

Energy Code Compliance

Currently there are several ways for a project to comply with the Virginia Energy Conservation Code (VECC), each with advantages and disadvantages. This booklet will show you the options for compliance with the VECC and provide you with the Arlington County Energy Cover Sheet that is required with permit submission.

Version of the Energy Code

The current version of the VECC that has been adopted by the Commonwealth of Virginia is the 2012 VECC. Virginia had a grace period allowing projects to submit under the 2009 VECC up until July 14th 2015. This means that projects submitted on or after July 14th 2015 must demonstrate compliance with the 2012 VECC.

Within the 2012 code, there are several ways to demonstrate code compliance. Each of these compliance options requires a different Arlington County Energy Cover sheet, which will be discussed in the next section of this booklet.

Choosing the Correct Energy Cover Sheet

Before selecting the version of the Arlington County Energy Cover Sheet it is critical to determine which energy code compliance option will be used for your project. Each option has different advantages and disadvantages. Some options will not be available to you if your project has certain conditions. Below is a step by step procedure to help you choose the appropriate compliance option.

Arlington County recommends that projects utilize the Prescriptive option for speed of energy permit review and for ease of field construction alternatives, unless the project is not eligible to comply with that option.

Contents

Choosing the Correct Cover Sheet	1
Downloading the Energy Cover Sheet	2
Permit Plan Submission Drawings	3
Frequently Asked Questions	3
Common Submission Errors	4

For More Information

For any questions you may have regarding the energy code or the Arlington County Energy Cover Sheets, please call Mike Hamilton at 703-228-3991 or Linda Baskerville at 703-228-3855.

Step 1

Type of project

If your project is a one or two family detached home, a townhouse or group of townhouses, or a residential building three stories or less such as garden apartments, then you must select either the VECC Residential Prescriptive compliance option, the VECC Residential Tradeoff compliance option or the residential VECC Performance option. If the residential VECC Residential Performance option is selected call the Energy Plan Reviewers at the end of the booklet for more information. All other projects must follow the commercial energy code options of the VECC or ASHRAE (continue on to step 2).

Step 2

Envelope Characteristics

If your project will have glazing covering more than 40% of the gross above grade wall area or it will have skylights covering more than 5% of the roof area then it cannot utilize any of the prescriptive approaches including the following:

- 2012 VECC Prescriptive option
- ASHRAE 90.1-2010 Prescriptive option

Step 3

Select Prescriptive, Tradeoff or Energy Cost Budget

Arlington County encourages projects to utilize the prescriptive option when demonstrating compliance with the VECC. This option allows for the fastest speed of review and simplifies field changes during construction.

However, if the project cannot comply with the prescriptive option then an envelope Tradeoff compliance option should be utilized. This option allows for additional flexibility. The envelope may contain areas that are below the prescriptive minimum requirements, given that enough of the other

portions of the envelope are in excess of the minimum requirements. For example, a wall can have a lower than prescriptive R-value if enough of the roof is insulated above the prescriptive requirements.

The Tradeoff option is also available to projects that exceed the prescriptive glazing restrictions. If the project cannot comply with the prescriptive option nor the envelope tradeoff option, then the energy cost budget option can be used to demonstrate compliance. This is the most flexible, but most complicated option.

Download the Energy Cover Sheet

There are seven Arlington County Energy Cover sheets available for download. **Click on any one of the below hyperlinked Energy Code compliance options to download the associated Energy Cover Sheet.**

Each download consists of an Excel file with four tabs. The first tab contains instructions. The second and third tabs contain Excel tables for you to generate your full size Energy Cover Sheet with. The third tab contains an embedded PDF which is a full size sheet example of a complete Energy Cover Sheet that is specific to that compliance option. You should size the Energy Cover Sheet to fit your drawing submission size.

2012 VECC

- [2012 VECC Prescriptive](#)
- [2012 VECC Residential Prescriptive](#)
- [ASHRAE 90.1-2010 Prescriptive](#)
- [2012 VECC Envelope Tradeoff](#)
- [2012 VECC Residential Envelope Tradeoff](#)
- [ASHRAE 90.1-2010 Envelope Tradeoff](#)
- [ASHRAE 90.1-2010 Energy Cost Budget](#)

Energy Code Compliance in the Permit Plan Submission Drawings

1. Provide a full size sheet in your permit submission drawings with an appropriate Arlington County Energy Cover Sheet. The cover sheet must be complete, signed, dated and stamped by the design professional of record.
2. The permit submission drawings must include all items requested by the cover sheet. For example The Tradeoff compliance path projects shall include an Envelope COMcheck or Envelope REScheck. The COMcheck or REScheck compliance certificates must be included on a full size sheet in the drawings.
3. Coordination is required between the Energy Cover Sheet and the drawings. For example, the Mechanical efficiency values should be shown in the mechanical schedules and reported in the Energy Cover Sheet. Another example would be coordinating insulation R-values shown in the wall, floor and roof section type and detail drawings with the values reported in the Energy Cover Sheet. The intent of the coversheet is to summarize the information in the drawings. There should be no conflicting information between the drawing set and the Energy Cover Sheet.
4. Read the common errors section to help prevent common submission errors.

Frequently Asked Questions

Do all commercial buildings need to submit an Arlington County Energy Cover Sheet?

No, but almost all new commercial buildings and new commercial additions require an Arlington County Energy Cover Sheet. If you believe that your commercial project does not require an Arlington County Energy Cover Sheet please call Mike Hamilton at 703-228-3991 or Linda Baskerville at 703-228-3855.

Energy Code Compliance Options

For a quick visual representation of available compliance paths, [click here to view the flow chart](#).

Do residential projects have to submit an Arlington County Energy Cover Sheet?

Some do, depending on the type of residential project. Currently Arlington County requires an energy cover sheet for commercial buildings (including residential mid and high rise), townhouses and multifamily buildings that are three stories or less in height. At this time, Arlington County is not requiring an energy cover sheet for detached one and two family buildings.

My project is only occupied for a small part of the year, or not occupied at all. Does it need to submit an Arlington County Energy Cover Sheet?

The number of hours a building is occupied per year does not change the applicability of the Virginia Energy Conservation Code and therefore does not change the requirement to submit an energy cover sheet.

I see there are Energy Cover Sheets that state 2012 or 2010 in the title. What year do I use?

The Energy Cover Sheet provided in your permit submission drawings must reflect the same code that the project is applying for the building permit with. For example, if the project is submitting under the 2012 codes, the 2012 VECC must be used. However ASHRAE 90.1-2010 can be used as it has been deemed equivalent to the 2012 version.

Will my project be inspected for compliance with the Energy Code?

Yes, projects that were reviewed for compliance with the Energy Code during plan review will be inspected for compliance with the Energy Code.

Common Submission Errors

- Not reflecting the correct code year on the Energy Cover Sheet
- Not selecting the correct compliance path Energy Cover Sheet that is coordinated with the code the rest of the building is submitting under. For example if the project is submitting under the 2012 Building Code, it must utilize one of the 2012 VECC compliance paths or one of the 2010 ASHRAE 90.1 compliance paths.
- Not using the correct Energy Cover Sheet for the desired compliance path
- Incorrectly insulating conditioned space. Conditioned space that requires insulation can be heated, cooled or both. Conditioned space includes minimally heated space, such as space heated for freeze protection.
- Not understanding what the building thermal envelope is. The building thermal envelope does not always mean a separation between “inside and outside.” The building thermal envelope is present anywhere that a conditioned space is next to an unconditioned space. An example is the building thermal envelope between a conditioned garage elevator lobby and unconditioned garage. Another example is the building thermal envelope between an unconditioned loading dock and the interior conditioned spaces that surround or are above the loading dock.
- Not coordinating insulation values in wall types, details, the Energy Coversheet and the envelope COMcheck if a tradeoff option is used.
- Not coordinating wall/floor/roof/window type names with the wall/floor/roof/window type names given on the ASHRAE 90.1 Energy Cost Budget Energy Cover Sheet.
- Not using the same code or standard when completing COMchecks. For example, submitting an envelope COMcheck under ASHRAE 90.1-2010 and an interior lighting COMcheck under the 2012 IECC would be incorrect.
- Not listing the U-factors and SHGC of glazing on the drawings (window, door, storefront and curtain wall schedules).
- Not addressing balcony floors which form roofs over conditioned space.
- Not addressing conditioned stairwells, elevator shafts, and elevator lobbies when surrounded by unconditioned spaces such as garages.
- Not addressing unconditioned loading docks surrounded by conditioned spaces.
- Not including uninsulated or minimally insulated envelope components in the COMcheck analysis.

Inspection Services Department Contact Info

Linda Baskerville
703-228-3855
lbaskerville@arlingtonva.us

Mike Hamilton
703-228-3991
mhamilton@arlingtonva.us