

VE-Ware FAQ

Updated: 26 August 2008

1. What is VE-Ware?

VE-Ware is a free tool from IES that calculates a building's Energy Consumption and Carbon Emissions, it also benchmarks the building against the Architecture 2030 Challenge if it is located in the USA.

2. I'm not based in the USA, what other countries can VE-Ware be used within?

VE-Ware is suitable for use in all regions of the world as it uses international data on climatic conditions and the typical characteristics of different building, room and system types.

3. Can I use VE-Ware on a residential project?

Yes, VE-Ware is suitable for use on all building types; from the smallest domestic project, to the largest hospital or airport.

4. How do I input geometry into VE-Ware?

At the moment VE-Ware is accessed via either the IES Autodesk Revit or Google SketchUp™ plug-in Toolbars. These are compatible with Revit Architecture & MEP 2008/09 or Google SketchUp 6 or Pro6. You must have one of these applications installed on your machine to run VE-Ware. Further options for inputting geometry data into VE-Ware are currently in development and these versions will be available shortly.

5. Can I change between Imperial and Metric Units?

Yes, you can change between Imperial and Metric units within the 'About' option of the IES <VE> drop down menu. Note: When units have been changed you must open Set Model Properties before running any application.

6. I have the full IES <Virtual Environment> installed, how should I access VE-Ware?

To access VE-Ware as a current software licence holder or trial user you should make sure you have the [full <VE> version 5.9.0](#) downloaded and installed, as well as [the Revit plug-in](#) and/or the SketchUp plug-in. Please note that the VE-Ware download available from the www.iesve.com/ve-ware webpage is effectively a simple, cut-down version of <VE> 5.9.0 + the plug-ins, and as such does not co-exist with the full installations of these modules. The full <VE> offers the same capabilities as VE-Ware and much more – if you are unsure about how to obtain the same results as VE-Ware within the full <VE> please contact support on support@iesve.com.

7. I'm trying to download VE-Ware but I'm being told that I have already downloaded it?

Once you have registered to download VE-Ware it will only allow you to use the download link sent by email once. If this download is cancelled or interrupted for any reason unfortunately you will need to re-register in order to complete your download.

8. VE-Ware does not install on my machine?

VE-Ware is currently accessed through a plug-in Toolbar that sits within either Autodesk Revit Architecture/MEP or Google SketchUp. Therefore, VE-Ware will only operate if you also have Revit or SketchUp installed on your machine – you must open Revit or SketchUp to access VE-Ware. Further options for inputting geometry data into VE-Ware are currently in development and these versions will be available shortly.

9. How long should the VE-Ware Calculation take?

This depends on the complexity of the building that you are analysing. VE-Ware calculates the performance of a building at 10 minute intervals for every day, of every month, of a year. For a small residential property it should take around 1 minute, for a large office building it could take around 5 minutes.

10. What do the VE-Ware results mean?

VE-Ware performs simulations based on dynamic thermal analysis; the results show the total Energy Consumption of the model, Carbon Emissions from that model considering the fuel mix and a percentage Energy Breakdown by heating, cooling, light and equipment. If you are in the USA, detail on how your building performs against the Architecture 2030 Challenge is also included. More detailed information on what the results mean and how they are calculated can be found in the IES [VE-Ware Users Guide](#).

11. How is the VE-Ware Carbon Emissions figure calculated?

This figure is based on the % Energy Breakdown and the Fuel Type assigned to the heating and cooling systems. For US locations the Fuel Factor is taken from Energy Star values, for Australia it is taken from Green Star Australia, for all other locations it is taken from UK CIBSE figures. More detailed information on this can be found in the IES [VE-Ware Users Guide](#).

12. How can I get more detailed output from VE-Ware?

As VE-Ware is a free tool there is no option to get more detailed output. However, if you would like to explore your building's performance in more detail IES offers other paid-for products that can take you to the next level and beyond. For more information on our other software products, VE-Toolkits and the full <Virtual Environment> please visit www.iesve.com/oursoftware

13. What is the Architecture 2030 Challenge?

Architecture 2030, a non-profit, non-partisan and independent organization, was established in response to the global-warming crisis by architect Edward Mazria in 2002. 2030's mission is to rapidly transform the US and global Building Sector from the major contributor of greenhouse gas emissions to a central part of the solution to the global-warming crisis. It issued the 2030 Challenge in January 2006 – a global initiative to galvanize both the building industry and the nation into action. The Challenge is that all new buildings and major renovations reduce their fossil-fuel GHG-emitting consumption by 50% by 2010, incrementally increasing the reduction for new buildings to carbon neutral by 2030. For more information on the Architecture 2030 Challenge and how the Benchmark is calculated visit www.architecture2030.org or view our [VE-Ware Users Guide](#).

14. Why do some of the 2030 Challenge Targets show the same energy consumption targets even though they have different % reductions?

There are two calculation methods for the Architecture 2030 Challenge, split by building type. Building types which use the 2030 Challenge Energy Reduction Targets use a direct % reduction to calculate the target energy consumption of the building against the Average Building Energy Use Intensity (EUI). Building Types available in Energy Star's Target Finder use a database of existing buildings to determine what the target should be. When the Target Finder method is used you might find that there is no data on an existing building which exactly matches the % reduction specified for the 2030 Challenge, in this case the closest existing building is selected and this is why differences might occur. For more information on this visit www.architecture2030.org or view our [VE-Ware Users Guide](#).

15. I don't understand the Design Building Energy Use Intensity figure. How is it calculated?

The Design Building Energy Use Intensity figure is calculated by dividing the Energy Consumption of the model by the habitable Building Area. More detailed information on this can be found in the IES [VE-Ware Users Guide](#).

16. I don't understand the Average Building Energy Use Intensity figure. How is it calculated?

There are two different calculation methods according to the building type:

- For buildings using the 2030 Challenge Energy Reduction Targets the Average Building Energy Use Intensity is static. These values are specified directly by Architecture 2030.
- For buildings calculated using Energy Star's Target Finder the Average Building Energy Use Intensity value varies with the building type and variables set in the model such as location, fuel types, area of the building, room type, percentage of conditioned area, etc. For the variables that cannot be set in the model the same default values as specified by Target Finder are assumed.

More detailed information on this can be found in the IES [VE-Ware Users Guide](#).

17. Why does the Average Building Energy Use Intensity figure change when I assign different systems or constructions to my model?

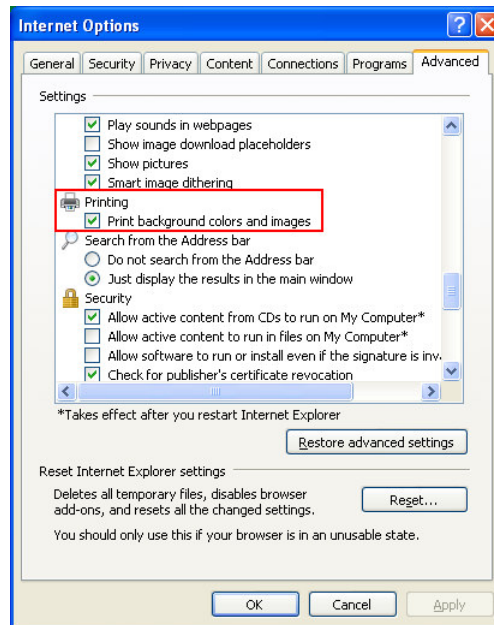
The Average Building Energy Use Intensity is calculated based on the fuel types used for the different heating and cooling systems. Changes to systems constructions or location will alter the heating and cooling requirements for the building and therefore change the energy breakdown. Note: there are two different calculation methods for determining the Average Building EUI (see FAQ 18) More detailed information on this can be found in the IES [VE-Ware Users Guide](#).

18. Why does my building not display results for the Architecture 2030 Challenge even though it is located in the USA?

This happens in some cases because some building types have a minimum or maximum building area that needs to be met in order to perform the Architecture 2030 Challenge calculation. For more information on this visit www.architecture2030.org

19. The highlighted Architecture 2030 target is not shown when I print?

To show the red highlighted 2030 Challenge Target met when printing you must set the internet explorer options to “print background colours and images”. Do this from the Internet Options menu in Internet Explorer (or similar).



20. Why don't I see results for every room in my model?

VE-Ware reports the entire building performance, not a room-by-room breakdown. If room by room performance is requirement then check out the VE-Toolkits; or the full <Virtual Environment>. For more information on our other software products, VE-Toolkits and the full <Virtual Environment> please visit www.iesve.com/oursoftware

21. Some of my rooms appear as yellow in the VE-Ware viewer, why is this?

Yellow, in default shading mode in the VE-Ware viewer, is the colour that signifies a shading surface or a non-bounded room.

22. I don't get any solar penetrations in VE-Ware, why not?

VE-Ware is a free tool, which gives limited but valuable information on building energy and carbon use. It does not take solar or light penetration into account during the calculation. However, our more detailed software, the VE-Toolkits and full <Virtual Environment> offer the option to take solar/light penetration into account when calculating a building's energy and carbon. For more information on our other software products please visit www.iesve.com/oursoftware

23. Why can't I enter more detailed information for my heating system in VE-Ware?

The intention of VE-Ware is to give a user quick access to the 2030 Challenge information and act as guidance to inform the earliest stage of design. There are a multitude of options for entering detailed information in the full <Virtual Environment> if this level of interaction is required.

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