



Energy Efficiency Building Retrofit Program

More than one-third of worldwide energy is consumed in buildings¹, accounting for about 17 percent of global carbon emissions.² In large cities, building energy use can account for up to 80 percent of carbon emissions. The built environment is therefore a critical part of the climate change problem – and solution.

CCI's Energy Efficiency Building Retrofit Program (EEBRP) brings together many of the world's largest building owners, cities, energy service and technology firms and financial providers in a landmark effort to reduce energy consumption in existing buildings. Most existing buildings were not designed to be energy efficient. By retrofitting with up-to-date products, technologies and systems, and adjusting operational and management behavior, however, building owners can realize significant reductions in energy use, costs and emissions.

CCI works with building industry, government and financial partners to overcome market barriers and develop financially sound and replicable solutions that accelerate the growth of the global building efficiency market. Offering *pro bono* advisory services, CCI helps a range of building owners -- city and state governments, commercial portfolio owners, schools, universities, and public and social housing providers -- to identify, design and implement large-scale energy efficiency projects. CCI also brings building owners together with the necessary contracting and financial firms for project execution.³

DEVELOPING LARGE-SCALE ENERGY EFFICIENCY PROJECTS

CCI's support to building owners includes:

- Contracting and procurement: CCI works under several different mechanisms for increasing building efficiency including retro-commissioning, building technology replacement, and holistic retrofitting. CCI offers its assistance throughout the lifecycle of the project, including establishing project goals and constraints, determining a contracting mechanism, designing and executing procurement, and providing ongoing project management support. CCI also offers partners access to standardized templates, tools, and resources designed to streamline the procurement and project development process.

¹ United Nations Environment Program, "Buildings and Climate Change: Status, Challenges and Opportunities," (2007) pg. 8.

² McKinsey and Company, "Pathways to a Low Carbon Economy" (2009) pg. 104.

³ CCI is a non-profit organization that operates from an independent and unbiased perspective. CCI is not a developer, technology provider, or investor and has no financial interest in any project that might be developed. Our work is funded through charitable donations from individuals and private foundations.

- **Project Finance:** For many building owners, capital costs are a barrier to investing in building retrofits. CCI helps individual building owners procure project financing on competitive terms using existing financial products and strategies. CCI also helps building owners with specific needs or challenges, matching them with providers of capital to create new approaches to financing.
- **Technology selection:** Building owners working with CCI can access information and discounted pricing on a range of best-in-class energy-efficient products, including heating, ventilation and cooling, building envelope and lighting technologies. In order to accelerate the adoption of energy efficient building technologies worldwide, CCI has developed agreements with building technology suppliers which include preferential pricing and enhanced project support for CCI partners. CCI assists building owners with technology selection and competitive procurement; facilitates connections between building owners and technology suppliers; and provides third-party oversight throughout project implementation.
- **Recognition:** As part of its global reach and mission, CCI seeks to shine a light on leading partners that have implemented energy efficiency building retrofits that achieve measurable results in reducing carbon emissions.

CREATING SCALABLE MODELS

Based on its project development experience, CCI is creating standardized models -- for procurement, contracting, project implementation and financing -- that can be replicated around the world.

- **Energy efficiency financing** –To address capital cost barriers to improving building energy efficiency, CCI is working with financial institutions and providers of capital around the globe to adapt existing and create new financial products that are specifically tailored to energy efficiency projects. Based on challenges found repeatedly in actual projects, these products address common issues, such as lack of collateral or credit, owner/landlord split-incentive, and transfer or sale of buildings. While many of these newly created financial products are being tested in the market in the context of specific projects, geographies or building types, CCI is working to bring them to global scale.
- **Energy performance contracting (EPC)** - This turnkey contracting model, in which an energy services contractor provides project design, implementation and measurement along with a financial performance guarantee, has been used successfully in North America and Europe for over 20 years. In order to accelerate the growth of the global retrofitting market, CCI has developed EPC models that incorporate best practice global terms and conditions, and can be widely shared and adopted around the world. These models address factors such as risk-

sharing, streamlined procurement and transparency, which reduce project cost, development time, and business risk. CCI has signed agreements with a number of energy services companies (ESCOs) to execute projects under these contracting terms and conditions, whereby energy savings and maximum project costs are contractually guaranteed. In many projects, building owners are incorporating CCI's models in EPC projects and contracting frameworks.

- Technical retro-commissioning (RCx) – RCx addresses the optimization of existing building equipment and operations rather than the replacement of major equipment and can be an effective and inexpensive way to reduce energy use. However, historically there have been no standard definitions, rules or metrics that define RCx, leading to confusion about the process, and projects of varying results. CCI worked with technical experts and standards organizations to create an RCx procurement and project development model that focuses on contractor ability, technical processes and measured results. Building owners working with CCI can use this model to reduce energy use and costs and achieve other goals such as green certification, while identifying and prioritizing opportunities for future capital improvements.
- Energy efficient technology procurement – Decisions about replacing building technologies and systems are often based upon “lowest first cost” rather than “true cost” analysis, thereby overlooking significant benefits, such as energy efficiency or maintenance cost savings. CCI has developed procurement models for a series of building technologies that help building owners engage with suppliers to assess product options from a lifecycle cost perspective.

For more information on CCI's Building Retrofit program, please contact buildingretrofit@clintonfoundation.org

EEBRP By the Numbers

CCI is working on over 250 individual and multi-building energy efficiency projects around the world. Together, these projects encompass over 500 million square feet of building space in more than 20 cities. Already over 400 buildings are in or have completed construction and will prevent the release of over 120,000 metric tons of carbon into the atmosphere each year. These include:

- Public buildings in cities such as Houston, London and Melbourne
- More than 20 schools and universities
- The largest public housing stock in North America
- Commercial buildings such as hotels, office buildings and malls, including the Empire State Building in New York City and one of the largest malls in India