

# The Case for an Industry Standard in the Credentialing of Commercial Building Energy Assessors:

## *An Evaluation of Limitations in Existing Energy Auditor, Energy Modeler, Commissioning and Retrocommissioning Certification Programs*

### Executive Summary

The Institute for Market Transformation (IMT) has reviewed existing credentialing programs for commercial building energy auditors, energy modelers, and commissioning and retrocommissioning agents. This paper summarizes findings, identifies gaps and inefficiencies, and proposes initial steps toward remedies. The key issues are 1) **lack of uniformity** among existing programs in terms of content, rigor, process, and cost; and 2) **insufficient quality assurance and professional accountability**, largely because of resource and staffing limitations.

Developers of energy-efficiency legislation, mandates, and programs currently perceive that credentials in themselves are not enough, thus leading to the need to set further requirements, such as stipulations for minimum professional experience and additional review by licensed design professionals. These requirements add cost and complexity, slowing the implementation of energy efficiency initiatives.

The creation of a coalition of certification providers would provide the building industry an effective platform to resolve these inefficiencies and cooperate to create a manageable, cost-effective process to boost the quality assurance and long-term market value of professional certifications. An eventual goal of such cooperation could be the facilitation of the development of an industry standard that provides a unified, streamlined process for the training and certification of building professionals.



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## Foreword

*The Institute for Market Transformation (IMT) is a Washington, D.C. based nonprofit organization promoting energy efficiency, green building and environmental protection in the United States and abroad. IMT's work addresses market failures that inhibit investment in energy efficiency and sustainability in the building sector.*

*The New York State Energy Research and Development Authority (NYSERDA) requested IMT services to conduct a comprehensive review of national professional and technical certification programs focused on energy auditing and existing building retro-commissioning. The work commissioned by NYSERDA sought to: 1) assess the quality of training and certifications for auditors and retro-commissioners, and 2) recommend a short-term strategy that leverages existing training and certifications, and 3) establish a long-term strategy that moves toward an ideal standard of quality for auditors' and retrocommissioners' training and certifications.*

*NYSERDA wishes to determine the extent to which existing market-based certification programs support the educational needs of professionals and technicians engaged in energy efficiency projects funded by NYSERDA and other investor-owned utilities (IOU's) in New York State, while also ensuring an adequate supply of skilled technicians and professionals to support energy efficiency projects motivated by New York City Greater Greener Building legislation.*

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## *Background*

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The Institute for Market Transformation (IMT) conducted a review of professional certification programs in the building industry. The goal of the research was to identify which existing credentialing programs can be used as part of requirements under new energy-efficiency legislation and other related programs. There is growing demand from local, state, and national jurisdictions to streamline building professional credentialing programs in order to more easily integrate them as requirements.

Based on market research, IMT had identified that the most significant benefit of requiring building professionals to hold a credential in their field is to ensure the quality of their work. Therefore, IMT also assessed the quality of existing certifications and related training programs. The assessment included examination of program curriculum, cost, delivery methods, testing rigor, quality assurance mechanisms, competencies identified in the knowledge base, and continuing education requirements. IMT's review included fifteen credentialing programs provided by eight different agencies. IMT received varying levels of input and support from these agencies in conducting the research.

IMT's review focused on existing energy auditor, commissioning, retrocommissioning, and energy modeler programs that provide professional certification to participants. IMT initiated and participated in meetings, calls and discussions with providers of these certification programs. Representatives from the agencies were briefed on the background of the research.

IMT has summarized the findings from the review and identified the lack of uniform industry standards in the various fields related to energy assessment and unreliability of professional accountability as the most significant gaps in existing credentialing programs. Based on the outcomes of the assessment, a need has been identified to organize various stakeholders to discuss creating a coalition for agencies that provide professional credentialing programs in energy auditing and commercial building commissioning. A model such a coalition may seek to emulate is the National Council on Qualifications for the Lighting Professions (NCQLP). NCQLP is a coalition of member organizations in the lighting profession who through a peer-review process established the education, experience, and examination requirements for baseline certification across the lighting professions.

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***Summary of results: Credentialing Program Review***

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Evaluation of these programs has led to the following observations:

- Current certifications in the same field have very different standards.
- The programs test for varying skill sets. Some certifications have their own written body of knowledge; others do not.
- There is a diverse range of building types in the commercial building sector. Therefore, certifications' written bodies of knowledge vary greatly depending on which type of buildings are targeted by the program.
- Each program has different prerequisites to be eligible to participate in the certification program.
- Programs do not generally have an established auditing process for checking documentation that participants meet prerequisites or complete continuing education requirements.
- Some programs require a specified training program before being eligible to sit for an exam while some have optional or no training requirements.
- Training programs are often provided by the same organization that administers the exams. This could lead to a training curriculum being angled at passing an exam as opposed to specific competencies required in the actual field assessment.
- Continuing education requirements are not included in all programs.
- Program fees vary widely, from \$150 to \$1800.
- Information is inconclusive on how often the exams are audited/updated.
- Not all programs have quality assurance mechanisms built in.
- Programs do not generally include field assessment components; participants are often only assessed by written examinations.
- Programs generally lack accountability mechanisms for professional misconduct after award of certification.

***Significant gaps in existing commercial building credentials: Uniformity among program standards and reliability of quality assurance***

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Many of the observations from the credentialing program review relate to the significant variation among the program prerequisites, examination procedures and training requirements. Without an

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industry standard for what knowledge base, skill sets, and professional experience a certified building professional possesses, the merit of the credential is diminished. In addition, continuing education and recertification procedures vary greatly from program to program, making it difficult to assess the long-term value of holding one of the existing professional certifications.

Most credentialing programs do not have built-in standards for monitoring the performance and professional conduct of individuals who have earned a certification. The programs that do have some procedures for revoking a certification lack funding or staff to conduct regular audits or inspections of certified professionals. Legislation and energy efficiency programs that mandate building professionals to hold a certification currently must also require professional licenses such as a Professional Engineer (PE) or a Registered Architect (RA) to ensure accountability. Such design professionals are not always necessary for tasks such as energy audits or for the commissioning process. Therefore, mandates that must rely on other mechanisms to provide quality assurance can lead to higher costs for building owners who need to comply with new rules and procedures. This is particularly true for small commercial and multifamily residential buildings. Higher costs can be a barrier inhibiting the widespread implementation of energy efficiency programs for commercial buildings.

There is a need for a long-term strategy that provides a streamlined approach through certification programs to provide uniform industry standards for various certified commercial building energy assessors and a mechanism for professional accountability. New legislation and programs encouraging energy efficiency may be facilitated by eliminating the need for a licensed design professional. Therefore, agencies that provide credentialing programs would greatly benefit from establishing industry standards for the rigor of the programs, including procedures for revoking a certification for professional misconduct.

### *Creating a model system for ensuring professional accountability*

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Creating a coalition of building professional organizations, such as NCQLP has done in the lighting industry, could provide a platform for communication and streamlining among agencies working in the same field. In addition, agencies providing commercial credentialing programs could consider the following best practices from current residential credentialing programs:

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- Credentialing agencies must allocate funding and staff directly responsible for overseeing quality assurance of certified professionals.
- Industry standards for professional conduct should be established.
- Professional accountability should have different levels for discipline such as probation, suspension, and revocation.
- Building professionals who receive professional certification should have to undergo onsite audits by credentialing agencies.
- Industry should provide a process for third-party contractors to conduct QA audits if certain agencies cannot dedicate full-time staff to QA.
- Continuing education and recertification process should be standardized throughout industry.
- There is a need for more third-party training and continuing education providers.

### *Conclusion*

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Through IMT's review, it can be concluded that the market does currently have credentialing programs for energy auditors, modelers, commissioning and retro-commissioning agents. The most significant gaps in existing credentialing programs are the lack of uniformity among program standards and the reliability of quality assurance and professional accountability. Because of the wide range of commercial building types, rigor, cost and training requirements, legislation and other energy-efficiency programs must still include additional requirements such as the signature of a licensed design professional to certify the work of a credentialed building professional. Also, since a wide range of prerequisites are available for individuals to qualify for a certification, specific professional experience is usually required in addition to the requirement of a certification and design professional.

By creating a coalition of certification providers, the building industry would create an effective platform for communication. This could help facilitate the development of an industry standard that provides a manageable, cost-effective process to boost the quality assurance and long term market value of professional certifications. Such partnerships among the building industry could help meet the need for a streamlined process for building professionals to be trained and certified to meet an industry standard.

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*List of reviewed credentialing programs*

Organization	Certification	Cost*	# Certified*
Association of Energy Engineers (AEE) <a href="http://www.aeecenter.org">http://www.aeecenter.org</a>	Certified Building Cx Professional(CBCP)	\$1350- \$1995	680
	Certified Energy Manager (CEM)	\$1295- \$2095	8450
	Certified Energy Auditor (CEA)	\$1295- \$1695	1200
American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) <a href="http://www.ashrae.org">http://www.ashrae.org</a>	High Performance Building Design Professional (HPBDP)	\$295- \$415	150
	Commissioning Process Management Professional (CPMP)	\$295- \$415	120
	Building Energy Modeler Professional (BEMP)	N/A	New
Building Commissioning Association <a href="http://www.bcxa.org">http://www.bcxa.org</a>	Certified Commissioning Professional (CCP)	\$500- \$700	80
University of Wisconsin – Madison (UWM) <a href="http://cx.engr.wisc.edu/">http://cx.engr.wisc.edu/</a>	CxAP – Accredited Commissioning Process Authority Professional (also CAP)	\$675	690
	CXM– Accredited Commissioning Process Manager		
	CxTS – Accredited Commissioning Process Technical Support Provider (also CTS)		
National Environmental Balancing Bureau (NEBB) <a href="http://www.nebb.org">http://www.nebb.org</a>	Retro-commissioning Certification	Varies	N/A
AABC Commissioning Group (ACG) <a href="http://www.commissioning.org/">http://www.commissioning.org/</a>	Certified Commissioning Authority (CxA)	\$1750	300
	Certified Commissioning Technician (CxT)	\$200	10
Building Performance Institute Inc. <a href="http://www.bpi.org">http://www.bpi.org</a>	Multifamily Building Analyst (MFBA)	\$300- \$400	N/A
International Union of Operating Engineers (IUOE) <a href="http://www.local94.com/index.cfm?id=257#ec">http://www.local94.com/index.cfm?id=257#ec</a>	Certified Energy Specialist	\$150	N/A

\*As of September 2009.