage sites involving coal-fired power plants. Clients include a consortium of funding sponsors from firms in the electric power generation and oil and gas sectors, non-governmental organizations, the Government of Alberta, and the Global CCS Institute.
- Directed a multi-disciplinary cost verification effort associated with the injury assessment of the Lake Roosevelt / Upper Columbia River Basin. Providing cost documentation and audit verification assistance to seven Trustees, including USGS, BLM, BOR, BIA, FWS, DOI, NPS. Cost documentation and audit protocols involve cross verifying technical progress reports against general ledger finances in each Trustees automated financial accounting systems. Findings support cost recovery efforts, including multi-jurisdictional settlement negotiations, related to the multi-year restoration of the 150-mile stretch of contaminated property.

Congressional Testimony & Hearings

U.S. Senate Permanent Subcommittee on Investigations, Committee on Homeland Security & Governmental Affairs. Wall Street Bank Involvement With Physical Commodities. November 2014.

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U.S. Senate Committee on Energy and Natural Resources. Senate Bill 699, Department of Energy Carbon Capture and Sequestration Program Amendments Act of 2011. May 2011.

U.S. Senate Committee on Energy and Natural Resources. Senate Bill 1013, Department of Energy Carbon Capture and Sequestration Program Amendments Act of 2009. May 2009.

Hearings before the U.S. Federal Interagency Task Force on Carbon Capture and Storage established by President Obama on issues related to financial investment, indemnification and financial responsibility. May 2010.

Expert Witness Support

Arbona et al. v. Trustees of the Corcoran Gallery of Art CA 0003745B. 2014.

Marilley, Kevin, et al. v. Fish & Game, CA Dept., John McCamman, et al. No. 43151 420 SF2011201820. 2013.

Hackensack Riverkeeper, Inc. v. Honeywell International Inc., D.N.J., Civ. No. 06-cv-0022. 2010.

United States / Philadelphia Housing Authority v. Sun Refining, Atlantic Richfield Refining Company, et al. No. 06-1635. 2010.

Professional Societies

- Member, University of California, Santa Barbara Bren School of Environmental Management, Eco-Entrepreneurship Advisory Council
- Member, U.S. EPA's Environmental Financial Advisory Board (EFAB).
- Member, U.S. DOE's National Risk Assessment Partnership (NRAP) Stakeholder Group.
- Advisory Board Member, MGSC Sequestration Technology Training Center (STTC), Illinois State Geological Survey.
- Advisory Member, WRI CCS Guidelines Project.
- Advisory Member, the International Energy Agency (IEA)/Greenhouse Gas R&D Programme.
- Peer Reviewer for the *International Journal of Greenhouse Gas Control*.

Selected Publications

Trabucchi, Chiara, Michael Donlan, Vadim Spirt, Scott Friedman and Richard Esposito. "Application of a Risk-Based Probabilistic Model (CCSvt Model) to Value Potential Risks from Carbon Capture and Storage," Energy Procedia, Volume 63, 12th International Conference on Greenhouse Gas Control Technologies, GHGT-12 (2014) Pages 7608-7618, doi:10.1016/j.egypro.2014.11.795.

Trabucchi, Chiara, Ellen Fitzgerald, Matthew Orsagh, Robert W. Dannhauser, James Allen. "Proxy Access in the United States: Revisiting the Proposed SEC Rule." CFA Institute. Vol. 2014.

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No. 9. August 2014. <http://cfainstitute.org/learning/products/publications/ccb/Pages/ccb.v2014.n9.1.aspx?WPID=BrowseProducts>

More, Jeffery, The Honorable Sherwood Boehlert, Ben Harper, Lindene Patton and Chiara Trabucchi. 2012. "Commercialization of Carbon Sequestration Projects; Scaling from Research to Reality." *Fall 2012 International Pittsburgh Coal Conference*.

Trabucchi, Chiara, Michael Donlan, Michael Huguenin, Matthew Konopka and Sarah Bolthrunis. "Valuation of Potential Risks Arising from a Model, Commercial-Scale CCS Project Site." Global CCS Institute. June 2012. <http://cdn.globalccsinstitute.com/publications/valuation-potential-risks-arising-model-commercial-scale-ccs-project-site>

Donlan, Michael and Chiara Trabucchi. "Valuation of Consequences Arising from CO₂ Migration at Candidate CCS Sites in the U.S.," *Energy Procedia*, Volume 4, Proceedings of the 10th International Conference on Greenhouse Gas Control Technologies (GHGT-10) (2011) Pages 2222-2229, doi:10.1016/j.egypro.2011.02.110.

Dooley JJ, C Trabucchi, and L Patton. 2010. "Design Considerations for Financing a National Trust to Advance the Deployment of Geologic CO₂ Storage and Motivate Best Practices." *International Journal of Greenhouse Gas Control* 4(2):381-387. doi:10.1016/j.ijggc.2009.09.009.

Trabucchi C, M Donlan, and S Wade. 2010. "A Multi-Disciplinary Framework to Monetize Financial Consequences Arising from CCS Projects and Motivate Effective Financial Responsibility." *International Journal of Greenhouse Gas Control* 4(2):388-395. doi:10.1016/j.ijggc.2009.10.001.

"CCS Guidelines: Guidelines for Carbon Dioxide Capture, Transport, and Storage." Contributing Stakeholder. World Resources Institute. 2008.

Trabucchi, C., and L.E. Patton. 2008. "Storing Carbon: Options for Liability Risk Management, Financial Responsibility." *World Climate Change Report The Bureau of National Affairs*.

Selected Presentations

Invited Presenter at Greenhouse Gas Control Technologies (GHGT-12) Conference. *Application of a Risk-Based Probabilistic Model (CCSvt Model) to Value Potential Risks from Carbon Capture and Storage*. October 7-10, 2014.

Invited Speaker at *Hydraulic Fracturing Disclosure Laws: Are We Getting the Information We Really Need?* Sponsored by Harvard Law School, Environmental Law Program. 2013-2014 Environmental Policy Speaker Series.

Invited Speaker at 2013 Midwest Geological Sequestration Science Conference. *Financial Assurance 101*. October 2013.

Invited Speaker at *Platts: European Carbon Capture & Storage 2013*. "Storage Liability, Risk Transfer and the Urgent Need for Clarity." January 31, 2013.

Invited Speaker at *Global CCS Institute: International Members Meeting Calgary 2012*. "Defining and Quantifying CCS Risk and Liability." October 11, 2012.

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Invited Speaker at *Emerging Technologies Committee* sponsored by the U.S. Chamber of Commerce. October 2010.

Invited Presenter at Greenhouse Gas Control Technologies (GHGt-10). *Valuation of Environmental, Human Health and Financial Consequences Arising from CO2 Migration at a Candidate CCS Site to Motivate Sound Public Policy and Financial Investment*. September 19-23, 2010.

Invited Expert at *Carbon Capture and Sequestration (CCS) Liability Workshop*. U.S. Senate Energy & Natural Resources Committee & U.S. Senate Commerce, Science and Transportation Committee. June 18, 2010.

Invited Panelist at *American Bar Association Section of Environment, Energy and Resources' Environmental Issues*. June 14-15, 2010.

Invited Expert at U.S. Federal Interagency Task Force on Carbon Capture and Storage's Working Group on Legal and Regulatory Issues. *Design Considerations for Liability Management Related to the Deployment of Carbon Capture and Storage Technologies*. April 2010 (closed hearing), May 2010 (public hearing).

Invited Panelist at *Carbon Capture and Storage: Bridging the Commercial Gap*, sponsored by the International Energy Agency (IEA), the Coal Industry Advisory Board (CIAB), the Carbon Sequestration Leadership Forum (CSLF) and the Global Carbon Capture and Storage Institute (GCCSI). September 2009.

Invited Speaker at U.S. Department of Energy. *U.S. Climate Policy & Carbon Reduction Options*, June 2009.

Invited Speaker at The George Washington University. *GHG Technology, Public Policy and the Law*, April 2009.

Invited Panelist at Harvard Law School Environmental Law & Policy Clinic. *Overcoming Legal and Financial Obstacles to CCS*, March 2009.

Invited Speaker at Energy Insurance Mutual Annual Conference. *U.S. Climate Policy & CCS: Options for Liability Risk Management, Financial Responsibility*, February 2009.

Invited Speaker at 2009 Carbon and Climate Change Conference (CH09), University of Texas. *Liability and Sequestration*, February 2009.

Invited Speaker at International Energy Agency (IEA) CCS Regulators' Network. *CCS: Regulatory Approaches to Address Liability*, January 2009.

Professional Experience

Industrial Economics, Incorporated, 1995-Present

Principal, 2003-Present

Director, 2005-Present

Chief Financial Officer, January 2011-September 2013

The Cadmus Group, 1991-1995

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