

**RESUME OF  
THOMAS A. HEWSON JR.**

**PROFESSIONAL EXPERIENCE**

1981-Present **Energy Ventures Analysis, Inc.**

**Principal**

Directs firm's electricity and environmental practices. Provides regular power industry forecasts of future electricity demand growth, generation mix, regional power prices, inter-fuel competition, environmental compliance and production cost changes. Completed numerous studies examining the effect of future environmental regulation on grid reliability, fuel prices, supplier capacity decisions (new, repower, retire), generation/environmental technology choice, wholesale electric prices, renewable energy credit values and emission allowance values. Provides market assessments for new fuel, generation and pollution control technologies. Evaluated repowering generation technology options, costs and risks. Completed studies on renewable power options, production costs, operating performance, decommissioning plans, state REC values, incentives and price impacts. Performs assessments of electricity demand, energy conservation potential and alternative energy charge frameworks for power consumers.

Responsible for corporate emission allowance and renewable forecasts and assessments. Provides ongoing forecasts of emission trading market prices and fundamentals of existing Acid Rain SO<sub>2</sub> market, seasonal NO<sub>x</sub> market, CSAPR, RGGI and individual state new source offset markets. Assesses future market trading values for carbon dioxide. Evaluates wide range of state legislative multi-pollutant proposals and their effect on regional production costs, state GDP, and environmental benefits. Engaged in developing new rules and regulations to expand existing emission allowance trading markets to include non-traditional sources (e.g. mobile sources). Directs studies of biomass market price forecasts and analyses of regional power markets. Examines future renewable resources and cost for meeting state renewable portfolio standards.

Directs technical feasibility and environmental permitting studies. Expert in electric utility generation technologies, fuel upgrading and environmental control technologies. Work includes several plant specific analyses on the costs of reducing SO<sub>2</sub> emissions through allowance purchases, switching to lower sulfur fuels, least emission dispatching, plant retirements, repowering and FGD scrubber retrofits for all major coal and oil fired utility stations. Examined feasibility/costs of hazardous waste treatment/disposal for all major industrial waste streams in Louisiana.

1976- 1981 **Energy and Environmental Analysis, Inc.**

**Project Manager**

Responsible for environmental and regulatory analysis. Examined, for governmental and industrial clients, the requirements and associated impacts on current industrial practices of the Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, Toxic Substances Control Act, Safe Drinking Water Act, Fuel Use Act, Natural Gas Act, Natural Gas Policy Act,

Surface Mining and Reclamation Act and Occupational Safety and Health Act. Results of these policy, economic and technical analyses have been used for Congressional hearings, EPA rulemaking, court testimony, industrial policies, administrative hearings and permit negotiations. Developed Federal and state regulatory compliance strategies for the Department of Energy and several industrial clients. On behalf of several clients, he has applied for construction, NPDES, air, solid waste, hazardous waste, water use and land use permits.

Responsible for solid waste/hazardous waste management analyses. Evaluations have included analyses of solid waste and hazardous waste treatment/disposal options for the fertilizer, fermentation ethanol, petrochemical, inorganic chemical, electric utility, synthetic fuel, pulp and paper and mineral processing industries.

### **Publications**

Mr. Hewson has presented and published several papers on the electric utility industry and emission allowance markets. Also co-author on two papers on innovative wastewater treatment technologies.

### **Educational Background**

1976 B.S.E. (Civil Engineering), Princeton University.

Former vice chairman and member of the Alexandria Environmental Policy Commission

### **Testimony in State Regulatory Proceedings:**

#### Public Utility Commissions

Evaluation of Proposed Power Purchase Agreement Between Chugach Electric Association and Fire Island Wind, Regulatory Commission of Alaska Docket U-11-100 (September 2011) on behalf of the Attorney General's Regulatory Affairs and Public Advocacy Section

Major NERC Study Findings and Insights for ERCOT, Public Utility Commission of Texas Workshop on Proposed Environmental Regulations on Reserve Adequacy in ERCOT (Project #37897) (June 2011)

Evaluation of carbon risks and utility NOx reduction options contained in Public Service of Colorado Clean Air-Clean Jobs Act Compliance Plan, Public Utilities Commission of Colorado Docket 10M-245E (September 2010) on Behalf of Colorado Mining Association.

Assessment of Power Output and Environmental Claims of the Deerfield Wind Project- Testimony to Vermont Public Service Board Docket 7250 (April 2008, December 2008) on Behalf of Save Vermont Ridgelines

Identifying the Carbon Risk for a New Power Generation Decision— Big Stone II – Testimony to South Dakota Public Utilities Commission Case EL05-022 (June 2006), Minnesota Public Utilities Commission Docket Numbers CN-05-619 & TR-05-1275 (December 2006, January 2008, November 2008) and North Dakota Public Service Commission Case PU-06-481, PU-06-482 (April 2008) on Behalf of Big Stone II Partnership

Beech Ridge Energy LLC Decommissioning Cost Evaluation, West Virginia Public Service Commission Docket 05-1590-E-CS (October 2008) on Behalf of Mountain Communities for Responsible Energy

Review of the Jordanville Wind Project Alternative Analysis—Evaluation was part of New York Public Service Commission Case 06-E-1424 on Behalf of Otsego 2000 (August 2007, October 2008)

Evaluation of the carbon risks and utility CO2 reduction options for Public Service Colorado 2007 Proposed Resource Plan to Replace the Cameo and Arapahoe Coal Units with a Natural Gas Combined Cycle Plant – Supplemental Rebuttal Testimony to Colorado Public Utilities Commission Docket 07A-44E (June 2008, July 2008 testimony) on Behalf of Colorado Mining Association

Identifying the Wind Power Alternative Risk for a New Power Generation Decision— Big Stone II – Testimony to South Dakota Public Utilities Commission Case EL05-022 (June 2006) & Minnesota Public Utilities Commission Docket Numbers CN-05-619 & TR-05-1275 (December 2006, January 2008) and North Dakota Public Service Commission Case PU-06-481, PU-06-482 (April 2008) on Behalf of Big Stone II Partnership

Progress Energy Florida Modular Cooling Tower Eligibility for Cost Recovery under Florida Environmental Cost Recovery Clause and Fuel Clause-- Testimony to Florida Public Utility Commission Docket # 060162-EI (March 2007) on behalf of Florida Office of Public Council

TECO FGD Reliability Upgrade Program Project Eligibility for Cost Recovery under Florida Environmental Cost Recovery Clause– Testimony to Florida Public Utility Commission Docket # 050958-EI (March 2007) on behalf of Florida Office of Public Council

Assessment of Environmental Claims for Proposed Highland Wind Energy Project—Testimony to Virginia State Corporation Commission Case # PUE-2005-00101 Rezoning Petition ZP-702 (October 2006) on Behalf of Highland Citizens Group

Assessment of Generation Claims of Proposed Roth Rock Project—Testimony to Maryland Public Service Commission Case # 9008 (October 2005) on Behalf of Citizens Group

Assessment of Environmental Claims of Proposed East Haven Wind Farm—Testimony to Vermont Public Service Board Case # 6911 (April 2005) on Behalf of Kingdom Commons Group

Evaluation of NRDC Proposed Alternatives to SCE Mohave Power Powerplant—Testimony to California Public Utility Commission Docket U-338-E (July 2004) on Behalf of Peabody Coal Company

Evaluation of Aurora-GVEA Chena Powerplant Power Purchase Agreement—Testimony to Alaska Regulatory Commission Docket #U-02-60 (September 2003) on behalf of Aurora Energy

Evaluation of Proposed Environmental and Renewable Provisions of the New England Electric System Deregulation Settlement Agreement—Testimony to Massachusetts Department of Public Utilities Docket 96-25 (November 1996) on Behalf of Center for Energy and Economic Development

State Environmental Agencies:

Mercury Policy Options and Impact on Georgia Ratepayers- Testimony to Georgia Dept of Natural Resources for its proceeding to develop Mercury Rule to Implement CAMR (December 2006) Testimony on Behalf of Center for Energy and Economic Development

Evaluation of Delaware Multi-Pollutant Proposed Regulation 1146—Testimony to Delaware Dept of Natural Resources and Environmental Control for its proceeding on state CAMR and CAIR Rules --May 2006 and September 2006 on Behalf of Center for Energy and Economic Development

Impact of Mercury Regulations on Pennsylvania Coal-Fired Powerplants- Testimony to Pennsylvania Dept of Environmental Protection for its proceeding to develop Mercury Rule to Implement CAMR (November 2005) Testimony on Behalf of Pennsylvania Coal Association

Challenges in Setting Mercury Limitations in Massachusetts—Testimony to Massachusetts Department of Environmental Protection in its proceeding to set mercury control limits to implement Massachusetts Executive Order. Testimony was made on Behalf of Center for Energy and Economic Development (October 2002)

Federal Agencies

Prepared comments on generation risks, avoided emission benefits and public health benefits for the Draft Environmental Impact Statement on the Cape Wind Project. These comments were incorporated into a response submitted by Alliance to Protect Nantucket Sound/Save Our Sound (February 2005, March 2008)

State Legislative Energy Committees

Economic Analysis of Closing the Paradise and Widows Creek Coal Units Testimony to Tennessee Legislative Joint Fiscal Review Committee (June 2014)

Greenhouse Gas Control Policy Alternatives in Minnesota Testimony to Minnesota Senate Energy Committee (February 2007)

Advancements in Clean Coal Technology Presentation to Wisconsin Joint Legislative Council (November 2006)

Advancements in Coal Technology Presentation to Idaho House Energy Environment and Technology Committee (February 2006, March 2006)

Coal Market Trends Presentation to National Conference of State Legislatures (November 2004)

Effect of Proposed Multi-pollutant Regulations on Salem Harbor Power Plant-- Testimony to Massachusetts Joint Committee on Energy and Governmental Regulations for its hearing on Salem Harbor Stricter Air Emissions Requirements (March 2003)

Addressing Efficiency & Environmental Performance in Existing Coal Fired Stations— Presentation to The Energy Council 2003 Federal Energy & Environmental Matters Conference (March 2003)

Evaluation of Assembly Bill A5577 to Control SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub> (April 2001) Presentation to Energy Committee Members of NY State Assembly

Evaluation of New Hampshire Proposed Multi-Pollutant Bill HB 284 Testimony to New Hampshire Energy Committee (March 2001)

### **Court Expert Reports/Testimony**

Valuation of the Twin Butte Wind Lease Agreement between Iberdrola Renewables and Fritz and Marion Sturges for Colorado 10<sup>th</sup> District Court (October 2012)

Declaration on the Role and Liquidity of Emission Allowances under the EPA Final Cross-State Air Pollution Rule (December 2011) in support of Industry Petitioners in case *EME Homer City Generation, L.P. v. US Environmental Protection Agency* (Case 11-1302 and consolidated cases) in US Court of Appeals- DC Circuit

Certification on Regional Greenhouse Gas Initiative auction data disclosure practices (December 2010) on behalf of Plaintiff in case *Lagerkvist v. New Jersey Department of Environmental Protection* (Docket No L-2185-10) in Superior Court of New Jersey Law Division- Mercer County

Expert Report entitled Review of Seasonal NO<sub>x</sub> Allowance Charges Under the 1960 OMU-KU Power Purchase Contract (September 2007) on behalf of Defendant in Case *City of Owensboro Kentucky et al v. Kentucky Utilities* (Case No: 4:04-CV-87(M)) in US District Court of Western Kentucky Owensboro Division

Expert Report entitled Economic and Avoided Emission Assessment of Proposed Berkshire Wind Power LLC Project Located on Brodie Mountain in Massachusetts (April 6, 2007) on behalf of plaintiff in Case *Silverleaf Resorts Inc v. Berkshire Wind Power LLC* (Civil Action No 06-30152-MAP) in US District Court District of Massachusetts Western Section

Deposition given on Michigan wind power resources, renewable energy programs and existing turbine performance behalf of Defendant in Case *Johnecheck v. Bay Township* (Case No 1:02-CV-71) in US District Court, Western District of Michigan Southern Division (December 2002)

Expert Rebuttal Report on existing emission allowance ownership practices under life of the unit power sales agreements on behalf of Plaintiff in Case *Ormet Power v. Ohio Power and American Electric Power Service Corporation* (Civil Action No 5:94CV11) in US District Court Northern District of West Virginia (1997)

### **Power Industry Presentations (Partial listing)**

Mr. Hewson has and continues to give presentations on major environmental issues facing the electric utility industry each year to both legislative and industry forums. A partial listing of the papers that were on his shelves is provided below.

Identifying Environmental Planning Risks for Future Power System Reliability (June 2014)  
NERC Planning Committee Meeting

EPA's Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources  
American Coal Council Webinar (February 2014)

Coal Repowering of Crawfordsville, Indiana Power Plant With ClearStack Gasifier Technology  
Energy Utility & Environment Conference (February 2014), US Gasification Council Workshop  
(February 2014)

Will Domestic Emission Allowance Trading Markets (SO<sub>2</sub>, NO<sub>x</sub>, RGGI and California) Survive  
the Next 5 Years? (September 2013) 17<sup>th</sup> Annual Environmental Marketing Association Meeting

Future of U.S. Coal-Fired Generation Capacity (November 2011) EPRI-EEI Seminar on Power  
Technology and Risk

EPA's Draft Air Transport and Utility MACT Rules—Impending Destruction of the Emissions  
Trading Market (May 2011) Emission Marketing Association 15<sup>th</sup> Annual Spring Meeting

Public Policy is Like a Box of Chocolates: You Never Know What You're Going to Get (March  
2011) American Coal Council Spring Forum

Coal's Role in Michigan Energy Use- Past & Future (November 2009) Conference on Michigan  
Future Energy, Economy and Environment

Outlook for Coal Plant Permitting and Power Plant Construction (November 2009) Chicago Bar  
Association Energy and Telecommunications Committee

Carbon Legislation: Action from Washington, D.C. and the States (August 2009) Coal-Gen 2009

Outlook for North American Power Plant Construction (June 2009), The Energy Council's 2009  
State & Provincial Trends in Energy and Environment Conference

Climate Change Energy Challenge (November 2008) Climate Change: Politics and Change- 26<sup>th</sup>  
Annual Wyoming Forum

Regional Coal Market Trends (October 2008) Rocky Mountain Association of Energy Engineers  
2008 Energy Forum

Four Common Arguments on Why New Coal Plants Should Not Be Built: Fact or Fiction? (April 2008) ACCCE Webinar

Wind Power Siting Issues Overview (April 2008) National Association of Attorney Generals

Advancements in Coal Technology (June 2006) Mid-American Regulatory Conference

Emerging US Environmental Regulation & Legislation (May 2004) American Coal Council

Emerging US Environmental Regulation- The Impact on North American and International Coal Markets (February 2002) CoalTrans Americas Conference

Power and Coal Markets under Siege from Tightening Environmental Requirements- The Battle Continues (Sept 1999) Coal Marketing Days Conference

The Future of Coal Processing Technologies (November 1995, January 1996) Presentations to Coal Preparation Research: How to Help Industry and Who Pays for it? and to EPRI Upgraded Coal Interest Group

Characterizing the Trace Element Content of Utility Coals (August 1995) 3<sup>rd</sup> International Conference on Managing Hazardous and Particulate Air Pollutants

Future Outlook for the Utility Coal Market (March 1995) Eight Utility Coal Conference

1990 Clean Air Act Impacts on Utility Coal Markets (September 1994) Pittsburgh International Coal Conference

Overview of Coal Processing Technology (September 1994) EEI Construction Committee Fall Meeting

Coal's Competitive Position with Natural Gas as a Power Generation Fuel (April 1994) Kentucky Coal Conference

Utility Market Assessment of Repowering Technology Options- Will Repowering Be an Important Future Utility Trend or a Fad? (November 1993) PowerGen 93

Integrated Analysis of Fuel Technology and Emission Allowance Markets Under the 1990 Clean Air Act (November 1993) PowerGen 93

Title III Air Toxic Provisions: Major Unresolved Issues and Concerns (February 1993) Engineering Foundation Conference

Impact of 1990 Clean Air Act on Eastern Coal Markets: Trick or Treat? (October 1992) 17<sup>th</sup> Annual Mineral Law Seminar

Advanced Coal Cleaning Technologies: Are They the Promised Land or Mirage for Utility Compliance Under the 1990 Clean Air Act (October 1992) Pittsburgh International Coal Conference

Current Outlook for Future Environmental Regulations Affecting Coal-Fired Powerplants (November 1991) CBI Conference Coal-Fired Powerplants in the New Generation Portfolio



## Renewable Energy Qualifications

- **Renewable Electricity Forecast**—EVA maintains databases of existing state renewable portfolio standards and regional renewable technology costs as part of its renewable projections. EVA projects future renewable energy capacity and energy generation as part of the semi-annual Fuelcast forecasts for subscribers that include major electric utilities, fuel suppliers, and fuel transporters. Projections incorporate individual state renewable qualification criteria and state available resources. Clients: energy companies, electric utilities, Industrial Trade organizations
- **Evaluation of Proposed Renewable Portfolio Standards**- EVA has examined proposed state renewable portfolio standards and their impact on utility rates. Currently EVA has studied program proposals in 15 states and completed analyses of two proposed national programs. Clients: Energy companies, transporters, and Industrial trade organizations
- **Biomass Fuel Forecasts**- EVA provides projections of regional biomass prices for multiple utilities for their resource planning. Forecasts examine existing biomass supplies, identify regional biomass resources setting market prices and in some cases provide delivered biomass prices incorporating EVA's biomass transportation model. Clients include: Vermont Department of Public Service and three southeastern major utilities.
- **Renewable Technology Market Evaluation**—For an investment fund, EVA evaluated the competitiveness and future market outlooks for PV and solar thermal technologies. Clients: Investment firms
- **Review of DOE Cellulosic Biofuel Market Assumptions and Models**-- EVA provided peer review and comment on DOE models and evaluations of the Cellulosic Biofuel Technology, cost and performance. Client: DOE
- **Renewable Energy Credit Forecasts**—EVA has provided forecasts of future renewable energy credit market prices for several state RPS markets. Client: Power suppliers, investors, and Trade organizations
- **Wind Project Tracking**—EVA has tracked wind projects for the US DOE Energy Information Administration to determine proportion of projects that reported generation to EIA. Project tracking database is also used in developing EVA's renewable electricity forecasts. Client: DOE
- **Wind Project Environmental and Economic Evaluations**-- Assessed economic and environmental issues of individual wind power projects proposed in the states of Colorado, Connecticut, Illinois, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New York, Ohio, Pennsylvania, Texas, Vermont, West Virginia and Wisconsin. These evaluations looked into issues such as wind resource quality, power production costs, transmission, noise, aesthetics, property value changes, decommissioning costs, wind lease valuations and environmental impacts. Participated as an expert panelist for open public forums dealing with wind energy issues in Michigan, Texas, Vermont and Ontario (Canada). Clients:

Landowners, municipal governments, state governments, developers and local interest groups.

- **Solar Project Development and Funding Application**-- EVA evaluated 3 options for powering aerators at a large municipal 10 MGD wastewater treatment plant using solar PV panels. The innovative design and application qualified for funding under the Clean Water State Revolving Fund and matched its unique sunny day only use and need for an off-grid power supply. Client: Municipalities, investors
- **Expert Testimony**—EVA has provided expert testimony on wind power potential and other project issues for hearings at the Vermont Public Service Board (Docket 6911, Docket 7250), Maryland Public Service Commission (Case 9008), New York Public Service Commission (Case 06-E-1424), California Public Utilities Commission (Docket U-338-E), Maine Land Use Regulatory Commission (Rezoning Petition ZP 702), Ohio Siting Board (Case No 08-666-EL-BGN), West Virginia Public Utility Commission (Docket 05-1590-E-CS), Connecticut Siting Board (Petitions 980, 983, 984), Regulatory Commission of Alaska (Docket U-11-00), Wisconsin Public Service Commission (Docket 2535-CE-100) and Virginia State Corporation Commission (Case Number PUE-2005-00101). Provided independent expert report entitled *Economic and Avoided Emission Assessment of Proposed Berkshire Wind Power LLC Project Located on Brodie Mountain in Massachusetts* (April 6, 2007) in Case Silverleaf Resorts Inc v. Berkshire Wind Power LLC (Civil Action No 06-30152-MAP) in US District Court District of Massachusetts Western Section. Provided testimony and expert report entitled, *Evaluation of Sturges Twin Butte Wind Lease*, for Pueblo Colorado District Court case (October 2012). Testified on wind project siting issues in local zoning board hearings in Bureau, Boone, Lee, McLean, Ogle and Whiteside Counties in Illinois; Lycoming County Pennsylvania; and Bourne, Falmouth, Wareham and Plymouth projects in Massachusetts. Provided expert testimony on Michigan wind power resources, renewable energy programs and existing turbine performance in Case *Johnecheck v. Bay Township* (Case No 1:02-CV-71) in US District Court, Western District of Michigan Southern Division (December 2002).