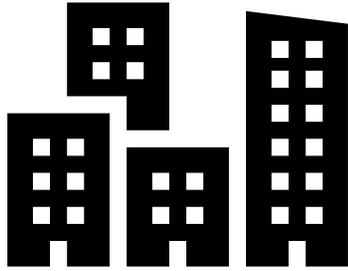


A GUIDE TO ENERGY AUDITS

ATLANTA'S COMMERCIAL BUILDINGS ENERGY EFFICIENCY ORDINANCE



Commercial buildings are the single largest consumer of energy within the city of Atlanta, and as a result, the largest source of polluting emissions. In Atlanta, 66% of the energy use comes from our building stock accounting for 58% of our CO₂ emissions. The Commercial Buildings Energy Efficiency Ordinance aims to reduce emissions while saving the commercial sector money.

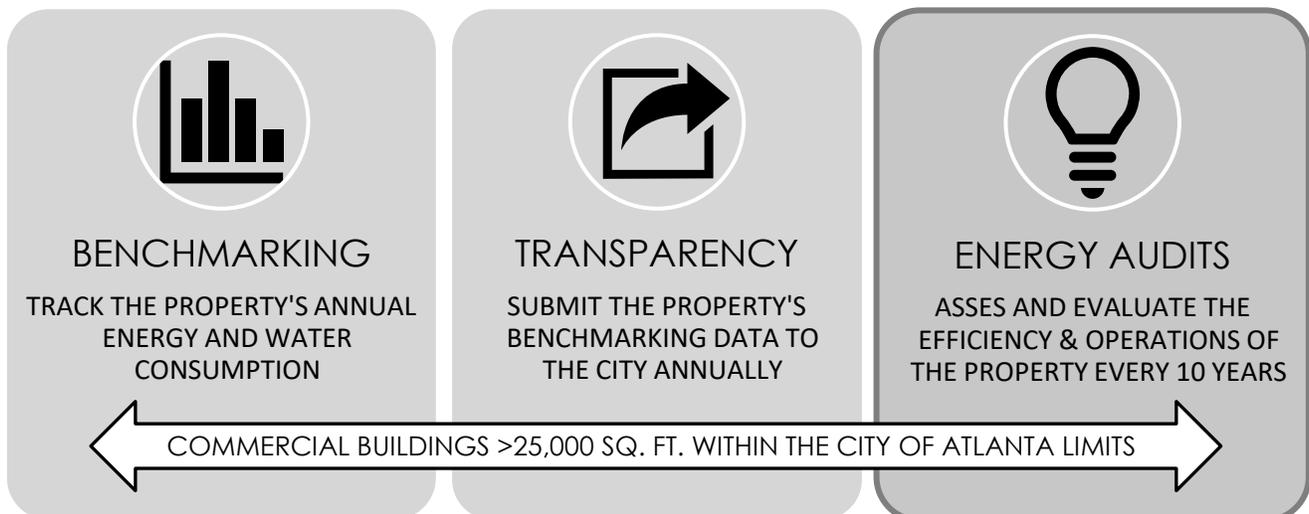
Analysis by the Mayor's Office of Resilience shows that the Ordinance can produce hundreds of millions of dollars in benefits to the private sector, driving direct investment in our local community, creating jobs, and improving public health simultaneously as energy-related emissions are reduced.

YOU CAN FIND THE ORDINANCE TEXT ONLINE [HERE](#)¹.

OVERVIEW OF THE AUDIT REQUIREMENT

Under the Commercial Buildings Energy Efficiency Ordinance, owners of commercial buildings, including multifamily, over 25,000 sq. ft. are required to benchmark their energy and water usage, submit that data to the City on an annual basis, and have an ASHRAE Level 2 energy audit conducted every ten years.

While benchmarking a building provides owners, managers, and operators with information about how their building's performance compares to that of peer buildings, and how it has changed over time, the process does not take a deeper look into exactly what actions can be taken to improve a building's performance. An audit provides the specific information necessary for building owners and managers to make informed decisions about capital improvements².



¹ <https://atlantabuildingbenchmarking.files.wordpress.com/2015/05/15-o-1101-atlanta-commercial-energy-efficiency-ordinance.pdf>

² City Energy Project. www.cityenergyproject.org

WHAT IS AN ENERGY AUDIT AND HOW WILL IT BENEFIT ME?



An ENERGY AUDIT is a systematic process of identifying and quantifying opportunities to improve a building's energy efficiency. An audit is objective and comprehensive, covering all energy sources and uses. The audit will provide feasible, concrete actions that save energy, along with an economic analysis of each action to allow for capital planning.

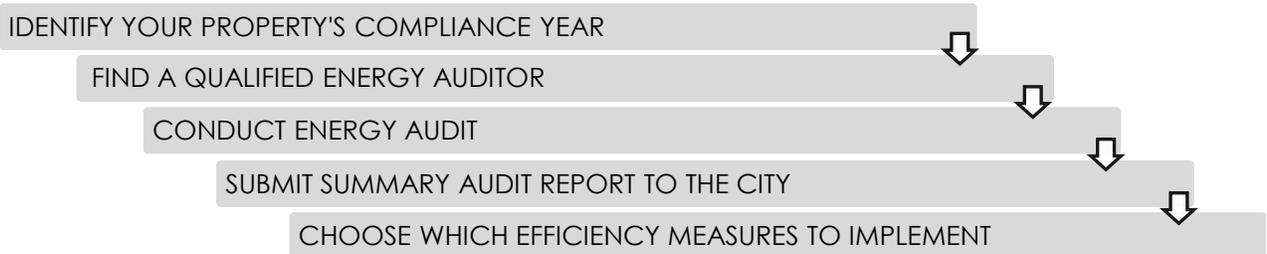
An energy audit can be a valuable tool for building owners, managers, and operators. It should:

- Help building owners understand how energy is used in the building.
- Identify opportunities for low cost / no cost projects and capital improvements.
- Provide financial analyses of opportunities so building owners can prioritize projects that meet their needs.

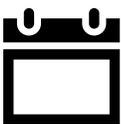
The Ordinance requires a Level 2 energy audit as defined in ASHRAE Standard 211. Building owners are free to choose which, if any, of those recommendations to implement; the point is to understand the potential for improvement and allow building owners to make informed business decisions.

Many other cities in the US have implemented similar energy benchmarking and auditing ordinances. San Francisco found that energy use has decreased by 7.9% and greenhouse gas emissions have decreased by 17% among properties that consistently comply. Energy audits for over 800 of their buildings have identified \$60.6 million in opportunities for cost-effective energy efficiency investments, with a net present value of \$170 million.³

HOW TO COMPLY WITH THE ENERGY AUDIT REQUIREMENT



ENERGY AUDIT SUBMISSION DEADLINES



Energy audits are required in the year that corresponds to the last digit of the property's Atlanta Building ID (ABID). If a property's Atlanta Building ID (ABID) is 2269**4**, it is due for an audit in 20**24**, 20**34**, 20**44**, etc. Audits are due by December 31 of the corresponding compliance year. Multifamily properties are exempt from the audit requirement until 2020.

COMPLIANCE YEAR	WHO MUST COMPLY WITH THE AUDIT REQUIREMENT?	DEADLINE
2019	Buildings whose Atlanta Building ID ends in a 9	DECEMBER 31, 20 19
2020	Buildings whose Atlanta Building ID ends in a 0	DECEMBER 31, 20 20
2021	Buildings whose Atlanta Building ID ends in a 1	DECEMBER 31, 20 21

³ The San Francisco Existing Commercial Buildings Performance Report 2010-2014
https://sfenvironment.org/sites/default/files/fliers/files/sfe_gb_ecb_performancereport.pdf

WHO CAN PERFORM AN ENERGY AUDIT ACCORDING TO THE ORDINANCE?

	QUALIFICATIONS	AUDITING EXPERIENCE
A	A Registered Architect (RA), Professional Engineer (PE), or Certified Energy Manager® (CEM®)	2 or more years of auditing experience
B	An individual with auditing certification(s) from the Association of Energy Engineers (AEE), the Associated Air Balance Council (AABC), or the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)	2 or more years of auditing experience
C	An individual or firm	5 or more years of auditing experience
D	An individual with the certifications described in (A) or (B)	2 or more years of building energy management experience in the building undertaking an energy audit

CHOOSING AN ENERGY AUDIT PROVIDER



When you are evaluating energy auditors, perform the same level of diligence you would when evaluating any other professional service. Here are some helpful tips when searching for a provider:

- Talk to 2 or 3 companies and select the best one.
- Ask for resumes of those who will be onsite. Ensure that the lead auditor has a documented track record of experience and look for evidence of an effective governance structure. Will a junior auditor collect field data? If so, how does the senior engineer get involved?
- Make sure that the energy auditors possess the required professional qualifications identified by the Ordinance and are performing the required level of audit.
- Ask for sample ASHRAE Level 2 energy audit reports from each prospective company. Even if you don't read them cover to cover, thumb through them. Since all potential vendors are going to be producing audits of differing quality, you can now judge and rank the companies on the deliverable. The scope of work on [page 4](#) of this document can guide your review of the company's report.
- Ask for references of some jobs they have done recently and then call those references. Make sure the references include similar projects. If you operate a 100,000 ft² hotel, a reference for an audit at a 20,000 ft² strip mall isn't of much good to you.
- Use a decision tool. Don't recreate the wheel here. How are projects typically evaluated in your organization? Follow the same strategy.

For a more detailed guide to choosing a qualified provider, click [here](#).⁴

You can find a list a partial list of licensed professionals through the EPA [here](#).⁵

⁴ <https://atlantabuildingbenchmarking.files.wordpress.com/2018/06/picking-a-qualified-energy-auditor-v3-gb1.pdf>

⁵ https://www.energystar.gov/buildings/lp_finder



WHAT SHOULD BE INCLUDED IN THE SCOPE OF WORK FOR AN ASHRAE LEVEL 2 ENERGY AUDIT?

ASHRAE's 211-2018 Standard for Commercial Building Energy Audits establishes the minimum performance levels for energy audits. The required components of a Level 2 Energy Audit include:

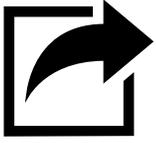
- **SITE SURVEY** with facility operator(s), to cover the following minimum base building systems as listed in the Commercial Buildings Energy Efficiency Ordinance:
 - Building envelope.
 - Heating, ventilation, and air conditioning (HVAC) systems.
 - Conveying systems.
 - Electrical and lighting systems.
 - Domestic hot water systems.
 - Water distribution systems.

- **DOCUMENTATION** that includes the following components, as required by ASHRAE Standard 211 for a Level 2 Report. Normative reporting forms to assist in data collection and reporting are available from ASHRAE at <https://xp20.ashrae.org/211-2018/>.
 - Executive Summary.
 - Overall assessment of benchmarking and energy performance.
 - Aggregated savings and costs of recommended measures.
 - Table of recommended measures with savings and cost.
 - Introduction - Audit scope, key dates, contact information.
 - Facility Description, including descriptions of all building systems covered by the Commercial Buildings Energy Efficiency Ordinance.
 - Historical Utility Data.
 - Data summary – for at least 12 months of data for all energy types.
 - Utility rate structures – include the marginal or incremental rates used to calculate energy and demand cost savings based on the applicable utility rate schedule, which may include demand charges, ratchets, seasonal or time-of-day components, taxes, and surcharges. Average energy usage costs (blended rates) shall *not* be used.
 - Benchmarking.
 - Target and savings estimate.
 - End-use breakdown – allocates the building's total energy to the different end-use systems: space heating, space cooling, air distribution (fans), water distribution (pumps),
 - Service/domestic hot water, conveyance, lighting, plug loads, process loads, refrigeration, cooking, information technology, other.
 - Energy Savings Opportunities - Low-cost/no-cost savings measures, capital projects, distributed/renewable energy opportunities, and energy efficiency measures (EEMs) considered but not recommended.
 - EEM Economic Analysis - energy and cost savings, implementation cost, and simple payback or ROI.
 - Quality Assurance.

- **SUBMITTAL** of required information to the City of Atlanta through the Department of Energy's [Asset Score](#)⁶ Tool.

⁶ <https://buildingenergyscore.energy.gov/>

SUBMITTING SUMMARY AUDIT REPORTS TO THE CITY – ASSET SCORE TOOL



The Department of Energy's Building Energy Asset Score is a national standardized tool for evaluating the physical and structural energy efficiency of commercial and multifamily residential buildings. The City of Atlanta worked collaboratively with the Department of Energy to customize the tool to record and analyze energy audit data required for submission. An energy auditor can submit data on behalf of a property by creating an account on the [Asset Score](https://buildingenergyscore.energy.gov/)⁷ website and entering information into the required data fields.

AUDIT EXEMPTIONS, EXCEPTIONS, EXTENSIONS, & DEFERMENTS

If you are requesting any of the following, please fill out an [exemption form](#)⁸ and email it to buildingefficiency@atlantaga.gov.

AUDITS EXEMPTIONS:

- Audits are required for the base building systems of a property. Base building systems not covered:
 - Systems owned, maintained, and paid for by residential or commercial tenants.
 - Systems that residential tenants pay for and exclusively serve residential tenants.
 - Industrial.

AUDIT EXCEPTIONS:

- EPA ENERGY STAR® certification for 2 of the last 3 years.
- Would have been ENERGY STAR® certifiable for 2 of the last 3 years if EPA offered it, but ENERGY STAR® certification is unavailable for that building type.
- ENERGY STAR® score has improved 15 points or weather-normalized source energy use intensity (EUI) has been reduced by 15% in the last five years.
- Meets the most recent LEED for Existing Buildings: Operations and Maintenance (EBOM) for 2 of the last 3 years.
- No occupancy certification or no temporary occupancy certification.
- Demolition permit issued, and demolition has commenced.
- Multi-family housing, if electricity data aggregation isn't available and there's no master meter.
- Commercial where the owner isn't responsible for operating or maintaining equipment, or paying for utilities, but only if electricity data aggregation isn't available and there's no master meter.
- Financial hardship.
- No utility services.

AUDIT EXTENSIONS:

- Good faith effort made but failed to obtain (limit of 2).
- Financial hardship.
- <50% of rentable floor area occupied by tenants **AND** the number of reduced-cost audits has declined substantially year-to-year (limit of 3).
- Converted from Industrial to Commercial (audit due 5 years after conversion).

AUDIT DEFERMENTS (AUDITS NOT DUE IN THE REGULAR CYCLE):

- New buildings (<10 yrs. old) that meet current energy code.
- Audit performed since 1/1/2010 that qualifies under this Ordinance (ASHRAE Level 2 or completed by Georgia Power), with paperwork signed and certified by the professional who did the work.

⁷ <https://buildingenergyscore.energy.gov/>

⁸ https://atlantabuildingbenchmarking.files.wordpress.com/2018/05/2018extensions_exemptions_request.docx

INCENTIVES AND REBATES



Did you know that utilities often offer incentives and rebates for energy and water efficiency upgrades? Check them out. Talk to your energy service provider or building operator to make sure you maximize on these savings opportunities.

ELECTRICITY

- <https://www.georgiapower.com/business/save-money-and-energy/commercial-rebates-and-incentives.html>
- <https://www.georgiapower.com/business/save-money-and-energy/commercial-energy-efficiency-program.html>

NATURAL GAS

- <https://www.atlantagaslight.com/business/commercial-rebates>

WATER

- http://northgeorgiawater.org/wp-content/uploads/2018/02/Rebate_Packet.pdf
- <https://atlantabuildingbenchmarking.files.wordpress.com/2015/05/diverted-water-program-brochure-final.pdf>

NEED ASSISTANCE?

- Visit www.atlantabuildingefficiency.com for more information.
- Email your questions to buildingefficiency@atlantaga.gov.
- Attend an upcoming training event. Register on our website [here](#).⁹



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Special thanks to the ASHRAE Atlanta Chapter for their assistance in developing this guide.

⁹ <https://atlantabuildingefficiency.com/trainings/>