Committee on Energy and Commerce
U.S. House of Representatives
Witness Disclosure Requirement - "Truth in Testimony"
Required by House Rule XI, Clause 2(g)

1. Your Name: Harry Vidas		
2. Are you testifying on behalf of the Federal, or a State or local government entity?	**Yes**	**No** X
3. Are you testifying on behalf of an entity that is not a government entity?	**Yes** X	**No**
4. Other than yourself, please list which entity or entities you are representing: ICF Resources, L.L.C.		
5. Please list any Federal grants or contracts (including subgrants or subcontracts) that you or the entity you represent have received on or after October 1, 2011: None		
6. If your answer to the question in item 3 in this form is "yes," please describe your position or representational capacity with the entity or entities you are representing: Vice President		
7. If your answer to the question in item 3 is "yes," do any of the entities disclosed in item 4 have parent organizations, subsidiaries, or partnerships that you are not representing in your testimony?	**Yes** X	**No**
8. If the answer to the question in item 3 is "yes," please list any Federal grants or contracts (including subgrants or subcontracts) that were received by the entities listed under the question in item 4 on or after October 1, 2011, that exceed 10 percent of the revenue of the entities in the year received, including the source and amount of each grant or contract to be listed: None		
9. Please attach your curriculum vitae to your completed disclosure form.		

Signature: [redacted] **Date:** February 1, 2013

E. Harry Vidas
Vice-President, Energy, ICF International

EDUCATION

M.A., International Relations and Economics, Johns Hopkins University School for Advanced International Studies, Washington, D.C., 1979.
B.A., History and Economics, s*umma cum laude*, Dartmouth College, Hanover, New Hampshire, 1976

EXPERIENCE OVERVIEW

Mr. Vidas is a recognized authority on oil, natural gas and other supply; carbon sequestration; and energy markets. He leads a team of geologists, engineers and economists to analyze North American and World fuel supplies, transportation infrastructure, and enduse. He has directed projects related to international oil and natural gas supply, gas processing, LNG production and shipping, pipeline transmission, underground storage, gas-to-liquids processes, biofuels, synthetic fuels and enduse markets. He has performed resource bases analyses and economics studies of conventional oil and gas, enhanced oil recovery, tight gas, CBM, gas shales and tight oil in the United States, Canada and other countries.

PROJECT EXPERIENCE

Fuel Supply

Canadian Oil Production and Logistics. (2012) For a confidential client supervised an investigation of the likely production levels and transportation option for WCSB oil sands, conventional oil and tight oil and its transportation options. The study focused on rail and marine alternatives to pipeline transportation and the likely impact of shipping costs and regional price differences.

Strategic Analysis of Pipeline Opportunities (2012): For a major North American pipeline company ICF prepared an analysis for the board of directors of future oil and gas pipeline trends and the opportunities to convert individual pipeline segments from natural gas to oil service. The analysis concentrated on future production of oil sands and tight oil in Canada and the U.S. and the future use of diluents to transport oil sands production.

Economic Impact Assessment of New Natural Gas and Oil Supplies (2012): For the Clean Skies Foundation is directing a study of the impacts of new natural gas and oil supplies stemming from upstream technological advances on the U.S. economy in the last five years and as projected for the next five years. Includes analysis on impacts of GDP, tax revenues, balance of trade and jobs from upstream, midstream and downstream sectors plus impacts on gas-using and NGL-consuming industries including power generation, petrochemicals and non-chemical industrials.

Mozambique Natural Gas Supplies and Infrastructure (2012): As part of a comprehensive gas planning exercise for the Government of Mozambique and the World Bank is supervising an resource assessment and economic analysis of discovered and undiscovered natural gas and the infrastructure needed to produce, transport and utilize/transform it for domestic and international markets.

International Natural Gas Supply Modeling, EIA (2012): Supervising development of natural resource estimates and supply curves for EIA International Natural gas Model (INGM). Work includes estimating the resource base size and cost of gas shales around the world

Crude Oil and Natural Gas Liquid Infrastructure (2011): Managed a multi-client study of the pipeline and processing plant infrastructure needed to be needed to produce crude oil and natural gas liquids in the US and Canada over the next 25 years. Study focuses on potential production of liquids-rich shale and tight sands plays that are expanding due to new technologies.

LNG Export Siting Study (2011-12): Supervised siting study for LNG export terminal on Pacific Coast of U.S. and Canada. This work identified and scored approximately 65 potential export sites and included

performing pre-FEED design layouts, cost estimates and desk-top environmental reviews on five of those sites. Ranking criteria incorporating weather conditions, available labor force, unionization, economy, housing, material availability, transportation, traffic, socioeconomic conditions, accessibility to gas supplies and environmental factors.

North America Oil and Gas Resources and Activity Modeling, National Petroleum Council, 2010. Directed modeling effort to evaluate economics and forecast drilling and production from North American unconventional gas plays through 2050. Evaluated various technology and regulatory scenarios for the US and Canada. Developed estimates of key energy and material balances for each energy type including water use, steel use, rig, employment, etc...

Field Development Cash Flow Model (2011): Developed a model for a major Middle East National Oil Company of the economics of developing existing and new domestic oil and gas fields. This is part of a larger model being developed by ICF to estimate how domestic and export demands for oil and gas will be met over the next 20 years with new field development, pipelines, processing and refining investments.

North American Natural Resources, America's Natural Gas Alliance, 2009-10. Directed detailed play-level analysis for future US and Canadian natural gas supply based on proprietary geologic and engineering data supplied by ANGA members.

Hydrogen Supply and Infrastructure: For the Department of Energy's Hydrogen Program manged a multi-year project to incorporate biofuel, nuclear and fossil fuel feedstock sources of hydrogen and hydrogen distribution system into a new multi-region version of BNL's MARKAL model.

Oil and Gas Supply, Gas Research Institute, 1981 to 2003. Directed development of the EEA Hydrocarbon Supply Model which is used to predict oil and gas reserve additions, production and costs in North America. Model development and applications work involved supervision of staff of up to five (geologists, engineers, economists, computer analysts) over 15 years. Effort included supervising assembly and analysis of large oil and gas field and drilling data bases, statistical analysis, conceptual design, and model coding. Project also included verification of Hydrocarbon Supply Model through presentation of data, assumptions, and results to oil and gas industry representatives.

GASIS Database, U.S. Department of Energy, 1992-1997. Directed a multi-year effort for the U.S. Department of Energy to develop a computerized database of geologic and engineering parameters of major natural gas and oil reservoirs in the United States.

Gas Composition and Unconventional Gas Databases, Gas Research Institute, various years. Directed efforts for the GRI to characterize chemical compositions of natural gases in the United States and future gas processing costs. Has directed another study for GRI to identify and develop statistics for nonconventional well completions in the U.S. and Canada.

Oil and Gas Supply Model Reviews, US Department of Energy, 2005 and prior. Participated in expert review panel for natural gas supply and demand portion of DOE/EIA's NEMS model and is a member of peer review group for DOE/Fossil Energy's GSAM model. Also served as peer reviewer of DOE effort to combine GSAM and TORIS, and for models used to assess DOE's technology programs.

Analysis of Natural Gas Markets

Natural Gas Supply and Market Analysis, National Petroleum Council, 1992, 1999 and 2003. Directed EEA's forecasting work for the 2003 National Petroleum Council Study of North American gas markets through 2025. Worked with Supply Task Group on all aspect of resource base characterization, costing and supply forecasting for the U.S. and Canada. EEA was the lead contractor for the study, which involved an extensive analysis of natural gas enduse markets, transportation, storage as well as supply. Mr. Vidas also directed EEA's modeling work for NPC studies published in 1992 and 1999.

Assessment of Gas Infrastructure Needs, INGAA Foundation, 2005 and prior years. Conducted study on projected pipeline and storage expenditures over next several years. Study included survey of planned construction by major interstate and intrastate pipelines and discussion with pipelines representatives of Order 636-related expenditures for metering and control. Helped prepare three updates of that study.

Monthly Natural Gas Market Analysis, Multi-Client, 1994-present. Directed EEA's efforts to develop the Gas Market Data and Forecasting System (GMDFS), to analyze and project monthly gas demand, production, flows and prices in North America. Products include monthly newsletter with short-term outlook, quarterly long-term outlook service and customized cases for clients.

Gas Storage Economics, Storage Project Developer, 2006. Performed market study of existing rates for natural gas storage and cost of new storage projects in the Northeast U.S.

Regional Gas Studies, Project Developers and Gas Buyers, various years. Participated in several studies of new LNG or pipeline facilities and effects on natural gas market volumes and prices.

Carbon Capture and Storage (CCS)

European Commission CCS Directive CCS (2010): Provided technical direction for project to prepare four guidance documents to EC member state related to setting up regulatory structure for CCS consistent with CCS Directive. Include document of risk assessment, site characterization, transfer of responsibility to state and financial security.

CCS Ready Policy for Global CCS Institute (2009): Directed project to conduct international workshops and write report on CCS Ready policy consideration and recommended practices for policymakers.
Market for CO2 for EOR (2007), For a coal gasification project developer, performed a study of potential enhanced oil recovery (EOR) markets for carbon dioxide in Alberta. The scope of this study included a description of CO2 use for EOR, geologic and engineering criteria for successful CO2 EOR, a screening and performance model of EOR in 10,507 Alberta oil pools, the economics for CO2 EOR in eligible pools, economics of pipeline transportation of CO2, and a cost analysis of competing sources of CO2 in Alberta.

Requirements for CO2 Pipeline Systems, INGAA Foundation. Mr. Vidas supervised ICF's recently completed a study for an association of gas pipelines and pipeline construction and support providers on the potential size of the CCS market through 2030 and the need for CO2 pipeline and other facilities in the US and Canada.

CCS Technologies and Costs, U.S. EPA. Supervised ICF's work in developing the Geosequestration Cost Analysis Tool (GeoCAT) for EPA to estimate the capacity and cost of geologic storage capacity throughout the US.

Regulation of Injected CO2, U.S. EPA (2008 to present). Working with EPA's Geologic Sequestration Workgroup (made up of the Office of Atmospheric Programs and Office of Ground Water and Drinking Water) to develop cost factors for geologic sequestration under a variety of regulatory alternatives under the Underground Injection Control (UIC). Includes estimating the unit costs under a variety of hypothetical regulatory requirements for site certification, measurement, monitoring, verification and mitigation at geosequestration facilities.

Industrial CCS Economic Model (multiple clients), Developed a data base of current and expected future US industrial sources of CO2 emissions from fuel combustion and industrial processes and a model of the economics of capturing, purifying and compressing that CO2 for CCS. Emissions are estimated using a detailed breakdown of industrial emissions by industry group, equipment type and fuel.

Electricity Markets

Gas/Electric Integration: (2012): For NERC managed project to write report on issues and recommendations for incorporating natural gas fuel supply reliability into electric power long term resource adequacy assessments. The report recommends a three-layer approach including Monte Carlo

simulation of natural gas system and electric system outages. This report is being integrated to NERCs Phase II Report on gas/electric reliability to be published in early 2013.

California Electricty Market Study, Indepedent Power Producer, 2003. Supervised study of California electricity market in 2000 and effect of price controls on imports and exports from the state.

Northeast Electricty Market Study, Group of Indepedent Power Producers, 2002 Conducted study of electricity prices from 1998 to 2001 in Northeast (NYISO, PJM, ISO-NE) and effect of trade barriers between ISOs.

Northeast Electricty Market Study, Group of Indepedent Power Producers, 2004. Conducted a study of economic effects of various RTO configurations in the Midwest.

Gas Procurement for Power Generation, Gas Research Institute, 2002. Supervised study of gas procurement practices by power generators including contract pricing provisions and risk management strategies.

SELECTED PUBLICATIONS AND PRESENTATIONS

Vidas, E.H. et. al., "Recommendations for Incorporating Fuel Availability into Electric System Long-term Resource Adequacy and Reliability Assessments," November 2012, for North American Electric Reliability Corporation (NERC)

Vidas, E.H. and R.H. Hugman, "North American Natural Resources," for America's Natural Gas Alliance (ANGA)

Vidas, E.H. et. al., "CCS Ready Policy Consideration and Recommended Practices for Policymakers," February 2010 for Global CCS Institute.

Vidas, E.H. and A. Elson, "Methodology and Results for Initial Forecast of Industrial CCS Volumes," EPA, January, 2009.

Vidas, E.H. and L. Crook, "Developing a Pipeline Infrastructure for CO2 Capture and Storage: Issues and Challenges," INGAA Foundation, February, 2009.

Vidas, E.H. and R.H. Hugman, "Availability, Economics, and Production Potential of North American Unconventional Natural Gas Supplies," INGAA Foundation, November, 2008.

Vidas, E.H. and R.H. Hugman, "Scoping Study of Innovative Future Natural Gas Sources," Clean Air Task Force, December, 2006.

Hugman, R.H., E.H. Vidas, "The Potential Impact of Future Coiled Tubing Microhole Drilling on U.S. Gas Development and Production," *Gas Technology Institute*, April 10, 2006.

E.H. Vidas, R.H. Hugman, "Economic Impacts of Proposed Montana CBM Water Management Regulations in the Powder River Basin," *Producer consortium*, January 2006.

Vidas, E.H. and Hugman, R.H., "Study of the Propane Industry's Impact on U.S. and State Economies," *Propane Education and Research Council*, November, 2004.

Vidas, E.H. and R.H. Hugman, "Balancing Natural Gas Policy – Fueling the Demands of a Growing Economy," [EEA contributions to resource base, land access, production performance, modeling results and market analysis chapters], *National Petroleum Council*, Washington, D.C., 2003.

Hugman, R.H. and E.H. Vidas, “Investigation of Undiscovered Gas Resources in Northeastern Mexico,” *Gas Technology Institute*, GTI Report no. 00/0022, 2000.

Vidas, E.H. and R.H. Hugman, “Meeting the Challenges of the Nation’s Growing Natural Gas Demand [EEA contributions to resource base, land access, production performance, and market analysis chapters], *National Petroleum Council*, Washington, D.C., 1999.

Springer, P.S., Hugman, R.H., Costinett, M.J. and E.H. Vidas, “Chemical Composition of Discovered and Undiscovered Natural Gas in the Continental United States – 1998 Update”, *GRI report* no. 98/0364.2, 1999.

Springer, P.S., Hugman, R.H., Costinett, M.J. and E.H. Vidas, “Unconventional Gas Field, Reservoir, and Completion Analysis of the Continental United States – 1998 Update”, *GRI report* no. 98/0364.1, 1999.

“Gas Information System (GASIS) Release 2”, CD-ROM Database prepared for the U.S. Department of Energy, Federal Energy Technology Center, 1999.

Haverkamp, D.S., Springer, P.S., and E.H. Vidas, "Development Cost of Undeveloped Non-Associated Gas Reserves in Selected Countries", report prepared for U.S. Department of Energy, 1991.

Hugman, R.H. and E.H. Vidas, “An Evaluation of Factors Contributing to the Potential for Regional Propane Market Disruptions in the United States,” *U.S. DOE, publication* DOE/PO/0002, 1993.

EMPLOYMENT HISTORY

ICF International	Vice President	2007-present
Energy and Environmental Analysis Inc.	Vice President	1997-2007
	Director	1989-–1997
	Project Manager	1979-–1989