

# **BMC CHAPTER 19.81**

## **Building Emissions Saving Ordinance (BESO)**

REVISED ADMINISTRATIVE REGULATIONS

Version 3.0

Effective Date: February 15, 2021

### PREFACE

These regulations have been adopted by the Administrator pursuant to the Building Emissions Saving Ordinance (BESO), Berkeley Municipal Code (BMC) 19.81.

Except as provided below, the Administrator shall post proposed changes to the regulations on a City website and solicit feedback at least 30 days in advance of adoption. New regulations will become effective no fewer than 30 days after adoption and posting. The Administrator shall maintain a list of interested parties and provide notification to such parties when changes are proposed or adopted. The Administrator may make immediate changes to the regulations if there is a compelling need, such as improving customer service.

The Administrator shall publish and maintain a consolidated set of information materials incorporating the ordinance, these regulations and other materials to assist the public in complying with BESO requirements.

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## Article I. Energy Reporting for Buildings within Berkeley City Limits

### Section I.1. Intent and Scope (ref. BMC Sections 19.81.010 - 020)

- A. Intent. Berkeley Municipal Code Chapter 19.81 (Building Emissions Saving Ordinance – “BESO”) was established and amended with the intent of decreasing emissions in existing buildings and lowering the cost and consumption of energy and water by mandating Energy and Electrification Assessments and Benchmarking for existing buildings within City limits. Such information will be made publicly available to inform building owners, as well as prospective buyers and lessees, of building energy performance and worthwhile improvement opportunities. This in turn will encourage cost effective investment in energy and water efficiency, thereby lowering greenhouse gas emissions citywide while contributing to the comfort, safety and health of Berkeley residents
- B. Scope. The following regulations shall apply to all residential and commercial buildings that are located in whole or in part within Berkeley city limits but shall not apply to agencies that are not subject to City authority. BESO requires all buildings with floor space served by heating or cooling equipment to report energy and water consumption in the form of a performance score and/or asset rating. Owners of buildings less than 25,000 square feet (including homes consisting of 1 to 4 dwelling units) are only required to submit a report at time of sale, while all other building owners must submit reports according to a schedule based on building size. Certain exemptions may apply (see *Section I.5*)

### Section I.2. Building Use Types and Definitions (ref. BMC Section 19.81.030)

- A. “Ordinance” means the Building Emissions Saving Ordinance (BESO), Berkeley Municipal Code (BMC), Chapter 19.81
- B. “Building” means a single structure wholly or partially enclosed within exterior walls, or within exterior and abutment walls (party walls), and a roof, affording shelter to persons, animals, or property. Buildings less than 850 square feet in floor area are exempt from the Ordinance.
- C. Building Use Types
  - 1. “Single Family Building” (also referred to as a “Home” and “House”) means a Building containing up to 4 attached dwelling units, with each unit including a separate entrance and kitchen

2. "Multifamily Building" means a Building with 5 or more dwelling units, including congregant residences that house more than 16 occupants, such as cooperatives, fraternities and sororities
3. "Commercial Building" means a Building that is of a non-residential use covered by Assembly Bill 802 (Stats. 2015, Chapter 590) codified at Public Resource Code section 25402.10, including the following use types (identified in the California Building Standards Code Title 24, Section 302): Assembly (A), Business (B), Educational (E), Institutional (I-1, I-2), Mercantile (M), Residential – Transient (R-1 Hotel, for example), Storage (S), and Utility – Parking Garage (U) and excludes industrial and residential areas such as: Factory and industrial (F-1, F-2), High Hazards (H-1 to H-5), and Residential (R-2 to R-4). Buildings or campuses with more than half of the total Gross Floor Area dedicated to scientific experiments requiring controlled environments, or for manufacturing or industrial purposes are excluded.
4. "Mixed Use Building" means a Building that contains both residential and commercial uses, including live/work and work/live areas. See Section II.1.B for reporting options for Mixed Use Buildings
- D. "Historic Structure" means a building that is a registered historic site on the City of Berkeley list of Landmarks, Structures of Merit and Historic Districts, found here: [www.ci.berkeley.ca.us/Planning\\_and\\_Development/Home/Landmarks\\_Preservation\\_Commission.aspx](http://www.ci.berkeley.ca.us/Planning_and_Development/Home/Landmarks_Preservation_Commission.aspx), and/or the National Register of Historic Places maintained by the National Park Service, found here: [www.nps.gov/nr/research/](http://www.nps.gov/nr/research/)
- E. "Unconditioned Floor Space" means physically separated floor area that is not served by heating, ventilation, or cooling equipment that may be subtracted from a Building's Gross Floor Space total, as verified by a Registered Energy Assessor or by providing other satisfactory evidence to the Administrator.
- F. "Compliance Document" means any form issued by the City, stating BESO compliance status for a specific property, including "Certificate of Compliance – Form A", "Deferral to Buyer – Form C", "Other Deferral – Form D", and "Other Exemption – Form E"
- G. "Sale" means ownership transfer of 51% or over of a property, in addition to definition provided in Ordinance. All other definitions provided in Section 19.81.030 of the Ordinance are incorporated herein.
- H. "Campus" means two or more Covered Buildings on the same parcel, campus, or site that are served by one common Energy meter without submetering, such that their Energy use cannot be tracked individually.

**Section I.3. Compliance (ref. BMC §§ 19.81.040 - 060)**

**A. Phase-In Compliance**

1. Building Owner shall be required to register building and hire a registered energy assessor (REA) to submit reports based on the Phase-In Compliance Schedule at Table 1 below
2. It is the responsibility of the Building Owner to comply with energy assessment and reporting requirements
3. Compliance achieved prior to the start of the first Phase-In Cycle shall be valid through the end of the first Phase-In Cycle.
4. For a campus, the Benchmarking Report is required to be submitted at the phase-in date of the largest building within the campus and will include energy usage of all buildings sharing a common meter. The Energy Assessments for buildings within a campus are still due based on individual building Gross Floor Area.

Table 1: Phase-In Cycle

Building Type/Conditioned Floor Area		First Phase In Cycle July 1	Compliance Required at Time of Sale	Requirement
Large Buildings	50,000 sq.ft. and above	2018	N/A	Energy Assessment (every 5 years) & ENERGY STAR® Portfolio Manager Performance Score (Annually)
	25,000 – 49,999 sq.ft.	2019	N/A	
Medium Buildings	15,000 – 24,999 sq.ft.	N/A	Yes	Energy Assessment (at time of sale) & ENERGY STAR® Portfolio Manager Performance Score (Annually)
Small Buildings	850 - 14,999 sq.ft.	N/A	Yes	Energy Assessment (at time of sale)
Houses	1-4 dwelling units	N/A	Yes	Energy Assessment (at time of sale)

**B. Time of Sale Requirements**

1. Prior to execution of a contract for Sale, it is the responsibility of the Building Owner to comply with energy assessment and reporting requirements. Either the buyers or sellers shall apply a *BESO Certificate of Compliance - Form A*, *Time of Sale Deferral - Form C*, *Other Deferral - Form D*, or *Other Exemption - Form E*, and include the compliance document with real estate transfer documents prior to close

- of escrow. *Form C* must be signed by the buyer, acknowledging that the buyer accepts responsibility for compliance with the Ordinance
2. The requirements of this Section shall apply to all Buildings subject to the Ordinance, except Large Buildings, as of December 1, 2015
  3. Energy assessments expire after 5 years from the date of assessment. Following the expiration date, a new energy assessment is required to satisfy the time of sale requirement.
- C. Disclosure
1. Building Owners are required to disclose the most current Energy Assessment and Building Energy Score, if applicable, and most current Compliance Document to existing tenants and prospective tenants and buyers
- D. Obligation to Comply
1. Lack of notification by the Administrator does not relieve the Building Owner of the obligation to comply with the Ordinance
  2. Building Owner may designate an agent responsible for complying with the Ordinance on their behalf
  3. No building will be cited in violation of the Ordinance without prior notification, as described in Section I.6 of these Rules and Regulations

#### **Section I.4. Registered Energy Assessors (REAs) (ref. BMC Sections 19.81.040 - 060)**

- E. Energy Assessments may only be conducted and submitted by a service provider that is qualified for the specific Building Use Type and has a current registration with the City as a [Registered Energy Assessor \(REA\)](#)
1. House Assessors must register as individuals. Multifamily and Commercial assessors may register as a company.
- F. To qualify for registration with the City, an Energy Assessor must:
1. Possess a current Berkeley Business License
  2. Participate in a BESO orientation hosted by the City
  3. Certify that they are qualified for the specific Building Use Types, as described in Sections II.2-4
  4. Possess the insurance coverage specified at Appendix A. Energy Assessor Terms and Conditions
  5. Submit a completed Energy Assessor Registration Agreement to the City
  6. Complete, sign, date and file a BESO Energy Assessor Registration Agreement (see Appendix A. Energy Assessor Terms and Conditions)

- G. REA must complete at least one Energy Assessment per year for registration to remain active. Otherwise, registration will expire and the assessor will be removed from the REA list pending re-registration
- H. REAs are responsible for submission of a Building Energy Score. It is the REA's responsibility to understand the filing requirements and to provide clients with a complete scope of work, including details about who is responsible for paying filing fees and obtaining access to the building records and energy consumption data

**Section I.5. Exemptions, Deferrals, and Extensions (ref. BMC Section 19.81.090)**

- I. Application for an Exemption, Deferral, or Extension. A Building Owner may request an exemption, deferral, or extension under this section by submitting information and relevant evidence, using an application form/process prescribed by the Administrator
- J. Term of Exemptions, Deferrals and Extensions
  - 1. Effect on Requirements at Sale. Unless otherwise noted, all exemptions, deferrals, and extensions are granted to the Building Owner and are not transferrable past time of Sale, foreclosure, or transfer by deed in lieu of foreclosure, at which time the buyer/new owner must bring the Building into compliance as otherwise required
  - 2. Effect on Requirements at Phase-In Dates. Unless otherwise noted, applications which are received within 1 year of the end of a Phase-In Cycle may apply to both the current and next Phase-In Cycles
  - 3. Periods Not Cumulative. Except in the case of a Distressed Sale Extension (Section I.5.E), only one deferral or extension may be applied to a single Building at any one time
- K. High Performance Exemption. To recognize buildings that have achieved significant energy efficiency, the Administrator may grant an exemption from Energy Assessment requirements, according to the conditions below:
  - 1. A High Performance Exemption relieves the Building Owner of the requirement to submit an Energy Assessment for the current reporting period
  - 2. All High Performance Buildings are still subject to disclosure requirements
  - 3. Large High Performance Buildings (25,000+ square feet) are still subject to annual ENERGY STAR Portfolio Manager Performance Reporting and filing requirements, as specified at Section II.3.F and Section II.4.F

4. A High Performance Exemption and the status of High Performance Building shall be granted for any whole building that has demonstrated any of the following:
  - a. Completion of no-cost efficiency improvements from an income-qualified Weatherization Assistance program providing subsidized services, such as the Low-Income Home Energy Assistance Program (LIHEAP), the US DOE Weatherization Assistance Program (WAP) or PG&E's Energy Saving Assistance Program
  - b. Living Building Certification or Zero Net Energy Building Certification through the International Living Future Institute
  - c. Verification as a Passive House under Passive House Institute (PHI) Certified Passive House standard, EnerPHit or Passive House Institute US (PHIUS) PHIUS+
  - d. Certification by the U.S. Green Building Council's LEED for Existing Building: Operation and Maintenance (EB:O&M)
  - e. Certification as a Build It Green GreenPoint Rated Existing Whole Building
  - f. An ENERGY STAR® Whole Home Certificate
  - g. Completion of a verified multi-measure comprehensive energy improvement project with minimum 10% energy improvement, including participation in BayREN Home+, Energy Upgrade California for single family homes, or Bay Area Multifamily Building Enhancement Program (BAMBE).
  - h. Completion of an electrification project, transitioning the building's water and/or space heating from natural gas to electric heat pump, including participation in BayREN Home+.
  - i. A California Home Energy Rating phase II (HERS II) score of 90 or below
  - j. Home Energy Score of 9 or above
- L. Time of Sale Deferrals
  1. Buyer Acceptance of Responsibility
    - a. Reporting requirements at Time of Sale may be deferred for a period of 12 months from the original date of Sale if the buyer agrees to fulfill the reporting requirements within the deferral period. Upon completion of the Time of Sale deferral application, buyers are provided with an extension of 12 months from the anticipated date of sale
    - b. Prior to execution of a contract for Sale
      - i) The seller or buyer must apply for a *BESO Time of Sale Deferral-Form C* (and pay the associated fee)



- ii) Buyer must sign the *Form C* received from the City, acknowledging buyer's responsibility for compliance with the Ordinance, and
- iii) The title company responsible for facilitating the transaction must include the signed form in the escrow package

M. Hardship Extensions and Deferrals

1. Distressed Sale Extension
  - a. Reporting requirements at Time of Sale may be deferred for a period of 12 months from the original date of sale if the buyer is able to demonstrate that the building was purchased from a lender that acquired title due to default or transfer by deed in lieu of foreclosure
  - b. This extension may be granted for any Building that is currently in violation of the BESO ordinance or may be applied to extend an existing Time of Sale Deferral
2. Financial Hardship Deferrals
  - a. Reporting requirements may be deferred for a specific Phase-In Cycle in cases of financial hardship
  - b. To qualify for a deferral under this section the Building Owner must submit for approval by the Administrator one of the following:
    - i) Proof of participation in an income-qualified energy assistance program, administered through the State of California or the local energy utility
    - ii) Proof of approved participation in Property Tax Postponement or Property Tax Assistance for Senior Citizens, Blind or Disabled, or equivalent program as determined by the Administrator
    - iii) Proof that the property qualifies for sale at public auction or acquisition by a public agency due to arrears for property taxes, within two years prior to the due date of the Energy Report
    - iv) Proof that a court appointed receiver is in control of the asset due to financial distress
    - v) Proof that the senior mortgage is subject to a notice of default
    - vi) Proof that the responsible party is otherwise not able to meet the obligations of this Chapter
  - c. Any building granted a Financial Hardship Deferral that is not otherwise in compliance may only be sold if the Buyer applies for a Time of Sale Deferral
3. Deferral for Long-Term Tenancy under Rent Control. All reporting requirements under this Chapter may be deferred for any building which is subject to rent control (as defined by Berkeley Municipal Code Chapter 13.76) in which all of the units, excluding any owner-occupied units, have leases that date prior to January 1, 1999

N. Deferral for New Construction may be granted as follows:

1. New Construction or Completed Extensive Renovation. Reporting requirements for buildings that have been newly constructed or extensively renovated within 10 years may be deferred until 10 years following the completion of such construction or Extensive Renovation.
    - a. Time of Sale Effect. Building Owners granted a deferral for new construction or completed Extensive Renovation will receive an *Other Deferral - Form D*. A current version of this form may be included with property transfer documents at close of escrow to demonstrate BESO compliance. Upon expiration of this deferral, homes are required to demonstrate compliance prior to a subsequent sale date. Buildings subject to the phase-in cycles will be required to adhere to phase-in requirements upon expiration of this deferral.
  2. Planned Demolition or Extensive Renovation. All reporting requirements under this Chapter may be deferred for 24 months if the Building Owner submits to the Administrator a Building Permit, Demolition Permit or Permit under the Zoning Ordinance that includes complete demolition or Extensive Renovation of the subject building.
  3. A project qualifies as an “Extensive Renovation” if it includes replacement of all energy-related equipment and at least half of the building envelope.
- O. Low Energy Use Deferral. Deferrals may be granted for Buildings with low energy use, as follows:
1. Single Family Buildings (1-4 units). This deferral is not applicable to Single Family Buildings, which are only subject to reporting requirements at the Time of Sale
  2. Commercial Buildings. A Building Owner may submit proof of hours of operation averaging less than 24 hours per week with procedures or controls in place to power down all heating, ventilation, air conditioning and lighting systems when the building is not occupied
  3. High ENERGY STAR Portfolio Manager Performance Score
    - a. Multifamily Buildings. A Multifamily Building with a verified US EPA ENERGY STAR® Portfolio Manager Performance Score of 80 or greater or any building that receives ENERGY STAR® certification is eligible for a Low Energy Use Deferral. A verified Score requires completion of the ENERGY STAR® Data Verification Checklist (accessed via the Reporting tab within Portfolio Manager tool) by a Professional Engineer or a BESO Registered Energy Assessor, excluding the Indoor Air Quality section.
    - b. Commercial Buildings. A Medium or Large Commercial Building with a verified US EPA ENERGY STAR® Portfolio Manager Performance Score of 80 or greater or any building that receives

ENERGY STAR® certification is eligible for a Low Energy Use Deferral. A verified Score requires completion of the ENERGY STAR® Data Verification Checklist (accessed via the Reporting tab within Portfolio Manager tool) by a Professional Engineer or a BESO Registered Energy Assessor, excluding the Indoor Air Quality section.

P. Data Unavailable Deferral

1. The requirement to report Building Benchmarking Information, annually, may be deferred for a calendar year if one of the following two conditions is met:
  - a. The Building Owner of a building with less than 3 non-residential active utility accounts or less than 5 residential utility accounts certifies to the Administrator that they have been unable to obtain tenant authorization to access tenant utility data, despite a good faith effort to obtain such consent. To demonstrate a good faith effort to obtain consent, the Building Owner must submit a tenant-signed copy of the ENERGY STAR® Tenant Authorization Notice indicating one or more tenants have refused to authorize disclosure of their energy use data. State reporting requirements may still apply.
  - b. The building occupant demonstrates to the Administrator that such disclosure may result in the release of proprietary information which can be characterized as a trade secret. State reporting requirements may still apply.
2. The deferral application must be filed and approved prior to the building's reporting due date

Q. Contracted Registered Energy Assessor Extension. A Building's Energy Assessment due date may be deferred for up to 6 months, or until such time as assessor deems necessary, for a Building Owner who has paid the Energy Assessment filing fee and has submitted proof to the Administrator of a signed contract with a Registered Energy Assessor for a scheduled assessment of the subject Building

R. Unconditioned Floor Space Reclassification

1. A Building's size classification may be reduced to exclude unconditioned floor space, determined by subtracting the amount of physically separated floor area not served by heating, ventilation, or cooling equipment from a Building's Gross Floor Space total.
2. Upon registration, the Building Owner will estimate conditioned floor area, which may then be revised by a Registered Energy Assessor based on assessment observations

S. Exemption for Sale of a Unit that is Part of a Larger Building

1. The requirement to submit an Energy Assessment at time of Sale shall not apply to a unit that is only a portion of a larger residential or

commercial building, such as the Sale of an attached condominium unit within a larger building (including co-ops and TICs). If a condominium within a multifamily building (5+ units), governing body such as a condominium association will handle the whole building BESO compliance by phase-in date.

2. Buildings comprised of 5 or more attached units are still subject to the Phase-In reporting requirements of the Ordinance
- T. Low Occupancy Deferral: The building did not have a certificate of occupancy or temporary certificate of occupancy for more than half of the calendar year for which reporting is required.

**Section I.6. Fees and Enforcement (ref. BMC Sections 19.81.100 – 130)**

U. Administrative filing fees are specified in Table 2 below

*Table 2: Fees*

Building Size/Type	Filing Frequency	Fee
Energy Report Large Buildings, ≥ 25,000 sq.ft.	Every 5 years	\$240
Energy Report Medium/Small Buildings, 5,000 to 24,999 sq.ft.	At time-of-sale only	\$152
Energy Report Small Buildings, < 5,000 sq.ft. (excluding 1-4 unit Houses)	At time-of-sale only	\$79
Energy Report Houses with 1-4 dwelling units	At time-of-sale only	\$79
Time of Sale or Distressed Sale Deferral	At time-of-sale only	\$48

V. Filings exempt from fees. The following application types are exempt from administrative filing fees:

1. High Performance Exemptions (except for those provided following submittal of a Home Energy Score)
2. Hardship Extensions and Deferrals
3. Deferrals for New or Planned Construction
4. Low Energy Use Deferrals
5. Data Unavailable Deferrals

W. Determination of Compliance. The Administrator is authorized to determine whether any or all Building Owners have complied with the requirements set forth in the Ordinance.

X. Violations

1. If reporting requirements of the Ordinance have not been met, the Administrator may issue a request for compliance in the form of a Notice to Correct, giving any and all persons subject to the Ordinance 90 days to come into compliance
2. After 90 days, if any and all persons subject to the Ordinance fail to comply with the reporting requirements, the Administrator may issue an administrative citation in the form of a Notice of Violation, according to BMC Chapter 1.28.030.

Y. Penalty

1. If a Building Owner fails to meet the reporting deadlines established by a Notice of Violation, the Administrator may impose fines according to BMC Chapter 1.28 and Resolution No. 61, 748-N.S.
  2. Any person who violates the Ordinance may be subject to a fine of \$100 for each violation, and an additional fine of up to \$25 for each day that the violation continues, up to a maximum of \$1,000 per violation
  3. Upon Sale of a Building or transfer of title due to default or deed in lieu of foreclosure, any and all fines accrued under this section remain the responsibility of the original Building Owner to whom they were assessed
- Z. Suspension of Fines
1. Accrual of fines imposed due to a violation of the Ordinance based upon a missing or incomplete Energy Assessment may be suspended by the Administrator for a period of up to ninety days if the Building Owner demonstrates that they have made a deposit with a Registered Energy Assessor contracted to provide an Energy Assessment for the building in violation
- AA. Appeals
1. Any recipient of a Notice of Violation under this section may contest the existence of a violation through a hearing request submitted to the City Manager or his/her designee in accordance with BMC Chapter 1.28.060

## Article II. Energy Assessment and Reporting Requirements

The following Article outlines specific standards and formats, as established by the Administrator, required for completion of a sufficient “Energy Report”, “Building Energy Score”, and “US EPA ENERGY STAR® Portfolio Manager Performance Score” according to the size and use classification of the individual building being evaluated. (ref. BMC § 19.81.030)

### Section II.1. Registered Energy Assessor Reporting Procedures

- A. Registered Energy Assessor (REA) Qualification
  - 1. In order to conduct an Energy Assessment, a service provider must be registered with the City as an REA for the applicable Building Use Type, as defined in Section I.2.C. A [list of REAs](#) will be published on the City’s website.
    - a. House Assessors must register as individuals. Multifamily and Commercial assessors may register as a company.
- B. Mixed Use Buildings
  - 1. In the case of Mixed Use Buildings with floor areas that constitute both Commercial and Multifamily Building Use Types, the following energy assessment standards apply:
    - a. Subject to Predominant Use Assessment Standard. In cases where a secondary Building Use Type is less than 20% of the gross floor area and/or less than 5,000 square feet, the entire building shall be subject to assessment standards for the predominant Building Use Type
      - i) In predominant use cases where both Building Use Types constitute the same amount of square footage, the Building Owner may choose to complete either a Multifamily or Commercial Building Assessment
    - b. Subject to both Multifamily and Commercial Building Assessment Standards. In cases where both Building Use Types constitute more than 20% of the total building square footage and each use type constitutes over 5,000 square feet, each section of the building shall be subject to the regulations pertaining to the corresponding Building Use Type (Section I.2.C). A single REA must submit all assessment information for the subject building
  - 2. In the case of building occupancies of a hybrid live/work nature, the REA may treat the Building Use Type use as either a Multifamily Building or a Commercial Building, or, if the building is less than 5,000 square feet, as a Single Family Building
- C. Energy Assessments Requirements
  - 1. All Energy Assessments shall:

- a. Be prepared and submitted in accordance with the requirements for each Building Use Type as described in the appropriate sections below
  - b. Be provided by the REA directly to the Building Owner, and to the City of Berkeley's BESO team, within 2 weeks of conducting an assessment
2. Submission of required information shall imply that it is complete and has been verified by the REA and conforms with these Regulations
- D. General Energy Assessment Requirements
1. All assessments conducted by REAs shall:
    - a. Be performed in a professional and timely manner
    - b. Provide clear and accurate information to customers about opportunities for improvements to efficiency, health, and comfort related to energy and water systems in their buildings
    - c. Be completed based on visual observations and/or usage analytics, including the following:
      - i) Interviews with customers to understand priorities and goals for building improvements and health and safety issues
      - ii) A visual examination of the current conditions of the energy and water systems
      - iii) For Multifamily Buildings, a sample inspection of at least one in seven of every unit type (defined as having same/similar floor plan), with representation from multiple building floors and including all four building orientations. In no case shall the inspection of units be less than 10% of total units
  2. Include an analysis of energy and water saving opportunities and recommended energy measures, by providing the following:
    - a. Energy use information including a benchmark comparing actual energy use or modeled energy use to similar buildings
    - b. Efficiency opportunity analysis using the appropriate method as specified for each building type in the Sections below
    - c. A review of existing and potential renewable generation



## Section II.2. Home Assessment and Reporting Requirements

- A. Covered Buildings
  - 1. Buildings covered by this Section include all residential buildings with up to 4 attached dwelling units. See Section I.2.C for Building Use Type definitions
  - 2. Buildings within this Section shall be classified as follows
    - a. Home Energy Score (HES) Scorable Buildings, including all Buildings with only one unit, or townhome-style houses sharing a side wall or side walls with independent roofs and foundations
    - b. HES Non-Scorable Buildings, including buildings with stacked units and those sharing a back wall
    - c. For 2 to 4 unit buildings, any unit less than 850 square feet is exempt.
  - 3. Buildings with 2 to 4 dwelling units may follow the requirements of this Section or Section II.3, Multifamily Assessment and Reporting Requirements
- B. Energy Assessor Qualifications
  - 1. All Home Energy Assessors must possess the following credentials
    - a. For HES Scorable Buildings:
      - i) Qualified Home Energy Score Assessor affiliated with the City’s StopWaste partnership, meeting qualifications specified in Table 3 below

*Table 3: Requirements for becoming a Qualified Home Energy Score Assessor*

	Qualification Requirements
Credentialing Prerequisites	Current credentials recognized by leading building-related industry organizations (e.g. ASHI, BPI, InterNACHI, NARI, NATE, RESNET and others)
Practical Test	Candidate uses the Home Energy Score 3-D simulation tool to retrieve home characteristics data and to score - Three “Practice/Challenge” Homes (80 or better) - Two Test Homes (90 or better)
Written Exam	Score of 80 or better on multiple choice test comprised of 20 questions covering the Home Energy Score program only
Quality Assurance	5% of homes must be rescored under a DOE approved quality assurance plan
Mentoring	First home scored with a mentor; counts toward quality assurance requirement

- b. For HES Non-Scorable Buildings:

- i) Participating Home Performance Contractor or Rater with an Energy Upgrade California Home Upgrade Program provided in the City of Berkeley, such as PG&E's Advanced Home Upgrade or BayREN's Home+Program
- C. Registration. Energy Assessors must be approved as Registered Energy Assessors, per Section I.4
- D. Energy Assessment Content
  - 1. A complete Home Energy Assessment shall consist of the following elements:
    - a. A Home Energy Score Assessment and supporting documentation for HES Scorable Buildings (including the HES electrification checklist), or Energy Upgrade California analysis for HES Non-Scorable Buildings
    - b. A description of the Building and existing energy characteristics
    - c. The type of building energy analysis used (see approved methods in Section II.2.E)
    - d. Recommended energy upgrades
    - e. A description of non-energy benefits for recommendations, including indoor air quality, noise, comfort, deferred maintenance and durability
    - f. A list of applicable incentives, rebates, financing and tax deductions or credits, including web addresses for each resource
    - g. Estimated energy annual cost savings, as a percentage of baseline costs, and
    - h. Referral to Home Energy Advisor [www.bayareaenergyupgrade.org/](http://www.bayareaenergyupgrade.org/) with phone number provided (866-878-6008)
- E. Methods and Standards
  - 1. A building energy analysis shall be conducted using one of the following methods
    - a. For HES Scorable Buildings, the Home Energy Score tool
    - b. For HES Non-Scorable Buildings, eligible energy modeling software approved for use for under Energy Upgrade California Home Upgrade Program (e.g., Cake, Optimiser, SuggPro). Blower door and duct tests are required when applicable.
    - c. For any Building with 2-4 units, any energy modeling tool approved by the CEC or CPUC for Multifamily Buildings
  - 2. Other assessments
- F. Assessment Submission Requirements
  - 1. Reports and data shall be provided by an REA to the BESO team and submission of this information shall imply that it is complete and has been verified by the REA

2. Incomplete information will be returned to REA for correction within 2 weeks. The report will not be valid until it is accepted by the Administrator
3. The REA provide the information in the following manner to the BESO team:
  - a. The Building registration information shall be entered or verified
  - b. A copy of the Building Energy Report, including the Supplemental Home BESO Assessment Form, shall be uploaded in typewritten PDF format through the online BESO portal.

G. Disclosure

1. A Building Owner shall provide a summary version of the most recent Energy Assessment and Benchmarking including a Building Energy Score, when available, to existing lessees, as well as prospective lessees and buyers prior to execution of a lease or contract for Sale
2. The Administrator shall make the information in this section available to the public

## Section II.3. Multifamily Assessment and Reporting Requirements

- A. Covered Buildings
  - 1. Buildings covered by this Section include all Multifamily Buildings with 5 or more attached dwelling units. See Section I.2.C for Building Use Type definitions
  - 2. Buildings with 2 to 4 dwelling units may follow the requirements of this Section or Section II.2, Home Assessment and Reporting Requirements
  - 3. See Section II.1.B for Mixed Use Buildings
- B. Energy Assessor Qualifications
  - 1. All Multifamily Energy Assessors must possess any two of the following credentials:
    - a. HERS Whole House (HERS II) Rater
    - b. BPI Certified Multifamily Building Analyst
    - c. GreenPoint Rater Existing Home Multifamily Rater
- C. Registration. Energy Assessors must be approved as Registered Energy Assessors, per Section I.4
- D. Energy Compliance Content
  - 1. Complete Multifamily Energy Compliance Content shall consist of the following elements:
    - a. An ENERGY STAR Performance Report, meaning the submission of the City of Berkeley's data request report through US EPA ENERGY STAR® Portfolio Manager (which includes the building's ENERGY STAR Score, if applicable, or if not available for the specific building occupancy type(s), an ENERGY STAR® weather normalized site Energy Use Intensity (EUI). The data request link will be available on the City of Berkeley's website, along with submission instructions.
    - b. A Building Energy Assessment including:
      - i) An assessment of building energy systems and site conditions
      - ii) An analysis and evaluation of equipment and energy usage
      - iii) Recommended strategies to optimize building resource utilization
      - iv) A description of the building, its occupancy and use and existing energy and water systems
      - v) A description of the metering configuration and tenant owner responsibilities
      - vi) Verification of property details and meter information used to generate the Building Energy Score, including gross square footage
      - vii) A Summary Energy Assessment Form for Multifamily, Commercial, and Mixed Use Buildings (see Appendix B)
      - viii) Verification of gross and conditioned square footage

- ix) Identification of existing conditions and any planned capital projects or changes in use
- x) Identification of on-site energy production capacity
- xi) A description of opportunities for:
  - 1) Low cost measures
  - 2) Operations and maintenance measures
  - 3) Measures pursuant to planned capital projects
  - 4) Opportunities for capital intensive measures
  - 5) Opportunities for retrocommissioning measures (buildings 25,000 sq. ft. and over)
  - 6) Applicable incentives, rebates, financing and tax deductions or credits, and web addresses for each
  - 7) Estimated costs and potential savings of each measure or group of measures, a simple payback and a net present value (NPV) of cost effective measures
- xii) Energy modeling or interval data use analysis using method indicated in Section II.2.E.1

E. Methods and Standards

- 1. A building energy analysis shall be conducted using Title 24 ACM approved modeling software or utility interval data analysis including:
  - a. Modeling software – Energy Pro modules Residential Performance, Non Residential Performance and GreenPoint Rated, EnergyPro Lite and Treat
  - b. Interval Data Analysis Software - WEGOWise, FirstFuel and Energy Scorecards
- 2. Energy Assessment
  - a. The Building Energy Assessment shall be conducted in accordance with the Bay Area Regional Energy Network Multifamily Program standards, the Existing Multifamily Assessment Protocols Multifamily Subcommittee (California Home Energy Retrofit Coordinating Committee California Tax Credit Allocation Committee), the BuildItGreen Existing Home Multifamily protocols or an equivalent method, approved by the Administrator on a case-by-case basis, that conforms to standards and protocols accepted by a State agency, such as the California Energy Commission
  - b. The Building Energy Assessment shall meet or exceed standards established in the 2011 edition of ASHRAE's Procedures for Commercial Building Energy Audits, 2nd Edition, as follows:
    - i) Buildings under 50,000 square feet shall meet or exceed requirements established by ASHRAE Level I Site Assessment
    - ii) Buildings 50,000 sf or more shall meet or exceed requirements established by ASHRAE Level II Energy Analysis

- c. Residential Unit Sampling Protocol
  - i) At least 1 in 7 of every unit type (defined as having same/similar floor plan) with representation from multiple building floors and including all four building orientations shall be inspected
  - ii) In no case shall the inspection of units be less than 10% of total units
- F. Assessment Submittal Requirements
  - 1. Assessments and data shall be provided by an REA to the BESO team and submission of this information shall imply that it is complete and has been verified by the REA
  - 2. Incomplete information will be returned to REA for correction within 2 weeks. The report will not be valid until it is accepted by the Administrator.
  - 3. The REA provide the information in the following manner to the BESO team:
    - a. The Building registration information shall be entered or verified
    - b. A copy of the Building Energy Report shall be uploaded in typewritten PDF format, or may be submitted through the Asset Score reporting template platform.
    - c. The Supplemental Multifamily/Commercial BESO Assessment Form shall be uploaded in Excel format
    - d. Assessments for buildings less than 25,000 square feet must be submitted through the online BESO Portal.
  - 4. For Large Multifamily Buildings, the submission of the City of Berkeley's data request report on US EPA ENERGY STAR® Portfolio Manager Performance Score shall be reported to BESO website by July 1 of each year that covers the prior calendar year.

## Section II.4. Commercial Energy Assessment and Reporting Requirements

- A. Covered Buildings
  - 1. Buildings covered by this section include all non-residential buildings. See Section I.2.C for Building Use Type definitions
  - 2. See Section II.1.B for Mixed Use Buildings
- B. Energy Assessor Qualifications
  - 1. All Commercial Energy Assessors must possess one of the following credentials:
    - a. ASHRAE Building Energy Assessment Professional Certification (BEAP)
    - b. Association of Energy Engineers Certified Energy Manager or Certified Energy Auditor
    - c. California Professional Engineer licensed through the National Society of Professional Engineers
- C. Energy Assessor Registration. Energy Assessors must register with the City as per Section I.4
- D. Energy Compliance Content
  - 1. Complete Commercial Energy Compliance Content shall consist of the following elements:
    - a. An ENERGY STAR Performance Report, meaning the submission of the City of Berkeley's data request report through US EPA ENERGY STAR® Portfolio Manager (which includes the building's ENERGY STAR Score, if applicable, or if not available for the specific building occupancy type(s), an ENERGY STAR® weather normalized site Energy Use Intensity (EUI). The data request link will be available on the City of Berkeley's website, along with submission instructions.
    - b. A Building Energy Assessment including
      - i) An assessment of building energy systems and site conditions
      - ii) An analysis and evaluation of equipment and energy usage
      - iii) Recommended strategies to optimize building resource utilization
      - iv) A description of the building, its occupancy and use and existing energy and water systems
      - v) A description of the metering configuration and tenant owner responsibilities
      - vi) Verification of property details and meter information used to generate the Building Energy Score, including gross square footage
      - vii) A Supplemental Energy Assessment Form for Multifamily, Commercial, and Mixed Use Buildings (see Appendix B)
      - viii) Verification of gross and conditioned square footage

- ix) Identification of existing conditions and any planned capital projects or changes in use
- x) Identification of on-site energy production capacity
- xi) A description of opportunities for:
  - 1) Low cost measures
  - 2) Operations and maintenance measures
  - 3) Measures pursuant to planned capital projects
  - 4) Opportunities for capital intensive measures
  - 5) Applicable incentives, rebates, financing and tax deductions or credits, and web addresses for each
  - 6) Estimated costs and potential savings of each measure or group of measures, a simple payback and a net present value (NPV) of cost effective measures

E. Methods and Standards

- 1. The Building Energy Assessment shall meet or exceed standards established in the 2011 edition of *ASHRAE's Procedures for Commercial Building Energy Audits*, 2<sup>nd</sup> Edition, as follows:
  - a. Buildings under 50,000 sf shall meet or exceed requirements established by ASHRAE Level I Site Assessment
  - b. Buildings 50,000 sf or more shall meet or exceed requirements established by ASHRAE Level II Energy Analysis
  - c. The water plumbing SB 407 compliance shall be based on a visual inspection of the appliance labels
  - d. The analysis of rooftop solar potential shall be conducted using a software tool that provides an estimate for a solar photovoltaic system on the roof of the building, such as SmartSolar's Energy Sage marketplace portal ([www.energysage.com/smartsolar/](http://www.energysage.com/smartsolar/)) or other software tool that is based on the actual site conditions

F. Assessment Submittal Requirements

Assessment and data shall be provided by an REA to the BESO team and submission of this information shall imply that it is complete and has been verified by the REA

- 1. The report will not be valid until it is accepted by the Administrator.
- 2. The REA shall provide the information in the following manner to the BESO team:
  - a. The Building registration information shall be entered or verified
  - b. A copy of the Building Energy Report shall be uploaded in typewritten PDF format, or may be submitted through the Asset Score reporting template platform.
  - c. The Supplemental Multifamily/Commercial BESO Assessment Form shall be uploaded in Excel format



- d. Assessments for buildings less than 25,000 square feet must be submitted through the online BESO Portal.
3. For Large Buildings, an ENERGY STAR Performance Report, meaning the submission of the City of Berkeley's data request report shall be submitted by July 1 of each year that covers the prior calendar year. The report may be submitted by an REA or the Building Owner.

## Appendix A. Energy Assessor Terms and Conditions

### 1. Compliance with Standards

By signing below, Energy Assessor agrees to abide by the *City of Berkeley Building Emissions Saving Ordinance and Administrative Regulations*, and the Energy Assessor Registration Terms and Conditions below.

Energy Assessor ensures that they have the necessary qualifications, licensing insurance, competence and experience required to fulfill their respective responsibilities in providing the services and deliverables detailed in program standards.

Energy Assessor understands that registration with the City of Berkeley does not constitute an endorsement of any kind on the part of the City. Energy Assessor shall not state or imply any such endorsement, either directly or indirectly, and shall not claim association with the City of Berkeley in any capacity other than as an independent assessor for the BESO Program. Energy Assessor shall be solely responsible for all representations made to customers regarding the Program or work performed for a customer under the Program.

### 2. Minimum Insurance Requirements

Type of Coverage	Minimum Coverage Limits
Commercial General Liability	\$1 million per occurrence for Commercial and Multifamily Assessors \$500,000 per occurrence for Home Assessors
Automobile Liability	\$500,000
CA Statutory Workers' Compensation (not required for sole proprietor)	\$1 million

### 3. Customer Satisfaction

Energy Assessor agrees to:

- A. Train internal staff, as applicable, to field customer inquiries about the BESO Program;
- B. Correct, without charge, any requests for correction from the City related to any failure to abide by program standards, such as insufficient or untimely reporting of assessment results, within ten (10) working days of the request;
- C. Repair, without charge, damage to a customer's property resulting from an assessment or other action or inaction arising under or related to the Program;
- D. Immediately report to the City of Berkeley, all customer conflicts that are not resolved to customer's full satisfaction.

### 4. Indemnification

Energy Assessor agrees to release, defend, indemnify, and hold harmless the City, including its officers, directors, employees and agents, from and against any claims, actions, demands, costs, damages or lawsuits, arising out of or connected with participation in the BESO program.

Energy Assessor acknowledges that the City has developed the Building Emissions Saving Ordinance solely for the purpose of promoting energy efficiency assessments and improvements, and that the City has no responsibility of any kind for, and shall have no liability arising out of the performance of, any service, installation, operation, or maintenance of services provided.

### 5. Changes in the Berkeley BESO Program Terms; Severability

BESO Program Eligibility Requirements and Standards are available on line at [www.ci.berkeley.ca.us/BESO](http://www.ci.berkeley.ca.us/BESO) and upon request by emailing [BESO@cityofberkeley.info](mailto:BESO@cityofberkeley.info). The City reserves the right to change these BESO Program Terms at any time without prior notice.

If any provision of these BESO Program Terms is determined to be unlawful, void, or for any reason unenforceable, then that provision shall be deemed severable from these BESO Program Terms and shall not affect the validity or enforceability of any remaining provisions.

### 6. Termination

Building Emissions Saving Ordinance [www.cityofberkeley.info/BESO/](http://www.cityofberkeley.info/BESO/)  
email [BESO@cityofberkeley.info](mailto:BESO@cityofberkeley.info) or call 510.981-7465

## BESO Administrative Regulations Appendix A

Energy Assessor or the City of Berkeley may terminate this Agreement at any time upon written notice to the other party. The termination takes effect immediately and Assessor shall stop any and all work performed under this Agreement. In the event of termination, Assessor agrees to waive any claim for damages, including loss of anticipated profit of any inspection, resulting from termination. REA must complete at least one Energy Assessment per year for registration to remain active. Otherwise, registration will expire and the assessor will be removed from the REA list pending re-registration.

Name \_\_\_\_\_ Title \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Appendix B.  
Supplemental Multifamily/Commercial BESO Assessment Form**

Date	
Registered Energy Assessor Company	
Registered Energy Assessor Name	
Primary Building Address (include city, state, & zip code)	
Building Name (optional)	
Number of Residential Dwelling Units	
BESO Building Use Classification (multifamily, commercial, or mixed use)	
Gross Floor Area (sq. ft.)	
Multifamily Gross Floor Area (sq. ft.)	
Commercial Gross Floor Area (sq. ft.)	
Conditioned Floor Area (sq.ft.) (complete only if different from Gross Floor Area above)	
ENERGYSTAR Portfolio Manager ID # (if available)	
Assessment Type (ASHRAE Level 1 or 2)	
Mixed Use Buildings Only - Assessment Category (combined, multifamily, or commercial)	
Assessment Software/Verson (if applicable)	
Assessment Cost	

Energy Assessment		if cost information not available, please provide estimated cost range													
Recommended Measures	Measure	% Savings Accrual		Annual Energy and Cost Savings				Measure Cost			Payback with Incentive			Notes	
		Owner	Tenant	Total Cost Savings	Peak Demand Savings (kW)	Elec. Savings (kWh)	Gas Savings (therms)	Gross Measure Cost	Estimate Rebate (\$)	Net Measure Cost	Measure Life (yrs)	Net Present Value	Simple Payback (yrs)		
Grand Total		0%	0%	\$ -	-	-	-	\$ -	\$ -	\$ -		\$ -	0	0	
DHW Total		0%	0%	\$ -	-	-	-	\$ -	\$ -	\$ -		\$ -	0	0	
Envelope Total		0%	0%	\$ -	-	-	-	\$ -	\$ -	\$ -		0	0	0	
HVAC Total		0%	0%	\$ -	-	-	-	\$ -	\$ -	\$ -		0	0	0	
Lighting Total		0%	0%	\$ -	-	-	-	\$ -	\$ -	\$ -		0	0	0	
Motors Total		0%	0%	\$ -	-	-	-	\$ -	\$ -	\$ -		0	0	0	
Process/Plugs Total		0%	0%	\$ -	-	-	-	\$ -	\$ -	\$ -		0	0	0	
Other Total		0%	0%	\$ -	-	-	-	\$ -	\$ -	\$ -		0	0	0	

**Indoor Plumbing Assessment**

SB 407 all fixtures confirmed compliant (y/n)		yes means that all fixtures have been confirmed compliant (less than max)
Fixture Compliance Counts	Total Count	Confirmed Compliant Count
Toilets (1.6 gpf max)		
Urinals (1 gpf max)		
Showerheads (2.5 gpm max)		
Lavatory faucets (2.2 gpm max)		
Kitchen faucets (2.2 gpm max)		

**Landscaping Assessment**

Estimated landscaped area with irrigation (sq. ft.)	
Estimated % of turf (from above)	
Type of irrigation	
Automated controller (y/n)	

**Appendix C. BESO Assessment Requirements Chart**

Please note, all buildings under 850 ft<sup>2</sup> are exempt from the Ordinance. All individually owned units within a larger building (such as an attached condominium) and buildings over 25,000 ft<sup>2</sup> are exempt at time of sale. See the BESO Administrative Regulations for more details.

Building Use Type	Gross Floor Area	Required Energy Assessment	ENERGY STAR® Portfolio Manager Performance Score	Assessor Qualifications
<b>Commercial or Predominant Commercial</b> (Multifamily use = <20% gross floor area or <5,000 ft <sup>2</sup> )	50,000 ft <sup>2</sup> and above	ASHRAE Level 2	Submit Annually	At least one of: <ul style="list-style-type: none"> <li>ASHRAE BEAP Certification</li> <li>AEE Certified Energy Manager or Auditor</li> <li>NSPE licensed Professional Engineer</li> </ul>
	15,000 – 49,999 ft <sup>2</sup>	ASHRAE Level 1	Submit Annually	
	5,000 – 14,999 ft <sup>2</sup>		Not required	
	850 – 4,999 ft <sup>2</sup>		Not required	
<b>Multifamily or Predominant Multifamily</b> (Commercial use = <20% gross floor area or <5,000 ft <sup>2</sup> )	50,000 ft <sup>2</sup> and above	ASHRAE Level 2	Submit Annually	At least two of: <ul style="list-style-type: none"> <li>HERS II Whole House Rater</li> <li>BPI Certified Multifamily Building Analyst</li> <li>GreenPoint Existing Home Multifamily Rater</li> </ul>
	15,000 – 49,999 ft <sup>2</sup>	ASHRAE Level 1	Submit Annually	
	5,000 – 14,999 ft <sup>2</sup>		Not required	
	850 – 4,999 ft <sup>2</sup>		Not required	
<b>Mixed Use</b> (Both building use types = >20% gross floor area and >5,000 ft <sup>2</sup> )	10,000 ft <sup>2</sup> and above	Commercial <u>AND</u> Multifamily - ASHRAE Level 1 or 2 depending on square footage of use type ( <u>Note</u> : Energy Assessment must be submitted by one Assessor)	Depends on square footage of use type - See Above	Depends on use type - See Above
	850 – 9,999 ft <sup>2</sup>	Commercial <u>OR</u> Multifamily applied to whole building – ASHRAE Level 1 ( <u>Note</u> : assessment type selection is up to Assessor’s discretion)		
<b>Houses</b> (1-4 dwelling units, any size)	Single detached unit or townhouse style units over 850 sq. ft.	Home Energy Score <u>OR</u> Energy Upgrade California ( <u>Note</u> : One HES score per unit over 850 ft <sup>2</sup> .)	Not required	Home Energy Score Provider or Energy Upgrade California Contractor/Rater
	2-4 units stacked or front to back	Energy Upgrade California or Multifamily Assessment (ASHRAE Level 1)*	Not required	Energy Upgrade California Contractor/Rater or Qualified Multifamily Assessor

\*Proof of enrollment in an approved whole-building energy efficiency program may be submitted in lieu of audit, such as [CESC’s Your Energy Manager](#) or the [Bay Area Multifamily Building Enhancements program](#).

\*\*Buildings with more than half of their gross floor area dedicated to scientific experiments requiring controlled environments, or for manufacturing or industrial purposes are exempt from ordinance requirements. For other deferrals and exemptions, please reference the Deferral