

THE MULDAVIN COMPANY



Profile and Services

Scott Muldavin, CRE, FRICS

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The Muldavin Company, Inc.

THE MULDAVIN COMPANY, INC. (TMC) is a consulting firm serving the real estate industry. Our mission is to improve our clients' real estate decisions, helping them achieve greater profits, investment returns, and operating efficiency. Our focus today is to apply our 30 years of experience to help companies and organizations successfully respond to the opportunities and risks of sustainable property investment.

We accomplish our mission by applying our breadth of knowledge from hundreds of client engagements, completing rigorous analysis of financial and non-financial issues, and drawing upon our extensive network of capital sources and industry leaders. Perhaps most important, we are independent and clearly present our opinions.

The Muldavin Company is led by Scott Muldavin, who has completed over 300 successful engagements for a broad spectrum of clients over 30+ years, co-founded a \$3+ billion real estate investment company, founded and led the Green Building Finance Consortium, and serves as a Senior Advisor to the Rocky Mountain Institute. He understands how real estate companies work, and what needs to be done to most profitably integrate sustainability into real estate investments and services.

TMC consultants are proven leaders in the real estate industry. We led the development of the mortgage risk-rating system for Standard & Poor's Corporation that initiated the CMBS industry. Public and private syndicators drew upon our knowledge to structure new investment products and access pension capital after tax law changes were implemented in the 1980s. In the 1980s and 1990s, we worked with CalPERS and other institutional investors to rationalize the investment decision-making and performance-monitoring process. The National Association of Realtors turned to us to assist them in developing a national commercial real estate strategy. When mezzanine financing became prominent, we published a defining article that clarified the concept for investors. As an advisor and founding principal of Guggenheim Real Estate, we contributed to the success of a creative new type of real estate investment fund. In sustainability, we have developed new insights, methods, and practices to assist sustainable decision-making.

We look forward to talking with you about how we can apply our talent to your firm or organizations. More information on The Muldavin Company, Inc. and Scott Muldavin can be found at <http://www.Muldavin.com> or by e-mailing Scott at smuldavin@muldavin.com.

TMC Consulting Services

The Muldavin Company employs a unique combination of sustainability knowledge and relationships with our 30+ years of real estate investment and consulting experience to help our clients maximize the value, and manage the risks, of their sustainability investments. Whether you are trying to access capital, improve your existing assets, drive your business success, or refine your products and services strategies to drive sales, TMC can help. Our services include:

Product and Service Strategies

Sustainability creates opportunities for new products and services. It also creates the need for review and refinement of some existing products and services, and creates opportunities and stresses for organizations and staff. We can assist in making sure your companies strategies are based on the most up to date capital markets and sustainability information and provide practical recommendations to improve sales and enhance execution.

We assist service providers¹, product companies, and financial services companies who seek to better understand the scope and scale of changes underway as a result of sustainability trends and broader capital market disruption in order to refine their marketing, investment and organization strategies.

We also advise professional associations, government agencies, and other non-profits to refine strategies, develop new programs or products, and develop creative ways to communicate and energize stakeholders.

Capital Markets Consulting

We assist those seeking capital for sustainable companies, projects, or properties. While we may at times have direct knowledge of, or access to, specific capital sources, our primary service is to provide strategic guidance relative to the mix and types of capital sources that best fit project needs and assistance in refining the financing request package to best communicate the value of planned sustainability/energy investment and related risk mitigation and management strategies to obtain the lowest cost financing on the best possible terms. We are not a brokerage firm and our role will often be complimentary to internal finance staff or other professional assistance.

¹ Service providers include a broad array of sustainable and real estate services companies including law firms, engineering firms, architecture firms, developers, contractors, insurers, property and capital brokers, asset and property managers, and others.

Investment Strategy

We execute focused strategic research on critical real estate investment questions ranging from portfolio allocation or market selection to special reports on new financing strategies or structures, competitor trends, future market drivers and value drivers in energy efficiency and sustainability.

Valuation and Risk Assessment Systems

We assist real estate investors, owner occupants, finance companies, and valuation and brokerage professionals to better integrate value and risk considerations into their sustainable property investment decisions. Using the frameworks, practices, and insights from the research we have completed during the last five years, and our experience with hundreds of clients over the years we provide practical recommendations to modify current processes to enable better sustainable investment decision-making.

Sustainable property investment can generate substantial benefits beyond energy cost savings, including health and productivity benefits, reputation and leadership that can translate into reduced employee turnover, better customer relationships, more effective recruiting, reduced energy cost volatility, and the ability to meet internal and external compliance requirements. To capitalize on these benefits, you need to understand them, measure them, and adjust the way you manage and execute your real estate investment of facilities management. With our experience in organizations and real estate decision-making, we can help you do this.

We also offer specific property/portfolio valuation and lease analysis services through referrals and working relationships with select appraisers and other qualified professionals with sustainability experience.

Due Diligence & Transaction Facilitation

We have completed due diligence engagements involving the acquisition of office buildings, retail properties, hotels, multi-family properties, industrial properties, large land parcels, mortgage portfolios, mortgage companies, commercial banks, real estate service companies and other real estate assets.

We have specialized expertise in conducting due diligence on new business and investment opportunities. We review and refine new products and services serving the “sustainable/energy efficiency” building markets and evaluate new investment sectors for pension funds, new business-lines for investment banks, and new product opportunities for finance companies and investment managers.

We facilitate transactions through preparation of investment opportunity documentation, identification of investors and partners, screening of opportunities, and putting people and companies together.

Speaking/Training

Mr. Muldavin is available for speaking to large and small groups. Mr. Muldavin is an experienced speaker with presentations to scores of companies and organizations including the Urban Land Institute, the Building Owners and Managers International, the Pension Real Estate Association, the National Council for Real Estate Investment Fiduciaries, the National Association of Realtors, the Counselors of Real Estate, the Mortgage Bankers Association, the Appraisal Institute, the Royal Institute of Chartered Surveyors, the US Green Building Council, the New York Academy of Sciences, and many others.

We are interested in assisting companies, trade groups, governments, schools, and other organizations in developing teaching and training curriculum and materials. Scott Muldavin will also be available to teach classes, seminars, etc. at Universities, company training sessions and other forums. These sessions could be based on Mr. Muldavin's publications; address topics discussed in the below, or be crafted to meet a specific need or objective.

Expert Witness and Litigation Services

Mr. Muldavin has experience as an expert witness in complex real estate damages and securitization cases as well as cases involving business practices and responsibilities of general partners, lenders, developers, governments, investment managers, service providers, securities firms and other participants in the real estate and finance industries.

Advisory Relationships

Scott Muldavin will be accepting a select number of Board and/or Advisory Committee positions. These positions might be directly on a company's Sustainable Advisory Council or Committee, or in broader company roles that integrate sustainability considerations with the broader investment and capital market issues, which companies are grappling with.

We are also open to retainer relationships, task force leadership or participation, and other service delivery structures that meet client needs.

Scott Muldavin, CRE, FRICS

Scott Muldavin, CRE, FRICS is President of The Muldavin Company, Inc., a consulting firm serving the real estate industry. Mr. Muldavin has completed over 300 engagements for a broad spectrum of real estate clients over the last 30 years. Mr. Muldavin offers a unique combination of real estate investment, finance, valuation and sustainability experience to help companies successfully respond to the opportunities and risks of sustainable property investment.

Sustainability Experience

Scott Muldavin is Executive Director of the Green Building Finance Consortium, a group he founded in 2006 to improve valuation and underwriting practices to enable an assessment of sustainable properties from a financial perspective. His book: *Value Beyond Cost Savings: How to Underwrite Sustainable Properties* is the first to detail the mechanics of how to value and underwrite sustainable properties from the perspective of capital providers.

Mr. Muldavin is a leading figure in international collaborations tackling sustainable valuation and finance challenges. As a Senior Advisor to the Rocky Mountain Institute, he collaborates on initiatives to expand the depth of sustainability investment and has been involved in scores of other collaborations addressing valuation, finance policy, performance assessment, energy efficiency, database development and other important topics.

Mr. Muldavin lectures and speaks throughout the world on real estate finance and sustainability. He has lectured at UC Berkeley, Stanford University, MIT, the New York Academy of Science, Lawrence Berkeley National Laboratories, Torcuato Di Tella University, the Tokyo Land Forum, and the Ministry of Land and Resources in Beijing. He also speaks regularly at meetings sponsored by the Urban Land Institute, the Mortgage Bankers Association, the Royal Institute of Chartered Surveyors, NCREIF, the Pension Real Estate Association, the Appraisal Institute, and BOMA.

Mr. Muldavin's work with the Consortium is based upon hundreds of interviews with corporations, investors, lenders, developers and service providers pursuing sustainable property investment strategies to understand their challenges, failures, and successes. The Urban Land Institute, the Royal Institute of Chartered Surveyors, the Building Owners and Managers Association, the Mortgage Bankers Association, the Pension Real Estate Association, the National Association of Realtors and others support his work.

Real Estate Industry Experience

He has worked extensively in both the real estate debt and equity capital markets. He co-founded Guggenheim Real Estate, a \$3+ billion private real estate fund; has

advised scores of pension funds and their advisors on investment and capital raising strategies; assisted numerous national and global corporations in designing and executing their real estate strategies; served as a real estate financial institutions leader while a partner at Deloitte & Touché, and advised scores of lending institutions on their underwriting and financial product development and marketing decisions.

Mr. Muldavin was also a leader in the corporate real estate practice at Deloitte and Touché and throughout his career has advised corporations such as Texaco, Nissan Motors, Pacific Enterprises, Phoenix American Corporation, Universal Studios, Johns Manville, House of Blues, and many others on their leasing, acquisitions, and real estate strategies.

Mr. Muldavin has been directly involved in the structuring, valuation and due diligence of real estate property and business transactions. He was a leader of the real estate valuation and transaction practice while at Deloitte & Touché and had similar roles in other firms. He has completed valuation and due diligence engagements involving the acquisition of office buildings, retail properties, hotels, multi-family properties, industrial properties, large land parcels, mortgage portfolios, real estate service companies and other real estate assets.

As an Investment Committee member of Guggenheim Real Estate, Mr. Muldavin reviewed hundreds of retail, office, industrial and multi-family investment opportunities throughout the United States, as well as investments in mezzanine loans, B-piece investment, funds, preferred equity, and REITs.

Mr. Muldavin also has substantial securities experience. He was on the Board of Advisors of Global Real Analytics, which advised on the management of over \$ 1.5 billion of REIT and Collateralized Debt Obligation securities. He was the lead consultant who developed the first mortgage risk-rating system for Standard & Poor's Corporation. As a co-founder and investment committee member of Guggenheim Real Estate, he monitored the REIT market and participated in investment decisions concerning the allocation of hundreds of millions of dollars of REIT investments.

Mr. Muldavin has authored nearly 200 articles published in *Real Estate Finance*, *RICS Property World*, *Bankers Magazine*, *Urban Land*, the *European Real Estate Yearbook*, *The Journal of Property Management*, *The Pension Real Estate Quarterly*, *Real Estate Issues*, *The Investment Property and Real Estate Capital Markets Reports*, *Institutional Investor*, *Builder and Developer*, *The Real Estate Accounting and Tax Journal*, and other industry publications.

Mr. Muldavin has a bachelor's degree in Environmental Studies from UC Berkeley and a Masters in City and Regional Planning from Harvard University. He is also a Counselor of Real Estate (CRE) and a Fellow of the Royal Institute of Chartered Surveyors.

TMC Real Estate Consulting Experience

Owners (Equity)

- **Pension Fund:** Developed a risk-rating/early warning system and standardized due diligence review process to assist in portfolio management.
- **Life Insurance Company:** Crafted new organizational structure, compensation system, and refined direction for client's investment management subsidiary.
- **Private Investor:** Strategic assessment of real estate capital requirements and evaluation of current capital relationships, structures, and systems.
- **Pension Fund:** Developed long-term investment strategy addressing public vs. private investing, international real estate, and specialized real estate investment sectors.
- **Real Estate Operating Company:** Developed strategy to expand and manage client's portfolio to maximize potential value as a public company.
- **Private Investment Company:** Assisted client in structuring innovative creative financing mortgage product for the single-family residential market.
- **Pension Fund:** Assisted in the creation of a "gap" financing investment structure that initiated the entrance of pension fund equity into the single-family home development market.
- **Investment Bank:** Wrote a comprehensive reference manual on real estate investment policy and performance for use by client's employees.

Financial Institutions (Debt)

- **Life Insurance Company:** Developed mortgage risk-rating system and 16-point action plan to reduce mortgage risk at portfolio and asset level.
- **Commercial Bank:** Prepared appraisal reviews, established new lending guidelines and procedures, and reviewed loan loss reserves.
- **Life Insurance Company:** Prepared strategic action plan to expand and capitalize their mortgage business based on evaluation of mortgage participations, securitization, mortgage REIT's, and institutional capital.
- **Commercial Bank:** Detailed evaluation of a large national real estate loan portfolio and related underwriting and portfolio management practices.
- **Real Estate Securities Firm:** Conducted due diligence on the valuation of the collateral backing some of the first builder-backed bond issues.

- **Commercial Bank:** Prepared a diagnostic assessment of their mortgage underwriting, appraisal operations and related information systems.
- **Investment Bank:** Assisted in the design of an international securities offering.
- **Commercial Bank:** Assessed the business potential of the permanent mortgage and mezzanine finance markets.
- **Rating Agency:** Designed the first mortgage risk-rating system that led to the \$800 billion commercial mortgage-backed securities industry.

Owner-Occupants

- **Fortune 500 Corporation:** Crafted a corporate headquarters relocation plan addressing all aspects of facilities planning and implementation.
- **International Computer Corporation:** Developed corporate facilities plan integrating multiple locations into a single campus.
- **Owner-Occupant:** Evaluated alternative project and credit based financing alternatives to fund a corporation's real estate based growth strategy and assisted in executing the most promising alternatives.
- **Life Insurance Company:** Prepared organizational best practices assessment and guide for one of the world's largest diversified real estate organizations.

Service Providers

- **International Diversified Engineering Firm:** Assisted in the development of a portfolio strategy service to address the building retrofit market.
- **National Information Company:** Assisted development of new products and marketing strategies for nationwide real estate Information Company.
- **National Real Estate Services Firm:** Conducted a strategic opportunity analysis and client targeting study.
- **Real Estate Technology Company:** Assisted in the development of strategic plan, products and marketing strategies.
- **International Real Estate Securities Firm:** Advised Company on business operations, analytics, products, and marketing.

Developers

- **International Developer:** Developed a capital access strategy for firm's U.S. residential developments.
- **Public Development Company:** Completed a strategic assessment of the implications of changes in the real estate capital markets on the client's business services and developments.
- **Regional Development Firm:** Conducted analysis of the asset management capabilities, service delivery, and fee structure for the property management division of a diversified development company.
- **Development Company:** Developed business and capital strategy, identified joint venture candidates, and assisted in negotiation of capital relationships.
- **Large Scale Land Developer:** Developed innovative investment fund structure to assist developer in attracting institutional capital to fund land development sales to builder-developers.

Governments/Non-Profits

- **Federal Government:** Reviewer for national Green Roof cost-benefit study.
- **State Government GSA:** Designed a real estate portfolio management system to determine the optimal use of real estate assets and identified alternative ownership and financial strategies to be applied to each asset.
- **Local Governments:** Prepared numerous residential mortgage revenue bond feasibility studies necessary to achieve rating agency approval and ratings.
- **International Government Investor:** Assisted in the development of worldwide real estate investment strategy and advised on business strategy, underwriting, risk management and investment strategy.
- **Professional Association:** Developed strategic plan to guide new commercial real estate strategy based on review of technology changes, future market trends, customer demands, activities of other trade groups, and internal organizational issues.

Sustainability Experience Detail

Mr. Muldavin and his staff have participated in scores of collaborative projects with energy and sustainability leaders worldwide, addressing performance assessment, energy efficiency, valuation, database development, underwriting, financing and other topics critical to increasing the breadth and depth of the adoption of sustainable property practices. Examples of these activities are summarized below under education, research and policy.

Policy and Practices Development

- **Zero Energy Commercial Building Consortium:** Advisor to the Finance and Valuation working group charged with the development of policy recommendations for DOE and Congress to enable the country to meet its longer term goals of deep energy efficiency and renewable energy production. This project focused on identifying obstacles and solutions to achieve longer-term ZNE goals.
- **US Department of State’s Bureau of Overseas Building Operations Industry Advisory Panel:** Advice DOS on latest building industry concepts, best practices, and innovations in property development, acquisitions, management and operations to assist their development and implementation of high performance building policies.
- **North American Commission for Environmental Cooperation:** Member of international advisory group assisting North American Free Trade Agreement created group’s multi-year research and policy development program on sustainable buildings.
- **Royal Institute of Chartered Surveyors/UK Government:** Collaborated with RICS on their residential “Energy Performance and Value” research and policy development for the UK Government.
- **California Energy Commission Energy Disclosure:** Assisted the in the development of the CEC’s Home Energy Rating System disclosure documentation as a member of CEC Advisory Committee.
- **ASTM Energy Performance Disclosure Task Force:** Member of task force that advised in the development of new ASTM standard: ASTM E-2797-11 Building Energy Performance Assessment for a Building Involved in a Real Estate Transaction.
- **National Building Sciences Institute Council on Finance, Insurance and Real Estate:** Member of newly forming Council to promote interaction and sharing between building sciences and technology and real estate/finance sectors.

- **BC Ministry of Community Services:** Expert reviewer for study of the costs and benefits of implementing an Integrated Resource Management solution in British Columbia.
- **Government Services Administration:** Expert reviewer for a study of the costs and benefits of implementing Green Roofs in government buildings completed by ARUP.
- **Environmental Protection Agency Energy Star Program:** Evaluated ENERGY STAR Portfolio Manager and Target Finder systems to assess ways to make them more useful tools for decision-makers in the real estate industry

Sustainability Research Activities

- **“Value Beyond Cost Savings” Research:** Mr. Muldavin completed three years of original research in the development of his book: “Value Beyond Cost Savings: How to Underwrite Sustainable Properties”.
- **GBFC Sustainable Valuation and Finance Resource Center:** Mr. Muldavin created and remains the intellectual force behind GBFC’s searchable web-based Research Library supports the industry with thousands of documents coded using GBFC’s unique index designed for the sustainable finance and investment industry. The structure of the index is consistent with the organization of the Consortium’s foundational book: *Value Beyond Cost Savings* providing easy access to updated performance.
- **Academic Research Advisor:** Advise Universities such as UC Berkeley, Rutgers, and the University of Colorado who are undertaking sustainable finance and/or valuation research. Serve on dissertation committees and advise Ph.D., masters and bachelor’s degree candidate students in sustainable finance and valuation research around the world.
- **Rocky Mountain Institute: “Ramping Up Retrofits”:** Mr. Muldavin collaborates with the Rocky Mountain Institute on a series of initiatives to develop a roadmap and action plan to “Ramp Up Retrofits”. Specific projects include assistance with RMI’s new book specifying a vision and roadmap for a fossil fuel free world by 2050; collaboration on a workshop of top sustainable finance experts to target and prioritize actions to expand sustainable investment/finance; and advisory work on the RMI’s “Ramping Up Retrofit” strategy and website.
- **Lawrence Berkeley National Laboratory:** Developed and presented specific guidance on how to modify research practices to assist financial decision-makers to a workshop of leading building/health scientists and collaborated on the development of a long-term strategy and funding plan to move the industry to net zero energy buildings organized by the Construction Building Institute.

- **Northwest Energy Efficiency Alliance:** Guidance on new commercial property energy efficiency initiatives including performance reports, green indices, and marketing strategies.
- **World Business Council for Sustainable Development:** Collaboration on sustainability/energy finance and valuation initiatives.
- **CoreNet Global Energy Research Project:** Served on international Advisory Panel working to identify key barriers and enablers to corporate real estate investment in energy efficiency and assess the value implications of energy investment.
- **Database for High Performance Building (DASH):** Member of Steering Committee of industry group developing sustainable performance information to assist financial decision-makers.
- **US Green Building Council Research Committee:** Participated as a member of USGBC’s “Research Agenda for the Future” Advisory Group integrating capital markets and valuation perspective in the development of a 10-year agenda to guide research funding.

Sustainability Education Activities

- **National Association of Realtors:** Member of Advisory Group that assisted in the development of curriculum to train commercial brokers on sustainability.
- **Northwest Energy Efficiency Alliance Value Curriculum:** Assisted in the development of teaching curriculum based on the Consortium’s book: “Value Beyond Cost Savings: How to Underwrite Sustainable Properties.”
- **Appraisal Institute:** Sustainable valuation curriculum development and teaching led by GBFC implementation team members.
- **Royal Institute of Chartered Surveyors:** Collaboration with RICS in the education of its members world-wide on issues regarding sustainable property valuation and decision-making practices through books, articles, conferences, blogs, webinars’, print and radio interviews.
- **North American Youth Leadership Project for a Sustainable Future:** Advisor to group promoting sustainable leadership opportunities for high school youth in Mexico, US and Canada.
- **University Presentations:** Frequent speaker at universities including Stanford, University of California, Berkeley, Massachusetts Institute of Technology,

University of Colorado, Tulane, New York University, and Torcuato Di Tella University (Argentina).

- **Professional Group Presentations:** Speaker at scores of industry forums and conferences in the U.S., Canada, China, Japan, Mexico, Europe, Australia, South America, and India for organizations and events including BOMA International, Urban Land Institute, Mortgage Bankers Association, Pension Real Estate Association, RICS, Appraisal Institute, Federal Reserve Bank, and many others.
- **China-US Center for Sustainable Development:** Presented educational session on sustainable development to the Sustainable Land Use and Governance Training Collaboration 10-Year Anniversary Workshop, Ministry of Land and Resources in Beijing and addressed related issues with Ministry officials in other regions of China.
- **Editorial Board, Journal of Sustainable Real Estate:** Editorial Board of one of the first peer-reviewed journals emphasizing sustainable property performance and valuation.