



NEPC, LLC

ALTERNATIVE ASSETS & REAL ESTATE

Extensive Expertise in Alternative Assets, Applied to Your Organization's Needs

Alternative asset strategies can substantially enhance an investment program's overall risk/return profile. We have in-depth knowledge of this vast and varied set of investment opportunities, with expertise in private equity, hedge funds, real estate, and opportunistic credit strategies. Let us help you create a set of alternative asset strategies tailored to your program's unique circumstances.

Private Equity

Private equity offers potential return enhancement to investment programs. However, successful private equity programs require planning. We work with clients to evaluate their liquidity profile, narrow the private equity opportunity set to those strategies and funds which make the most sense for an individual client's situation, and perform a careful evaluation of each manager's idiosyncratic risk. Our knowledge of private equity firms' specialties and unique strengths, and of opportunities available through secondary offerings of fund partnerships (often made on advantageous terms by distressed investors), positions us to provide valuable counsel to clients in building a diversified portfolio of private equity investments.

Hedge Funds (Absolute Return Strategies)

Hedge funds and hedge funds-of-funds can provide attractive return enhancement and diversification opportunities for sophisticated investment programs. Hedge fund managers utilize more tools than their traditional long-only counterparts. They may short individual securities or indices. Managers may use leverage and/or derivatives to amplify or focus a desired exposure. And hedge fund managers may take advantage of illiquidity premiums.

However, most hedge funds are less liquid and transparent than their traditional counterparts, and are subject to different risks. NEPC has developed specialized tools to monitor and conduct due diligence on hedge funds, improving transparency and helping our clients more effectively select hedge fund investments, track their performance, and integrate them into total investment programs.

Real Estate

A well-designed real estate program can enhance risk-adjusted returns, decrease volatility, improve diversification, and generate additional cash flow. We develop real estate strategies for clients based on a detailed understanding of their return requirements, liquidity needs, risk tolerances,



NEPC designs, implements, and monitors alternative asset programs to provide improved risk-adjusted portfolios.

How we find alternative investment opportunities:

- Ongoing cycle of due-diligence visits — each year we conduct over 1,000 alternative asset meetings
- Personal contacts and networking by senior NEPC Research and Consulting professionals
- Proprietary search questionnaire and database
- Subscription databases such as Thomson Reuters Private Equity
- Committee members/staff of NEPC clients

and legal or regulatory constraints. Our consulting services cover equity and debt vehicles in both private and public markets. We have expertise across a wide range of investment styles and all major property types, as well as experience in most major geographical markets.

Opportunistic Credit

The financial crisis that erupted in 2008 created major dislocations in credit markets, giving rise to opportunities that we believe will endure for years. The best ways to exploit those opportunities, however, are shifting as the cycle progresses. NEPC keeps a close ear to the ground to detect those shifts and position our clients to benefit from them.

NEPC: An Independent, Employee-Owned, Research-Driven Innovator

We are one of the nation's largest independent, full service investment consulting firms, serving over 300 retainer clients with total assets over \$695 billion.

Knowledgeable Guidance on Setting Investment Policy and Asset Allocation

A well-conceived investment policy statement is the cornerstone of a successful investment program. NEPC works with you to develop or refine a statement consistent with program objectives within your risk-tolerance and investment constraints. We then collaborate to create asset allocation targets to realize those objectives.

A Meticulous Process to Identify the Right Alternative Manager for Your Program

We carefully assess each manager on our candidate list to ensure the firm possesses the infrastructure, personnel, and controls to fully execute its strategy, meet legal and accounting standards, and monitor its risks and positions. We interview managers in person, and also collect detailed written information on the organization, its strategies, and its valuation methods. As a final step, a group of senior NEPC personnel review all the information gathered and assess the manager's overall capabilities and the potential role of its specific strategies in NEPC client portfolios.

Industry-Leading Technology for Measuring Performance

Taking extra steps to address the relative opacity of alternative investment vehicles, we calculate returns of hedge funds on a monthly basis and provide supplemental performance reports on private equity and real estate strategies focusing on net internal rates of return and distributions to paid-in capital.

Rigorous and Ongoing Scrutiny of Investment Managers and Market Trends

Our Due Diligence Committee sets policy on investment firms to be included in our searches, assesses manager performance, and evaluates new products and technologies.

Thought Leadership and Investment/Fiduciary Insights

We share our intellectual capital with clients – on site, online, and at NEPC-hosted conferences. A categorized listing of white papers and position pieces authored by our professionals is available on our website, www.nepc.com



Our comprehensive expertise in alternative assets and close attentiveness to your organization's needs means the best solution for you.

YOU DEMAND MORE. So do we.SM

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ASSET ALLOCATION

We Help Clients Achieve Their Objectives

Analyzing your commitments, short-and long-term objectives, and policy or regulatory considerations, we custom-build asset allocation and portfolio structure to your specific needs. As part of this customization, we incorporate multiple measures of risk and investigate alternate asset classes and strategies.

Step 1. Assessment of the Current Condition

The assets of investment programs exist to address future commitments. Our asset allocation process begins with an assessment of the program's current financial status, such as pension funded status or endowment spending needs. We incorporate your existing financial models into our framework.

Step 2. Asset Allocation

Our asset allocation process incorporates comprehensive models, both quantitative and qualitative.

Mean-variance optimization accommodates a range of investment requirements, such as maximum or minimum commitments to an asset class, return or volatility targets, and permissible asset classes for investment. We believe mean-variance optimization continues to be an important tool, especially in framing risk/reward tradeoffs and sharing the benefits of diversification. Yet despite its usefulness, mean-variance analysis has shortcomings. For instance, it assumes normal return distributions and static inputs, simplifications that, if ignored, can expose a portfolio to concentrated risks and significant drawdowns. Hence we supplement mean-variance with other approaches.

Risk budgeting examines potential portfolios in terms of contribution to risk instead of just the traditional allocation of capital. In a portfolio with a conventional 60/40 allocation of stocks and bonds, for example, more than 90% of total risk will be concentrated in stocks. True diversification is achieved by balancing risk exposures more evenly across asset classes and market factors. Our risk budgeting model has assisted clients in moving away from equity-centric portfolios well before the dislocations of 2008.

Scenario projections assess how a portfolio might perform in various economic environments, such as recession or stagflation. This approach provides a valuable alternative perspective to mean-variance analysis, as it is able to accommodate environments of extreme market



Our comprehensive approach produces portfolios tailored to your objectives.

We develop asset allocation strategies that incorporate:

- Your goals and constraints
- Multiple risk metrics
- Opportunistic investments
- Efficient structures


outcomes and shifting asset-class correlations. Integrated with liabilities or spending commitments, scenario analysis can assess risk factors across both sides of the program's balance sheet.

Liquidity analysis gauges the balance between the program's liquidity needs and its liquidity sources. We "stress-test" potential portfolios by simulating situations of heightened need for liquidity combined with constricted access to liquidity sources. Even before the financial crisis, our liquidity model helped clients "right-size" commitments and recognize risk factors. We believe in the return and diversification benefits of illiquid investments, and use liquidity analysis to determine the natural limits of alternative investments.

Portfolio structuring looks at decisions within asset classes, such as active/passive, value/growth or domestic/international. It extends our risk budgeting framework to actual or potential manager strategies, providing an integrated view of where risk is taken throughout the portfolio. Portfolio structuring provides the critical link between top-down asset allocation and bottom-up manager selection.

Step 3. Presentation of Results

We provide a detailed final report to you on our findings and investment policy recommendations. The report provides summaries, observations, and recommendations using appropriate metrics. While our analysis is thorough, we frame conclusions in a way that allows you to make informed decisions. NEPC prides itself in recommending asset mixes and portfolio structures that result in successful implementations of our best ideas.



***A risk-centered,
customized approach to
asset allocation.***

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NEPC, LLC

CORPORATE OVERVIEW

A Seasoned and Trustworthy Partner

NEPC, LLC is one of the nation's largest independent, full service investment consulting firms, serving over 300 retainer clients with total assets over \$695 billion. Headquartered in Cambridge, Massachusetts with offices located in Atlanta, Georgia; Charlotte, North Carolina; Chicago, Illinois; Detroit, Michigan; Las Vegas, Nevada and Redwood City, California, we're known for our incisive expertise, proactive service, and our independent revenue model.

NEPC brings its experience in traditional and alternative investments to a wide range of clients, including defined benefit and defined contribution pension plans (corporate, public, healthcare, and Taft-Hartley), endowments, foundations, insurance companies, and private wealth management programs.

Our consulting approach has led to superior client ratings as measured by robust independent national surveys and impressive client performance. In aggregate, NEPC's clients have outperformed national averages¹ in 23 of our 26 calendar years of existence. We are likely the only major consultancy whose clients, on average, outperformed in 2008, 2009, 2010 and 2011, as our strategic emphasis on risk-budgeting coupled with our tactical recognition of market opportunities rewarded our clients well.

Objective Advice

NEPC has no proprietary products, and we are not affiliated with any investment managers. Our advice is unbiased, free of conflicts, and focused on the single objective of meeting your investment goals. We believe life is simpler and easier this way, both for you and us!

Our People: Seasoned Experts in Their Fields

NEPC's culture draws the industry's finest talent — more than 195 professionals located across the nation, including over 20 of our former competitors — and perhaps the highest concentration of professionally certified employees of any investment consulting firm. Our intellectually stimulating environment attracts those who are seeking an unconflicted environment, who demand more of themselves and thus strive to deliver more to our clients.

A Research-Driven Process

Superior advice is grounded in superior research. NEPC has one of the industry's largest dedicated research teams. Our professionals excel in developing asset allocation solutions with forward-looking perspective, and in assessing investment managers, market trends, and investment strategies.

Informed Innovation

We respect conventional wisdom — when it's wise. But we don't shrink from breaking with tradition when a new direction promises a better approach.



Our independent, innovative solutions drive great results for clients.

Our services:

- Investment policy development
- Liability-and spending-based asset allocation
- Searches for traditional and alternative asset managers and custodians
- Expertise across the full universe of investment opportunities
 - Traditional equity, fixed-income, and mixed-asset-class vehicles
 - Alternative investments such as private equity, hedge funds, and real assets
- Liability-driven investments and other hedging strategies
- Socially responsible and emerging manager investing
- Outsourced services
- Traditional and alternative performance analysis: for the total program and all component groupings
- Due diligence and compliance monitoring
- Development of risk controls and measurement tools
- Transition management
- Transaction cost analysis
- Continuous client education

Robust Customization

Each of our clients has unique goals. We listen, and in response craft paths to achieving those goals with intelligence and rigor. From the development of investment policy and risk controls, to asset allocation, to investment manager searches and beyond, we tailor every step of the process to you.

In-Depth Knowledge of Alternative Investment Strategies

An early advocate of alternative strategies for institutional investors, NEPC is recognized by the Chartered Alternative Investment Analyst Association as a leading alternative asset consulting firm. NEPC's alternative asset capabilities have been ranked among the top of all of our competitors for the past six years, in the most respected independent survey of investment consultants in the industry.

Industry Leadership

NEPC is the lead firm among 13 distinguished consultancies that make up the Independent Consultants Cooperative (ICC). In partnership with State Street Corporation, the ICC produces one of the industry's most comprehensive comparative databases, composed of *actual* plan sponsor portfolios rather than manager-supplied composites used by most of our competitors. We employ sophisticated analytics to mine this robust database for the benefit of our clients.

Powerful Tools for Measuring Performance

Investment Performance Analysis (IPA) reports contain diagnostics, risk analyses, and universe comparisons at an overall portfolio level, and for each asset class, capitalization range, style, and manager in your program.

Detailed, Ongoing Scrutiny of Investment Managers and Market Trends

Our Due Diligence Committee sets a firm-wide policy naming the investment firms that are to be included in our searches, ensuring a consistent process for all our clients. The Committee also assesses manager performance and evaluates new products and technology across all asset classes.

A Commitment to Emerging Managers

In seeking the best managers for our clients, we strive to identify qualified small and emerging firms, particularly those owned by minorities and women. NEPC actively engages with organizations that support minority- and women-owned firms, such as the National Association of Security Professionals.

Sharing Our Intellectual Capital with Clients

Your investment professionals will gain valuable insights from our groundbreaking research on major investment topics and fiduciary issues. A categorized listing of white papers and position pieces authored by our professionals is available on our website, www.nepc.com.



Tap our full range of consulting services to meet your program's needs.

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¹ National averages are represented by the median fund in the \$2.5 trillion ICC Universe. Please note that NEPC does not have discretion over client assets, so a client's investment performance may not be attributable solely to NEPC's advice.



NEPC, LLC

DEFINED BENEFIT PLANS/PUBLIC FUNDS

A Strategic Partner to Public Funds

NEPC has been consulting to public pension funds ever since the firm's founding in 1986. Among consultants, our independent business model stands out. NEPC has no proprietary products, and we are not affiliated with any investment managers. Our advice is unbiased and focused on the single objective of meeting your investment goals.

Our experienced professionals, who include former plan-sponsor professionals, work with public systems of all sizes in more than 20 states. Let their knowledge of industry best practices and proactive, strategic guidance help you build investment programs that fulfill your investment goals and fiduciary obligations.

An Independent, Employee-Owned, Research-Driven Innovator

NEPC, LLC is one of the nation's largest independent, full-service investment consulting firms, serving over 300 retainer clients with total assets over \$695 billion. Headquartered in Cambridge, Massachusetts and with offices throughout the United States, we're known for incisive expertise and exceptional service. And results: NEPC's collective client base has outperformed national averages¹ in most years since our founding in 1986.

Development of Investment Policy

A well-conceived investment policy statement is the cornerstone of a successful investment program. NEPC works with you to develop or refine a statement that is appropriate to your risk tolerance and investment constraints. The statement outlines your program's goals and objectives; defines asset classes and investment managers; sets a target asset allocation; lays out investment guidelines and restrictions; specifies the roles of fiduciaries; and spells out reporting requirements. We also develop guidelines for each of the program's investment managers.

Multi-Dimensional Risk Analysis to Determine Asset Allocation

Our approach to asset allocation extends beyond traditional mean-variance analysis to include risk budgeting, scenario testing, liquidity analysis, and asset/liability modeling. Our approach rectifies the shortcomings of traditional efficient frontier approaches by capturing and quantifying a diverse set of risks. We partner with you to develop an asset allocation plan that is strategic and opportunistic to achieve your program's goals.



NEPC's investment solutions are tailored to the unique needs and fiduciary obligations of public sector defined benefit plans.

Our services:

- Investment policy development
- Asset allocation, based on assets and liability structure
- Searches for investment managers and custodians
- Trustee and staff education
- Public Fund peer group comparisons of performance and policy targets
- Transition management support
- Alternative investments such as private equity, hedge funds, and natural resources
- Portable alpha and other hedging strategies
- Socially responsible investing
- Commitment to emerging and minority- and women-owned managers
- Performance analysis – for the total program and for each asset class, capitalization range, investment style, and manager
- Due diligence/compliance monitoring of managers

Expertise in Searches for Managers, Custodians, and Securities Lenders

Soup to nuts, we handle the process of seeking out, identifying, and engaging the best investment managers and other service providers for your program. We visit hundreds of firms each year to continuously update our proprietary search database, and tap major public databases along with research shared within the Independent Consultants Cooperative (ICC). Our extensive network of personal contacts built up over the years is also brought to bear in evaluating providers.

Powerful Tools for Measuring Performance

Our robust Investment Performance Analysis (IPA) reports contain performance diagnostics, risk analyses, and universe comparisons at an overall portfolio level, and for each asset class, capitalization range, style, and manager in your program.

Detailed, Ongoing Scrutiny of Investment Managers and Market Trends

Our Traditional Due Diligence and Alternatives Due Diligence committees set a firm-wide policy on which investment firms are to be included in our searches, ensuring a consistent process for all our clients. The committees also assess manager performance and evaluate new products and technologies across all asset classes.

A Commitment to Emerging, and Minority- and Women-Owned Managers

We strive to identify qualified small and emerging firms, particularly those owned by minorities and women. NEPC actively engages with organizations that support minority- and women-owned firms, such as the National Association of Security Professionals.

We Share Our Intellectual Capital with Clients

Your investment committee members and staff will gain valuable insights from our ground-breaking research on major investment topics and fiduciary issues — on site, online, and at client conferences hosted by NEPC. A categorized listing of white papers and position pieces authored by our professionals is available on our website, www.nepc.com.



Our alternative asset allocation tools can help trustees evaluate their Policy portfolios in all kinds of economic and financial-market environments.

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INVESTMENT MANAGER REVIEW & SEARCH

Identifying Superior Investment Managers

Trained to review managers objectively and dispassionately, our researchers carefully scrutinize each firm's philosophy and process, looking for repeatability, consistency, and a clear commitment by its investment professionals to the organization and product. We use a rigorous research process to develop conviction in each of our preferred manager's ability to outperform the market. We focus on identifying and articulating the manager's investment thesis or "competitive edge" that we believe will lead to future outperformance.

A Meticulous and Comprehensive Manager Search Process

NEPC has developed a rigorous four-step search process.

Identification of candidate firms. NEPC analysts scour multiple internal and external databases including the ICC¹, eVestment Alliance (eA), Morningstar, and StyleAdvisor to identify managers that meet minimum criteria established by ourselves and the client. We consult our Due Diligence database, which houses the detailed information we gather in the course of our ongoing due-diligence activities, to flag any outstanding issues with a manager.

Quantitative screen. As an initial screen, managers must meet a set of quantitative criteria we have established for each asset class. Via the eA platform, our analysts research and compare managers using historical data, and export the data into NEPC's proprietary performance-analysis system, PASS (Performance Analytics Statistical Software). Using PASS, our research analysts then validate and compare manager returns across the full spectrum of investment styles.

A distinctive feature of the PASS system is that it breaks out a manager's excess return stream, or alpha, over time. By stripping out market movements and management fees, PASS allows us to isolate a manager's true skill, to evaluate it against other managers, and to determine cross-manager return correlations. Through PASS, we can compare the value added by managers across your program, as well as within categories you designate—for example, the sources and consistency of alpha among managers of U.S. large-cap equity strategies.



We have the information and expertise to find the investment managers that best meet your risk, return, and correlation targets.


Our proprietary manager search database is drawn from many sources:

- Face-to-face meetings with hundreds of investment managers annually as part of our ongoing due diligence
- Portfolio returns and diagnostics, personal contacts, and research shared within the Independent Consultants Cooperative (ICC)
- Subscriber databases such as eVestment Alliance, Morningstar, and Bloomberg
- Diagnostics on managers already working for our clients

Qualitative assessment. If the manager passes the quantitative screen for the mandate, our asset-class specialists then develop an “investment thesis” for the manager. This thesis reflects NEPC’s assessment of the specific ways in which a manager expects to add value, the market inefficiencies it seeks to exploit, and its merits relative to peers. Our specialists meet with key individuals from the firm to discuss its structure, resources, compensation, strategic direction and stability, succession planning, business growth, and commitment to the product. This onsite review may take place as part of ongoing due diligence, if the firm is already known to us. Our specialists then compile their findings and conclusions into a detailed report on the manager.

Review of the specialist’s report by NEPC’s Due Diligence Committee. The specialist presents a written and verbal report on the manager to our Due Diligence Committee, comprised of senior NEPC partners, for its consideration. Any issues that arise from this vetting session are pursued by the research analyst and subsequently readdressed to the Committee. If the manager passes muster with the Committee, it is considered “research-qualified” and added to a list of approved managers.

NEPC then prepares a “search book” for your use that contains information on each of the final candidate firms, and assists you with the interview process.



**Our searches are
informed by deep
insights on managers
we have developed
over decades.**

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'The Independent Consultants Cooperative (ICC) is a select group of consultancies across the nation, among which NEPC is the lead firm. In partnership with State Street Bank, the ICC produces one of the industry's most comprehensive comparative databases, composed of actual plan-sponsor portfolios rather than manager-supplied composites.



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PERFORMANCE MEASUREMENT

Customized Performance Reporting that is Clear, Concise, and Targeted

Performance measurement is one of the most frequent and vital services a consultancy delivers to its clients. Within the industry, our reports stand out as exceptionally robust and informative.

Our Analysis and Evaluation Resources are the Envy of the Industry

NEPC is the lead firm in the Independent Consultants Cooperative (ICC), an alliance of independent investment consulting firms and State Street Bank. The partnership with State Street, which provides back office support to the ICC, gives NEPC access to the bank's advanced technology and powerful systems. Client data from each consulting firm is pooled on an anonymous basis with State Street Bank data from its custodial clients to build the industry's largest performance universe.

The IPA Report: A Well-Organized and Comprehensive Source of Insights

The ICC database forms the foundation for our quarterly Investment Performance Analysis (IPA) reports to clients. The IPA lays out returns, risk analyses, and universe comparisons for the total program; for each of its asset classes, capitalization ranges, and style combinations; and for every plan strategy with relevant comparative data.

At a total plan level, actual asset composition is compared to allocation targets as of the report date. Returns of each fund in the program are compared not only to ICC-based peer groups but also to market indices selected for greatest relevancy to the mandate. More than 500 indices from all major vendors are available as benchmarks; we can also create customized benchmarks. Key metrics for equities (e.g., yield, price/earnings, price/book, Morningstar factors, market capitalization) and fixed income (e.g., duration, yield, quality ratings) are compared to peers and market averages to highlight their impact on performance. Throughout the report, informative graphics illustrate the major drivers of risk and return.

An overarching goal of our reporting is to isolate individual manager skill from market movements as well as policy and allocation/rebalancing decisions. Thus the IPA serves as an invaluable ongoing "scorecard" for clients in evaluating manager performance.



Benchmarking to actual peer groups, not manager-provided composites.

Performance measurement highlights:

- NEPC is the lead firm among a select group of consultancies that make up the Independent Consultants Cooperative (ICC)
- In partnership with State Street Bank, the ICC produces the largest and most robust performance measurement database and attribution system available in the industry, encompassing 10% of institutional plan sponsors¹
- Populated from independent custodian bank-accounting systems, not manager-provided platforms
- Data from more than 950 plan sponsors, 1,180 managers, and 19,555 portfolios across all asset classes
- Used by the Federal Reserve System and the Employee Benefits Research Institute

Access to the ICC Database Distinguishes our Comparative Analyses

Comparisons of plan investment strategies and relevant peer groups are crucial in assessing manager performance. Because our primary universe is so large, we can slice it into tightly focused subsets to generate diagnostics and comparisons with relevancy beyond the reach of other consultancies. For example, we can provide universe comparisons for endowments/foundations, public funds, Taft-Hartley plans, and corporate plans, then drill down to examine performance and asset allocation by fund size with meaningful, robust sub-samples.



Our performance reports draw on the industry's best sources of market and peer data to provide relevant, actionable insights for clients.

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¹ As estimated by Nelson Information, a unit of Thomson Reuters.



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