

Total Building Performance

CERTIFICATE SCHEME HANDBOOK (PILOT)



Notice

Anyone interested in obtaining the BPI Total Building Performance Certificate of Knowledge will need to know the scope of the certificate and all requirements.

This certificate scheme handbook outlines the knowledge, skills and abilities needed for individuals to obtain the BPI Total Building Performance Certificate of Knowledge.

Information in this scheme handbook represents the policies at the date of publication for the BPI Total Building Performance Certificate of Knowledge. Information in this scheme handbook supersedes information contained in any previously published documents.

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Acknowledgements

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Disclaimer

Eligibility standards, exam content, exam standards, fees, and guidelines are subject to change. BPI will keep the most up-to-date version of this document posted at www.bpi.org. Prior to participating in any available service through BPI, check to ensure that you have based your decision to proceed on the most up-to-date information available. BPI reserves the right to modify documents prior to accepting any application.

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1. About BPI

Founded in 1993, the Building Performance Institute (BPI) is the nation's premier certification and standard-setting organization for home performance professionals. BPI is accredited by the American National Standards Institute, Inc. (ANSI) as a developer of American National Standards. BPI is also accredited as a certifying body for personnel credentials by the ANSI National Accreditation Board (ANAB). BPI develops the technical standards for home energy audits and for energy efficiency, health, and safety improvements. From these standards, BPI develops rigorous online and field exams resulting in one of BPI's 14 professional certifications. BPI understands the importance of impartiality in carrying out its certification activities, manages conflict of interest, and ensures the objectivity of its certification activities.

BPI also offers three programs (<u>BPI GoldStar Contractor</u> for companies, <u>Rating Program</u> for raters, and <u>BPI Product Listing</u> for manufacturers) and four certificates of knowledge (<u>Building Science Principles</u>, <u>Healthy Housing Principles</u>, <u>Site Supervisor</u>, and <u>Total Building Performance</u>). BPI Certified Professionals hold over 15,000 active certifications supported by over 100 BPI Test Centers and 250 Proctors. BPI has over 300 BPI Goldstar Contractors across the country.

BPI is a 501(c)3 corporation registered in the state of New York. The corporation was incorporated on January 18, 1996, and the Federal Tax ID number is 14-1789014. The objective of the corporation is to provide credentialing for individuals and corporations involved in the residential retrofit industry. BPI is headquartered in Saratoga Springs, NY.

2. BPI Certificate Schemes

BPI offers individual certificates in a number of areas in the residential retrofit industry.

The certificate schemes are developed and then reviewed on an ongoing basis by scheme committees made up of subject matter experts – individuals with credentials and experience within the industry. The scheme committee reviews statistics, industry changes and current certificate scheme requirements on a regular basis.

Industry input on each certificate scheme is encouraged. The scheme committee members will seek input from external sources including, but not limited to:

- industry associations
- professional groups
- government agencies
- consumer/owner advocacy groups

The certificate outlined in this pilot scheme handbook is for individuals involved in recruiting and working with owners of existing residential buildings for a deep retrofit, electrification and decarbonization project. For a full listing of all BPI certificates and certifications offered, see the www.bpi.org website.

To obtain the BPI Total Building Performance Certificate, candidates are required to successfully complete a multiple-choice online exam developed by industry subject matter experts. The BPI Total Building Performance Certificate pilot exam will include an over-abundant number of exam items and candidates should expect to see more than 100 multiple-choice questions. This is required for BPI to have additional exam questions for future use. The final versions of the exam will include 100 multiple-choice exam questions.

In addition, candidates will be asked about potential prerequisite information relating to education, experience, and other certifications they may have obtained.

The requirements for this certificate will be reviewed every five years and modified as required by the scheme committee with input from the residential retrofit industry. Modifications to the certificate scheme will be made by BPI on the basis of the non-compliance cases, feedback from industry and technical changes to materials, components, systems, building codes or other relevant items.

3. Outline of the Total Building Performance Certificate

This certificate scheme handbook outlines the knowledge, skills, and abilities requirements for the Total Building Performance Certificate (TBP).

The scheme defines the scope of the TBP as the following: Individuals obtaining the Total Building Performance Certificate of Knowledge have demonstrated knowledge in client management, supporting the selection of installers, financing opportunities, and communication with clients involved in a total building energy efficiency and fossil-fuel reduction retrofit project for a residential-style building. They are knowledgeable in the responsibilities for identifying the optimization and sequence of potential deep energy retrofit projects and recruiting building owners to pursue the goal of net zero energy consumption and/or net zero carbon of the building. They have proven awareness and understanding of state, local and utility energy efficiency, and renewable energy programs, and the importance of scope of work development and understanding the interdependencies of proposed measures and systems involved. They have verified an understanding of the energy, cost and carbon impacts of the proposed measures. The individual has shown responsibility for project completion verification to project design, test-out, and any close-out report generation, and for a commissioning review of the project performance post-completion. Lastly, they have exhibited a general understanding of the fundamentals of building science.

This document is intended to include all of the tasks an individual may need to perform when designing a total building performance project, as well as the knowledge, skills, and abilities required to do these tasks.

Please note that a certificate is not a license to practice. All persons who obtain this certificate must comply with applicable federal, state, and local laws and regulations governing the profession.

4. Preparing for the Total Building Performance Exam - PILOT

Before you register for the exam:

Download the latest version of the BPI TBP certificate scheme handbook from www.bpi.org

- Read and understand all information.
- Refer to the Functions & Tasks section to be sure that you understand and can perform the tasks required for this certificate.
- Obtain reference materials for the multiple-choice exam and study well in advance of taking the exam.
- Complete the application and supporting perquisite questions to take the TBP Certificate exam, which can be completed here.

4.1 Prerequisites

Prerequisites for the Total Building Performance Certificate of Knowledge will be determined after completion of the Pilot Exam process, using three categories: experience, training, and certifications. BPI will be collecting information from candidates for the TBP Scheme Committee to review and determine the proper prerequisites for the national launch. If an individual who takes the pilot exam and receives the TBP Certificate of Knowledge does not meet the prerequisite requirements that are established, their certificate will remain active and will not be revoked.

Experience

The application for the TBP Certificate exam will ask candidates about relevant experience including, but not limited to, years of work experience, building sector, and staff level in a company (i.e., technician, auditor, manager, owner).

Training

The application for the TBP Certificate exam will ask candidates about relevant training they may have completed, including preparatory training developed for the TBP Certificate accessible on the Northeast Energy Efficiency Partnership (NEEP) website.

Certifications

The application for the TBP Certificate examination will ask candidates about relevant certifications they currently hold.

4.2 Certificate Fees, Application, and Scheduling

BPI certificate exams are provided online and can be taken by the candidate any day of the week at any hour of the day. In accessing the exam portal, you will be able to submit your application to BPI and take the pilot exam.

5. Multiple-Choice Exams – PILOT

In order to obtain the TBP certificate, a candidate must successfully complete a multiple-choice exam taken online to ensure competency in the critical tasks defined by BPI. The multiple-choice exam is comprised of 100 questions to cover knowledge and skills. There will be up to 5 additional questions on the exam that you will not be scored on. These items will also go through the cut score study to be used

as "backup" questions in the case of poorly performing questions in the future. The multiple-choice exam consists of multiple versions.

Note: The passing score for the multiple-choice exams will be determined by a cut score study conducted after the pilot period ends. Candidates who take the pilot exams will be contacted with the results of their exam after the cut score study has been completed. **No exam results will be given before that time.**

This exam is an open-book exam.

Future discussion or disclosure of the content of the exam, orally or in writing, or by any other means, is prohibited. Theft or attempted theft of exam items is punishable to the fullest extent of the law, termination of status, civil liability, criminal prosecution, or other appropriate sanctions.

6. Functions and Tasks

The Knowledge required for this exam is detailed below.

Domain 1: Demonstrating Proficiency in Designing a Total Building Performant	се
Task 1: Establish project goals	
Knowledge of:	
How to document client concerns	
How to educate a client	
How to document client expectations	
Task 2: Establish project scope	
Knowledge of:	
How to develop a scope of work	
How to develop a timeline	
How to determine interdependencies of measures	
Task 3: Establish budget	
Knowledge of:	
Personal economics	
Financing	
Creating a budget	
Task 4: Assemble project documentation	
Knowledge of:	
Preparing project documents	
Client fuel release	
Task 5: Review individual estimates and contract from installers with intended scope	
Knowledge of:	
Comparing contracts	
Energy efficiency measures	

•	Measure pricing
	Task 6: Establish roles and responsibilities for installers and client
Kn	owledge of:
•	Client/Contractor relations and interactions
•	Setting goals
	Task 7: Determine existing useful life of the existing equipment
Kn	powledge of:
•	Capital improvements
•	Measure life
	Domain 2: Understanding Project Financial Analysis for a Total Building Performance Project
	Task 1: Understand financing terms, definitions, and requirements
Kn	owledge of:
•	Loan terms
•	Interest rates
•	Cash flow analysis
•	Secured loans
•	Unsecured loans
	Task 2: Understand energy analysis, long-term cash flow analysis
Kn	owledge of:
•	Energy expenditures
•	Capital Expenditures
•	Energy escalation rates
•	Discount rates
	Task 3: Use various financing mechanisms and models
Kn	owledge of:
•	On-bill financing
•	Leasing
•	Cash-out financing
•	Home equity line of credit
•	Secured vs. unsecured financing
	Task 4: Understand various financial analysis tools/instruments for projects
Kn	owledge of:
•	Cost effectiveness
•	Return on investment
	Task 5: Locate available regional/program financing, rebates, incentives, and tax credits
Kn	owledge of:
•	Federal, state, and local resources that support renewables and energy efficiency

	Task 6: Compare financial scenarios		
Kr	Knowledge of:		
•	Comparing loan terms		
•	Comparing loan interest rates		
•	Comparing current and estimated expenditures		
	Task 7: Communicate effectively to client		
	Knowledge of:		
•	Effective communication to meet client's goals		
	Task 8: Understand incremental and avoided cost		
	Knowledge of:		
•	Avoided costs		
•	Incremental costs		
	Task 9: Understand impact of energy features on home value		
	Knowledge of:		
•	Home appraisals		
•	Appraisal resources		
•	Multiple Listing Service		
•	Home labeling		
	Domain 3: Demonstrating Proficiency in Communication to Clients		
	Task 1: Identify the client's concerns and goals		
	Knowledge of:		
•	Effective communication and listening		
	Task 2: Provide an effective description of decarbonization		
	Knowledge of:		
•	Building decarbonization		
	Task 3: Communicate to the client a project that represents their goals		
	Knowledge of:		
•	Setting goals for clients		
	Task 4: Identify the client's communication type		
	Knowledge of:		
•	Communicating by phone		
•	Communicating by email		
•	Communicating by texting		
•	Sharing files		
	Domain 4: Understanding of Energy Modeling, Load Calculations and Measure Analysis of a Total Building Project		
	Task 1: Understand optimization scenarios of a building's energy model		
	Knowledge of:		
•	Energy models		
•	Interaction of installed measures		

Task 2: Understand appropriate balance of installed measures to meet goals and budget
Knowledge of:
Measure cost
Budgets
Savings models
Non-energy benefits
Cash flow
Task 3: Understand time dependencies and seasonality impacts on the end-use loads and load shape of the building
Knowledge of:
Load shapes
Seasonality impacts
Solar output capacity
Task 4: Understand demand response for the building
Knowledge of:
Demand response
Building end-use load shapes
Demand response utility programs
Demand response technologies
Task 5: Understand dynamic pricing
Knowledge of:
Dynamic pricing
Demand charges
Net metering
Task 6: Understand appropriate HVAC and renewable power generation opportunities
Knowledge of:
HVAC equipment
On-site power generation
Site assessments
Pricing
Authority Having Jurisdiction
Task 7: Understand heat pump technology and options
Knowledge of:
Heat pump technologies
Heat pump options
Heat pump types
Task 8: Understand heat pump performance characteristics
Knowledge of:
Heat pump operation
Heat pump Coefficient of Performance

	Heating Second Derformance Factor
	Heating Seasonal Performance Factor
•	Heat pump maximum and minimum capacity rates
•	Heat pump turn-down ratios
•	Regional and federal resources supporting heat pump performance
	Task 9: Understand heat pump oversizing/under-sizing impacts
	Knowledge of:
•	Building design load and heat pump system sizing relationship
•	Heat pump oversizing impacts
•	Heat pump under-sizing impacts
•	Heat pump short cycling
•	Comfort issues related to heat pumps
	Task 10: Understand heat pump load calculation and equipment selection including limitations as related to cold climate heat pumps
	Knowledge of:
•	Heat pump load calculations and ACCA Manual J limitations
•	Heat pump equipment selection and ACCA Manual S
•	Cold climate heat pump equipment limitations
	Task 11: Understand sizing and siting solar
	Knowledge of:
•	Solar system siting
•	Solar system sizing
•	Solar system mounting strategies
•	Grid-connected solar
•	Off-grid connected solar
•	Modeled solar usage
•	Site assessments for solar installations
	Task 12: Understand solar grid connectivity
	Knowledge of:
•	Net metering for solar
•	Solar panel options
•	Solar output
•	Solar system parts
•	Production meter vs. utility meter
•	Interconnection agreements
•	Solar pricing
	Task 13: Understand battery storage dispatching and grid connectivity
	Knowledge of:
•	Net metering for batteries
•	Battery storage panel options
•	Battery output

•	Battery storage system parts
•	Production meter vs. utility meter
•	Interconnection agreements
•	Battery storage pricing
	Task 14: Understand operation and installation of backup heating options
	Knowledge of:
•	Heat pump backup heating operation
•	Heat pump backup heating types
•	Heat pump backup heating controls
	Task 15: Understand heat pump distribution strategies for the building layout
	Knowledge of:
•	Heat pump system types
•	Heat pump system distribution
•	Distribution system filtration
•	Distribution system design
	Task 16: Understand renewable fuel heating strategies
	Knowledge of:
•	Renewable heating fuel types
•	Renewable heating fuel feedstocks
•	Renewable heating system types
•	Domain 5: Understanding of Building Science and Whole-Building Concepts
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•	Domain 5: Understanding of Building Science and Whole-Building Concepts
•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades
	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of:
•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of: Relative humidity
•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of: Relative humidity Moisture drive in buildings
•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of: Relative humidity Moisture drive in buildings Condensing surfaces
•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of: Relative humidity Moisture drive in buildings Condensing surfaces Humidity control options for buildings
•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of: Relative humidity Moisture drive in buildings Condensing surfaces Humidity control options for buildings Task 2: Understand retrofit ventilation strategies
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•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of: Relative humidity Moisture drive in buildings Condensing surfaces Humidity control options for buildings Task 2: Understand retrofit ventilation strategies Knowledge of: Building retrofit ventilation types Balanced vs. unbalanced building ventilation strategies Local ventilation Source control
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•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of: Relative humidity Moisture drive in buildings Condensing surfaces Humidity control options for buildings Task 2: Understand retrofit ventilation strategies Knowledge of: Building retrofit ventilation types Balanced vs. unbalanced building ventilation strategies Local ventilation Source control Whole-house filtration Indoor Air Quality
•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of: Relative humidity Moisture drive in buildings Condensing surfaces Humidity control options for buildings Task 2: Understand retrofit ventilation strategies Knowledge of: Building retrofit ventilation types Balanced vs. unbalanced building ventilation strategies Local ventilation Source control Whole-house filtration Indoor Air Quality ASHRAE 62.2
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•	Domain 5: Understanding of Building Science and Whole-Building Concepts Task 1: Understand moisture management in building upgrades Knowledge of: Relative humidity Moisture drive in buildings Condensing surfaces Humidity control options for buildings Task 2: Understand retrofit ventilation strategies Knowledge of: Building retrofit ventilation types Balanced vs. unbalanced building ventilation strategies Local ventilation Source control Whole-house filtration Indoor Air Quality ASHRAE 62.2

•	Thermal boundaries
•	Pressure boundaries
•	Infrared thermal scan technology
	Task 4: Understand non-energy impacts of a deep retrofit
	Knowledge of:
•	Non-energy impacts
•	Benefits of retrofits on the climate
•	Benefits of retrofits on occupant health
•	Benefits of retrofits on the building's resilience
•	Benefits of retrofits on the building's durability
•	Benefits of retrofits on occupant's comfort
•	Benefits of retrofits on the home's resale value
	Domain 6: Understanding Project Carbon Impacts
	Task 1: Understand utility generation mix
	Knowledge of:
•	Power generation fuel mixing
•	CO2 equivalent of power generation from various fuels
	Task 2: Understand state and regional carbon reduction goals
	Knowledge of:
•	Integrated resource plans for carbon reduction
•	Information of state carbon reduction goals
•	US State Greenhouse Gas Emissions Targets
	Task 3: Understand embodied carbon as it relates to recommendations
	Knowledge of:
•	Embodied carbon footprint calculators
•	Refrigerant impacts on CO2
•	Life cycle analysis and assessment of embodied carbon in construction materials
	Task 4: Understand carbon impact of the combined measures
	Knowledge of:
•	Greenhouse Gas Equivalency calculators
•	Scopes of greenhouse gas emissions
•	Measuring carbon savings
1/10	Task 5: Understand carbon metrics
Kr	owledge of:
•	Carbon footprint scores
•	Average carbon emissions
•	Weighted average carbon intensity
•	Resources and data sources for determining CO2 emissions

	Domain 7: Identifying Electrification/Decarbonization Technologies		
Tas	Task 1: Provide client with information on alternative technologies for replacement of fossil-fuel space heating appliances		
	Knowledge of:		
•	Non-fossil fuel space heating appliance alternatives		
•	Non-fossil fuel space heating appliance operation		
•	Non-fossil fuel space heating appliance installation site requirements		
Tas	sk 2: Provide client with information on alternative technologies for replacement of fossil-fuel water heating appliances		
Kno	owledge of:		
•	Non-fossil fuel water heating appliance alternatives		
•	Non-fossil fuel water heating appliance operation		
•	Non-fossil fuel water heating appliance installation site requirements		
	Task 3: Provide client with information on electric cooking appliances		
Kno	owledge of:		
•	Electric ranges		
•	Electric cooktops		
•	Electric grills		
•	Site consideration and wiring needs		
	Task 4: Provide client with information on electric clothes drying appliances		
Kno	owledge of:		
•	Electric clothes dryers		
•	Electric clothes dryer site requirements		
•	Heat pump clothes dryers		
•	Heat pump clothes dryer site requirements		
•	Heat pump dryer benefits		
	Task 5: Provide client with information on electric fireplaces		
Kno	owledge of:		
•	Electric fireplace types		
•	Electric fireplace site requirements		
	Task 6: Provide client with information on on-site power generation technologies		
Kno	owledge of:		
•	Grid-connected on-site power generation technology		
•	Off-grid on-site power generation technology		
•	Owned vs. leased equipment		
	Task 7: Provide client with information on off-site power generation		
Kno	owledge of:		
•	Community solar		
•	Green power		
•	Renewable Energy Credits		

Task 8: Provide client with information on on-site battery storage technologies Knowledge of: Grid-connected battery storage Non-grid-connected battery storage Task 9: Provide client with information on thermal storage technologies for space and water heating Knowledge of: Thermal storage Thermal storage technologies Thermal storage site considerations Thermal storage operation Task 10: Provide client with information on electric vehicles and on-site charging stations Knowledge of: Electric vehicles Electric vehicle charging stations Electric vehicle charging stations site considerations Task 11: Provide client with information on electrical service entrance panel upgrades Knowledge of: Electrical service entrance panel parts Electrical service entrance panel types - flush mount, surface mount, circuit breaker, fuses Electrical service entrance panel amperage/size Subpanels Utility transformer capacities and considerations Utility service laterals Task 12: Provide client with information on electric and battery-powered outdoor power equipment and tools **Knowledge of:** Electric and battery-powered outdoor equipment and tools alternatives Why electric and battery-powered outdoor equipment and tools are better for the environment Task 13: Provide client with information on average consumption end use of each technology **Knowledge of:** How much each end use impacts the total energy consumption for sizing considerations Domain 8: Understanding the Post Retrofit Process Task 1: Understand occupant behaviors as they relate to interfacing equipment Knowledge of: Internet of Things technologies Setting up interfacing technologies to client lifestyle Task 2: Develop handoff instructions for client Knowledge of: Pertinent information needed for client

•	Preventative maintenance schedules	
•	Equipment monitoring technologies	
	Task 3: Confirm installed measures meet work order post-completion	
Kn	Knowledge of:	
•	Process for conducting a post-installation inspection	
•	Information needed for conducting a post-installation inspection	
•	How to determine installed equipment operates as specified (retro-commissioning)	

	Task 4: Follow up with installers and client post-completion	
Kn	Knowledge of:	
•	Process for conducting a post-installation review with installers	
•	Information needed for conducting a post-installation review with installers	
•	Process for conducting a post-installation review with client	
•	Information needed for conducting a post-installation review with client	
	Task 5: Understand project incentive/rebate process at closeout	
Kr	Knowledge of:	
•	Process for conducting a post-installation closeout	
•	Information needed for conducting a post-installation closeout	
•	Utility, local, state, and federal incentives/rebates	

7. TBP Certificate of Knowledge Exam Blueprint

Domain and Tasks	%
Domain 1: Demonstrating Proficiency in Designing a Total Building Performance Project	16%
Task 1: Establish project goals	
Task 2: Establish project scope	
Task 3: Establish budget	
Task 4: Assemble project documentation	
Task 5: Review individual estimates and contracts from installers with intended scope	
Task 6: Establish roles and responsibilities for installers and client	
Task 7: Determine existing useful life of capital improvements	
Domain 2: Understanding Project Financial Analysis for a Total Building Performance Project	9%
Task 1: Understand financing terms, definitions, and requirements	
Task 2: Understand energy analysis, long-term cash flow analysis	
Task 3: Use various financing mechanisms and models	
Task 4: Understand various financial analysis tools/instruments for projects	
Task 5: Locate available regional/program financing, rebates, incentives, and tax credits	

Domain and Tasks	%
Task 6: Compare financial scenarios	
Task 7: Communicate effectively to client	
Task 8: Understand incremental and avoided cost	
Task 9: Understand impact of energy features on home value	
Domain 3: Demonstrating Proficiency in Communication to Clients	10%
Task 1: Identify the client's concerns and goals	
Task 2: Provide an effective description of decarbonization	
Task 3: Communicate to the client a project that represents their goals	
Task 4: Identify the client's communication type	
Domain 4: Understanding of Energy Modeling, Load Calculations and Measure Analysis of a Total Building Performance Project	20%
Task 1: Understand optimization scenarios of a building's energy model	
Task 2: Understand appropriate balance of installed measures to meet goals and budget	
Task 3: Understand time dependencies and seasonality impacts on the end-use loads and load shape of the building	
Task 4: Understand demand response for the building	
Task 5: Understand dynamic pricing	
Task 6: Understand appropriate HVAC and renewable power generation opportunities	
Task 7: Understand heat pump technology and options	
Task 8: Understand heat pump performance characteristics	
Task 9: Understand heat pump oversizing/under-sizing impacts	
Task 10: Understand heat pump load calculation and equipment selection including limitations as related to cold climate heat pumps	
Task 11: Understand sizing and siting solar	
Task 12: Understand solar grid connectivity	
Task 13: Understand battery storage dispatching and grid connectivity	
Task 14: Understand operation and installation of backup heating options	
Task 15: Understand heat pump distribution strategies for the building layout	
Task 16: Understand renewable fuel heating strategies	
Domain 5: Understanding of Building Science and Whole-building Concepts	14%
Task 1: Understand moisture management in building upgrades	
Task 2: Understand retrofit ventilation strategies	
Task 3: Understand deep envelope retrofit strategies	
Task 4: Understand non-energy impacts of a deep retrofit	·
Domain 6: Understanding Project Carbon Impacts	11%
Task 1: Understand utility generation mix	
Task 2: Understand state and regional carbon reduction goals	

Domain and Tasks	%
Task 3: Understand embodied carbon as it relates to recommendations	
Task 4: Understand carbon impact of the combined measures	
Task 5: Understand carbon metrics	
Domain 7: Identifying Electrification/Decarbonization Technologies	12%
Task 1: Provide client with information on alternative technologies for replacement of fossil- fuel space heating appliances	
Task 2: Provide client with information on alternative technologies for replacement of fossil- fuel water heating appliances	
Task 3: Provide client with information on electric cooking appliances	
Task 4: Provide client with information on electric clothes drying appliances	
Task 5: Provide client with information on electric fireplaces	
Task 6: Provide client with information on on-site power generation technologies	
Task 7: Provide client with information on offsite power generation	
Task 8: Provide client with information on on-site battery storage technologies	
Task 9: Provide client with information on thermal storage technologies for space and water heating	
Task 10: Provide client with information on electric vehicles and on-site charging stations	
Task 11: Provide client with information on electrical service entrance panel upgrades	
Task 12: Provide client with information on electric and battery-powered outdoor power equipment and tools	
Task 13: Provide client with information on average consumption end use of each technology	
Domain 8: Understanding the Post-Retrofit Process	8%
Task 1: Understand occupant behaviors as they relate to interfacing equipment	
Task 2: Develop handoff instructions for client	
Task 3: Confirm installed measures meet work order post-completion	
Task 4: Follow up with installers and client post-completion	
Task 5: Understand project incentive/rebate process at closeout	

8. Standards of Reference

All BPI exams are based on a mixture of industry practices, axiomatic¹ concepts, and major standards of reference. No singular source exists that could touch upon every aspect of what is considered testable. Conversely, there is no limit to the potential useful material found in print and online.

¹ An axiomatic concept is something implicit that requires no proof or explanation (e.g., the sum of 2 and 2 is 4, or gravity states that if you drop something, it will fall to a lower level).

Total Building Performance Certificate Scheme Handbook Document uncontrolled once printed

- ANSI/BPI-1100-T-2023 Home Energy Auditing Standard
- ANSI/BPI-1200-S-2017 Standard Practice for Basic Analysis of Buildings

9. Exam Security

Exams are highly confidential materials. Any attempts to willfully compromise the integrity of the exam, the exam process, or the certificate process shall be taken seriously. Offenders may be prosecuted to the fullest extent of the law. In addition, any certificate credential may be revoked immediately if a breach is proven to have been made by an individual.

10. Granting

In order to receive the TBP certificate, the candidate must successfully complete the multiple-choice online exam. No exam results or certificates will be awarded until after the pilot closes and the cut score has been set. Candidates will be contacted with their results.

10.1 Notification of Exam Results and Issuance of Certificate

If you successfully passed the TBP exam, the TBP Certificate of Knowledge will be available through your TBP Dashboard once you have been notified via email of your results. After that time, you may select the Print Certificate button and save your certificate to your computer or print it.

Once the certificate is awarded, it does not expire and may be accessed at any time by simply logging in via https://tbp.bpi.org/portal/tbp/.

11. Surveillance

Surveillance of the Certificate Holder is established to ensure compliance with the policies and procedures for which the certificate of knowledge was granted. The certificate of knowledge for any individual may be withdrawn or revoked due to a Certificate Holder's negligent refusal to follow the certificate scheme requirements or failure to take appropriate corrective action as required by BPI.

12. File Review

The Certification Department will conduct a file review of Certificate Holders who have complaints filed against them. The review of the Certificate Holder's file activities includes confirmation that any complaints against the Certificate Holder have been resolved.

13. Corrective / Preventative Action

The corrective / preventative action shall include one of the following and is determined on a case-by-case basis at the discretion of BPI:

Level One: A corrective action will be given when the infraction is considered minor in nature. A written warning shall be sent to the Certificate Holder about the nature of the infraction along with the required corrective action. The written warning shall become part of the Certificate Holder's record.

Level Two: A corrective action will be given when the infraction is considered major in nature and requires proof. A written warning is sent to the Certificate Holder about the infraction. The Certificate Holder is required to submit proof, in writing, that the infraction has been corrected. The written warning and response will become part of the Certificate Holder's record.

14. Withdrawal of Certificate of Knowledge

Should the BPI Total Building Performance Certificate Holder not maintain the certificate of knowledge by being unable to fulfill the obligation of the certificate of knowledge due to illness, disability, change of profession, etc., the certificate of knowledge will be withdrawn at the request of the Certificate Holder. BPI must be notified immediately if a Certificate Holder may not be able to, or is no longer able to, fulfill the requirements of the certificate of knowledge.

BPI reserves the right, on a case-by-case basis, to withdraw a person's BPI Certificate(s) of Knowledge at its discretion. Reasons for withdrawal of a BPI Certificate(s) of Knowledge include, but are not limited to:

- Failure to take steps to submit the requested information of a corrective action as outlined in Section 13
- Failure to follow BPI Standards that align with the certification's JTAs, when applicable

In the event that the BPI Total Building Performance Certificate of Knowledge is withdrawn; the BPI Manager of Client Relations will review the Certificate Holder's record and send confirmation of the withdrawal within 30 days and provide a written statement in regard to steps that must be taken if the candidate requests the certificate of knowledge be reinstated.

Use of the BPI logo or brand and representation of holding the BPI Total Building Performance Certificate of Knowledge must cease immediately if a certification is withdrawn or revoked.

15. Complaints

BPI recognizes that there are two main types of complaints that may be brought to its attention:

- Complaints regarding BPI and/or its related vendor organization (administrative, testing, Test Center, proctor, etc.)
 - Complaints regarding BPI Certified Professionals or BPI Certificate Holders or organizations with BPI Certified Professionals or BPI Certificate Holders on staff

Complaints Process

To file a complaint, the individual must follow the procedures, below:

- Individuals who wish to file a complaint pertaining to any aspect of the certificate of knowledge or testing process, work performed by other BPI Certified Professionals or BPI Certificate Holders, or any other BPI related concerns, please follow the procedures below:
 - a. Submit the Complaint Form via the BPI website

Go to www.bpi.org and hover over **About Us** at the top of the page, select **Contact Us**. Enter your information and choose **Complaint Form** from the **Category** dropdown box.

b. Send a letter via registered mail to:

Building Performance Institute, Inc.

Attn: Complaints

63 Putnam Street, Suite 202

Saratoga Springs, NY 12866

- c. Send an email to Complaints@bpi.org
- 2. The request for review must provide specific details for the complaint and any type of documented information that pertains to the situation.
- 3. The review will be carried out on a case-by-case basis by the Quality Assurance (QA) Department. Review results will be forwarded to the Director, who will provide the decision to the complainant, via email, within 30 to 40 days of receiving the complaint.

16. Secondary and Tertiary Appeal Procedures

If BPI receives an appeal to any decision it has made, including a decision on the certificate of knowledge (suspension or otherwise), a resolution for any complaint, or the outcome of a secondary appeal, the person shall be instructed to submit the appeal by the following procedure.

*Note: Any staff member that may have worked on the decision-making process for an initial complaint or appeal will not be involved in the decision-making process for any follow-up appeal. Also, appeals cannot be made against any online multiple-choice exam results.

- 1. An appeal must be made within thirty (30) days from the date that the initial outcome of the original complaint or appeal occurred. The request for review may be made in the following manner:
 - a. Submit the Complaint Form via the BPI website:
 - Go to <u>www.bpi.org</u> and select **About Us** at the top of the page, then **Contact Us**. Enter your information and choose **Complaint Form** from the **Category** dropdown box.
 - b. Send a letter via registered mail to:

Building Performance Institute, Inc.

Attn: Complaints 63 Putnam Street, Suite 202 Saratoga Springs, NY 12866

- c. Send an email to Complaints@bpi.org
- 2. The request for review must provide specific details for the appeal and any type of documented information that pertains to the situation.
- 3. The review will be carried out on a case-by-case basis by the Compliance Department. Review results will be forwarded to the appropriate BPI staff, who will provide the decision to the complainant, via email, within 30 to 40 days of receiving the complaint.
- 4. Decisions made about a tertiary appeal are final.

17. Comments

Submit any comments regarding the certification exams or processes to Certification@bpi.org.

Terms and Definitions

BPI National Standards – The set of technical protocols and procedures that have been developed through an open, transparent, consensus-based process and are intended to achieve a high quality of residential building performance. BPI is approved by the American National Standards Institute, Inc. (ANSI) as an accredited developer of American National Standards.

Candidate – Applicant who has fulfilled specified prerequisites, allowing his/her participation in the certificate process.

Certificate Process – All activities by which a certification body establishes that a person fulfills specified competence requirements, including application, evaluation, decision on certificates, surveillance, and use of certificates and logos/marks.

Certificate Scheme – Specific certificate requirements related to specified categories of persons to which the same particular standards and rules, and the same procedures apply.

Certificate System – Set of procedures and resources for carrying out the certificate process as per a certificate scheme, leading to the issuance of a certificate of competence, including maintenance.

Competence – Demonstrated ability to apply knowledge and/or skills and, where relevant, demonstrated personal attributes, as defined in the certificate scheme.

Complaint – Conformity assessment request, by any organization or individual to a certification body, for corrective action relating to the activities of that body or to those of any of its customers.

Evaluation – Process that assesses a person's fulfillment of the requirements of the scheme, leading to a decision on certificate.

Exam – Mechanism that is part of the evaluation, which measures a candidate's competence by one or more means such as online, oral, practical and observational.

Qualification – Demonstration of personal attributes, education, training and/or work experience.

Quality Assurance – The observation techniques and activities used externally by an organization to evaluate the effectiveness of their quality management system and to provide feedback that may result in quality improvements.

Scheme Committee – Group of people chosen by the certification body to provide input, recommendations, guidance, and review of a certificate scheme.