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CLIMATE CHANGE CONSULTING

*A Division of Mazzetti Nash Lipsey Burch*



## The BLUE Difference

### *Invent & Implement*

Climate change is often identified as one of the greatest challenges of the 21st century and has moved to the forefront of society's consciousness. According to the U.S. Energy Information Administration, buildings are responsible for approximately 48% of annual greenhouse gas (GHG) emissions. Though many are familiar with the term "climate change," few admit to knowing what it entails. Some are aware of climate change's accompanying problems, but may not know who to consult, how to mitigate their organization's environmental impacts, or what the benefits of early action may be. Voluntary action positions an organization to strategically anticipate, and even get ahead of, the early action measures slated to take effect during the first quarter of 2010.

In recent years, many have looked to the climate change experts at Mazzetti Nash Lipsey Burch (M+NLB) for education, awareness, and guidance. M+NLB is a national engineering design and consulting firm created in 2008 following the merger of San Francisco-based Mazzetti & Associates and Nashville-based Nash Lipsey Burch. Our firm boasts eight offices spanning six states across the country. M+NLB's Climate Change Consulting team, BLUE Climate Change Consulting, is armed with the expertise and tools necessary to prepare clients for upcoming regulations; offering awareness, education, and training; and aiding public, private, and non-profit organizations in mitigating their built environments harmful impacts.

M+NLB, and more recently BLUE Climate Change Consulting, has implemented sustainable, environmentally sound designs for almost 50 years. We help clients meet both current and future resource demands, while simultaneously maintaining building operations with minimal long-term impacts. Our climate change consultants are leaders who work hard to understand a client's specific needs so as to minimize consumption, maximize utilization, and reduce harmful byproducts.

Other consulting firms focus their efforts only on "greening" buildings, tempting facility owners with a LEED certification or positive public relations. BLUE pushes beyond preconceived consulting ceilings to help position sustainable design efforts as part of an organization's best practice standards. With attorneys, business professionals, and grant writers on staff, BLUE navigates this emerging terrain without compromising financial metrics or elevating risks.

Our roots in design and construction carry our commitment beyond theory; we are equipped to assist clients from design through completion. We approach every project not only as climate change experts and MEPT engineers, but also as investment managers who push for high-quality deliverables to reflect both cost-effectiveness and sustainability. Climate change consulting acts as a complement, rather than a supplement, to our traditional engineering services.

While other firms lack a thorough understanding of system designs due to limited capabilities, our gamut of traditional engineering and climate change services further informs clients of all possible methods of implementing sustainable, cost-efficient solutions.

With almost 50 years of experience, BLUE is proud to offer the following:

- Over 50 LEED® Accredited Professionals
- Over 20 LEED certified projects – eight certified Gold
- Completed 1% of LEED Gold certified buildings worldwide
- Completed 12% of LEED Gold certified buildings in Oregon
- Energy efficiency and renewable resource experience
- Numerous resource consumption efficiency systems
- Experience with third-party, energy efficiency programs
- In-house AEE Certified Energy Procurement Professional
- Waste minimization design, strategic planning and implementation programs



# Overview

## Today's Climate Change Environment

### *Braving the Financial & Economic Storm*

Some hesitate to invest in sustainable design and climate change consulting due to today's financial uncertainties. The financial challenge of paying upfront to save in the long term, combined with today's economic pressures and limited capital funds, prevent many from taking the first step. In truth, implementing sustainable design and resource efficiency measures can save businesses current and future costs; implementing energy efficient measures, for example, can save organizations \$0.60 per square foot, thereby reducing the per-square-foot energy costs by 40%. (Source: Coolcompanies.org/profits)

BLUE can alleviate organizations' concerns by offering and tracking capital resources meant to help organizations offset the costs associated with climate change consulting. These subsidies include rebates, incentives, offset programs, stimulus allocations, and green grants. We closely track the allocation of stimulus funds and look for opportunities to tap into these sources to help our clients mitigate not only the effects of climate change, but also the associated costs.

### *Political & Legislative Environment*

Currently, there are no mandatory GHG reporting or reduction requirements in the United States, though experts anticipate a slew of both local, state, and national regulations will emerge before long. The federal government is implementing voluntary and incentive-based programs to encourage organizations to take part in programs and climate change technology. The Senate Committee on Energy and Natural Resources is developing a "Mandatory Market-Based Greenhouse Gas Regulatory System" meant to mitigate GHG emissions. The National Commission on Energy Policy wants to mandate a national GHG emission-trading system and is currently exploring the allocation of emission permits. The Environmental Protection Agency is developing initiatives to encourage voluntary action. Currently, a number of voluntary

initiatives exist, including Current and Near Greenhouse Gas Reduction Initiatives, Green Power Partnerships, Tax Incentives to Reduce Greenhouse Gas Emissions, and Federal Grants to fund efficiency measures.

## Stepping Stones

### *Benefits to Early Action*

The first step to climate change action is to inventory and audit GHG emissions to best understand where reductions can be made, and how an organization's energy consumption measures against that of similar entities. Early action ensures a significant competitive advantage as clients who take advantage of early action distinguish their organizations as climate change action leaders, while simultaneously allowing an invaluable adjustment period to learn about the building's emissions and to identify where reductions are possible.

Voluntarily addressing these issues during the still-nascent period of regulations lends organizations both control over the anticipated business risks associated with upcoming policies and influence over impending climate change regulations. Climate change consulting can also help organizations contend with increasing energy prices, heightened consumption, and other factors negatively impacting the organization's operations and finances. Addressing climate change allows an organization to anticipate – and even mitigate – an increase in prices and accompanying costs.

BLUE arms our clients with the tools and expertise necessary to fully understand their buildings' impacts on the climate, while developing feasible strategies to address an organization's triple bottom line: its people, the planet, and its profitability. We address the need for the built environment by offering such services as Energy and Emissions Management, Energy Consumption and Pollutant Release Analysis, Public Health Risks Evaluations, and Climate Action Planning.



## Commitment to Combating Climate Change

### *An Expansive Menu*

BLUE's climate change consulting experience spans the healthcare, mission critical, laboratory, higher education environments, and public sectors. Our menu of services includes M+NLB's traditional MEPT services, in addition to a broad range of climate change consulting services, which encompass environmental impact analysis, energy and GHG management consulting and emissions inventory, and emission-reduction strategies. Many clients elect to educate and dedicate their organizations to several of the environment-saving strategies listed below:

- **Greenhouse Gas Emissions Inventory** – Conducting a GHG emissions inventory establishes baseline emissions to generate an inventory. Using registry protocols and GHG inventory calculations, a comprehensive audit is performed to identify energy-consumption patterns and reduction opportunities and recommendations.
- **Energy Rebates & Incentive Services** – To successfully finance energy and carbon-reduction strategies, we identify rebate and incentive requirements necessary for the use of subsidized funds. We educate the building owner regarding the types of incentive and rebate programs available and help pursue appropriate financing.
- **Energy Audits** – Energy audits are invaluable in comparing a building's current resource consumption to that predicted by its original design or against facilities with similar operations. These audits are presented in a report that summarizes short- and long-term action plans, energy-efficiency measures, associated costs, potential savings, and recommendations.
- **Reduction Analysis in the Built Environment** – Performing a reduction analysis is meant to help clients establish reduction and certification goals, identify energy-conservation measures, determine associated costs, and predict energy consumption. We provide a comparative matrix to identify a combination of energy-reduction techniques that best fit the client's needs.
- **Water Conservation** – When implementing water-conservation efforts, we analyze existing systems to determine areas to reduce water consumption and wastewater generation. From there, we formulate and incorporate conservation measures, including equipment and plumbing upgrades, stormwater reclamation, graywater systems, and outreach programs.
- **On-Site Renewable Energy Solutions** – The ability to harness wind, water, and biomass has increased the opportunity for on-site renewable solutions, which reduce the demand for energy generated by fossil fuels. These technologies include wind turbines, photovoltaic solar panels, solar thermal systems, small-scale hydroelectric power plants, and ground-source heat pumps.
- **Solar Feasibility Studies** – Before performing an analysis of the facility's resource-consumption trends, we first assess the available solar resources and all existing MEP infrastructure. We then follow with recommendations for the solar systems and provide a comprehensive report detailing solar energy system implications, recommendations, system-performance analysis, and economic analysis of various purchasing methods, incentives, and rebates.
- **Policy Analysis & Legal Compliance Services** – We use our policy analysis and legal compliance expertise to allay clients' fears by helping them to maintain margins under the anticipated climate change regulations. We act as the client's representative with access to a variety of data and opportunities to influence policy changes in a way that ensures the organization remains competitive.



# Overview

- **Climate Action Plan** – Our climate action planning services takes into account the emissions inventory and the community setting and public policies (both existing and projected) so as to produce a course of action tailored to the select community. These plans typically address emissions by sectors and present strategies to help clients meet or beat previously adopted goals.
- **Waste Management and Minimization Solutions** – Material consumption and waste generation contributes to climate change through the manufacture, delivery, use and disposal of materials. A comprehensive GHG reduction strategy should include a strategic planning and implementation program for source and waste reduction initiatives including setting baselines through audits and assessments, recycling and minimization strategies, and the use of measurement and reporting tools. Recycling programs and even zero waste initiatives are great outward examples of an organization’s commitment. Solid communication and engagement strategies are critical for success.
- **Free Cooling Economizers in Data Centers** – to reduce energy consumption to 1/7th of conventional designs
- **Steam Reformation of Biological Waste to Nonhazardous Waste & Energy**
- **Flue Gas Condensing Systems** – captures waste heat and water for reuse
- **Sterilizer Water Reclamation**

BLUE’s “in partnership” experiences result in innovative design solutions. We collaborate with public and private organizations and have highly evolved relationships with numerous others dedicated to climate change problems.

## On the Razor’s Edge

BLUE is a leader of innovative solutions designed to exceed the client’s objectives. We have incorporated a number of design innovations into recent healthcare projects to improve patient comfort, generate a healing environment, improve employee efficiency and consumption, and increase operational economics. We have also pioneered and implemented several innovative advancements, including:

- **Variable Air Volume Solutions for Mechanical Systems** – results in enormous energy savings
- **Displacement Ventilation Research** – helps save energy without compromising air quality
- **Medical Gas Recapture Investigations**
- **The U.S. Green Building Council (USGBC)** – influence emerging climate change trends & policies
- **Southern California Edison/San Diego Gas & Electric’s Third Party, Healthcare Energy Efficiency Program (HEEP)** – offer cash incentives for energy-saving retrofits of existing equipment & systems in healthcare facilities
- **Lawrence Berkeley National Laboratories** – energy benchmarking framework for hospitals; perform evaluations using metrics formulated to facilitate comparisons among similar entities
- **Pacific Gas & Electric Company IDSM** – provide various energy assessments, analyses & services
- **Kaiser Permanente’s High Performance Building Committee** – promotes sustainable design in healthcare facilities, and develops an energy plan, budget, and business case for all of its Northern California hospitals
- **The California Office of Statewide Health Planning & Development (OSHPD)** – active on several committees and play an advisory role regarding energy codes



- **The 2003 Rocky Mountain Institute Low-power Data Center Charrette** – reduce energy use in data centers without compromising reliability requirements
- **Green Guide for Health Care (GGHC)** – develops tools to help hospitals become more sustainable
- **American Society of Heating, Refrigerating & Air-Conditioning Engineers (ASHRAE)** – reinvent ventilation standards through use of displacement and natural ventilation and developed two energy design guides for healthcare; help develop the model green building code for healthcare.

## Energy Efficiency Services

- Audits & Assessments
- Advanced Energy Modeling
- Design Review & Planning
- Financing Mechanisms
- Performance Metrics & Benchmarking
- Consumption Analysis

## Sustainability/Policy Research

- Emerging Technologies
- Regulatory Issues
- Incentive Programs
- Green Pricing & Certification
- State Policy & Programs

## Environmental Impact Analysis

- Lifecycle Models
- Greenhouse Gas Emissions Inventory/Reporting/Certification
- Greenhouse Gas Credits
- Emission Reduction Strategy Formulation
- Water, Solid Waste & Land Impacts
- Pollution Control Technologies
- Transportation

## Feasibility Studies

- Technical Assessments
- Environmental Assessments
- Capital and O&M Costs
- Economic/Cost Models
- Financial Evaluation

## Climate Action Planning

- GHG Emission Inventory
- Goal Setting
- Background Reporting
- Climate Action Plan
- Community Outreach & Education
- Monitoring & Emission Inventory Updates



# Awards

- **2010 Best Project–Design-Build Rehabilitation/ Renovation/Restoration Award**, Design Build Institute of America (DBIA) Western Pacific Region  
Richmond Civic Center Plaza, Phase I Redevelopment & LEED Cx Services, Richmond, California, USA  
Architect: Nadel Commercial Architects
- **2009-10 Colorado Environmental Leadership Award**, Silver, Colorado Department of Public Health  
Environmental Leaders Program, Denver, Colorado
- **2009-10 Portland Climate Champion**  
BEST Business Center, City of Portland, Oregon, USA  
First Ever Awarded
- **2010 Champions for Change Award**  
Hospitals for a Healthy Environment
- **2009 Champions for Change Award**  
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- **2008 Champions for Change Award**  
Hospitals for a Healthy Environment
- **2007 Champions for Change Award**  
Hospitals for a Healthy Environment
- **2007 AIA SF Awards – Energy + Sustainability Merit Award**  
Franchise Tax Board, Sacramento, California, USA  
Architect: HOK
- **2005 Vista Award**  
American Society for Healthcare Engineering of the American Healthcare Association  
Rogue Valley Medical Center Expansion  
Medford, Oregon, USA  
Architect: Mahlum Architects
- **2004 Susanne Wilson Award for Pollution Prevention/Resource Conservation, Acterra Business Environmental Awards**  
NetApp New Data Center, N+1 Redundancy, Cogen Design, Sunnyvale, California, USA
- **2002 Vista Award**  
American Society for Healthcare Engineering of the American Healthcare Association  
Kaiser Permanente, SF Medical Office Building  
San Francisco, California, USA  
Architect: Anshen+Allen
- **2000 Regional Award**  
American Society of Heating, Refrigerating and Air-Conditioning Engineer
- **2000 Best Business for an Environmentally Sustainable Tomorrow Award**  
Swindells Hall, University of Portland  
Portland, Oregon, USA  
Architect: Soderstrom Architects
- **1996 Architecture + Energy Award of Merit**  
Portland Community College, Rock Creek Campus  
Science Building, Portland, Oregon, USA  
Architect: SRG Partnership
- **1993 State of Oregon Governor’s Energy Award**  
Oregon Museum of Science and Industry  
Portland, Oregon, USA  
Architect: Zimmer Gunsul Frasca Architects LLP
- **Savings by Design, PG&E Energy Efficiency Program**  
Various Northern & Central California Locations  
Numerous Projects Honored



