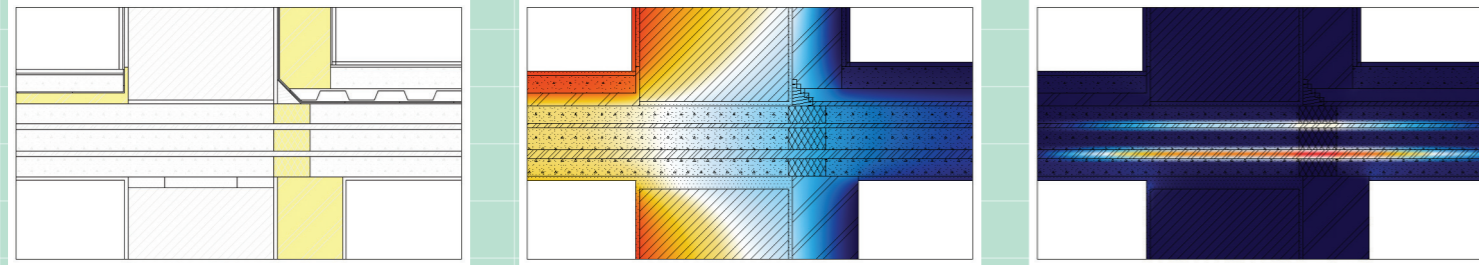


ECODESIGNER STAR

Thermal Bridge Simulation

EcoDesigner STAR enables architects to perform thermal bridge analysis on any detail of their project in seconds. This feature greatly helps designers to identify those details in the design that are responsible for heat loss and might cause condensation as well as other unwanted effects. The colored diagrams - representing the temperature and the energy flow - can be placed on layouts and used for client presentations. The calculation results of the thermal bridge simulations can be assigned to thermal blocks and improve the accuracy of the building energy analysis.



Fully Customizable Energy Evaluation Reports

Energy performance evaluation reports are highly customizable and can be used to help design decisions, illustrate client presentations, help investment decisions, provide input for the engineers to size the heating and cooling systems, or to provide performance data required by authorities.

BIM Data Export

The geometry and material properties of the building energy model can be shared with third party energy analysis software via a rich variety of data export formats including PHPP, iSBEM, VIP-Energy, and gbXML, as well as a dedicated "Green" IFC translator.

Building Energy Performance Rating

EcoDesigner STAR helps architects compare the energy efficiency of their design alternatives. The comparison results - including savings diagrams - can then be included in the energy evaluation reports!

Performance Rating Table	Energy Use	Units	Proposed Design Results	BaseLine Building Results	Savings %
	<input type="checkbox"/> Heating	Energy Use (kWh)		33172.59	60179.54
	Peak Demand (kW)		45.21	65.09	30.54
<input type="checkbox"/> Cooling	Energy Use (kWh)		3054.64	19404.27	84.26
	Peak Demand (kW)		14.69	38.64	61.98
<input type="checkbox"/> Service Hot-Water	Energy Use (kWh)		2421.45	5463.25	24.56
	Peak Demand (kW)		32.14	51.34	13.22
	Total Annual Energy Use: (kWh/a)		59539.17	103940.08	42.72
	Annual Process Energy: (kWh/a)		23311.94	24356.27	4.29



EcoDesigner STAR - A new STAR is born

GRAPHISOFT continues to innovate in "green", uniquely offering the best workflow for sustainable design, integrated in its BIM authoring tool. GRAPHISOFT provides sustainable design solutions for the entire architectural design and documentation process.

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OPEN BIM

Energy Evaluation in ArchiCAD

Architects can evaluate energy performance directly from GRAPHISOFT ArchiCAD, using its native energy evaluation infrastructure, ensuring quick evaluation even at the early design stages to support design decisions and client communication.

EcoDesigner STAR

GRAPHISOFT EcoDesigner STAR is a revolutionary step forward in Building Energy Modeling, offering a workflow that fulfills the most rigorous energy standards, delivering multiple thermal block-based, accurate, standard-compliant, dynamic energy analysis for any design stage, all building types, in any climate!



QUICK ENERGY REPORT WITH ARCHICAD

The design decisions made in the early stages of the design determine about 80% of the energy characteristics of a building project. GRAPHISOFT ArchiCAD allows architects to perform reliable dynamic energy evaluation of their BIM model - out of the box - even in the early design stages to evaluate design alternatives and to make energy-conscious design decisions.

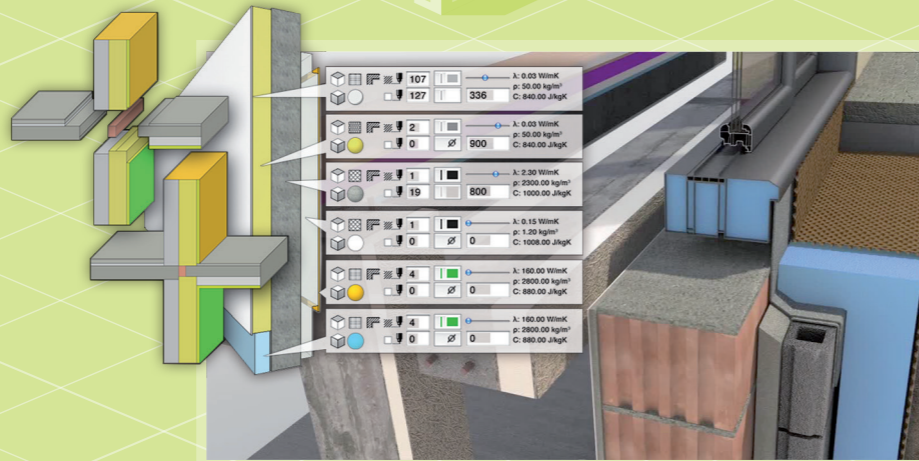


Model Based Solar Study

The ArchiCAD BIM model can be used to determine and visualize solar irradiation on openings. Designers can discover the duration of direct sunlight as well as the solar energy delivered with it. Trees can also be used for shade, and their leaf density will be considered according to the season! This is very helpful when designing external shading devices or when deciding about the use of passive or active solar systems.

Composite Structures and Openings

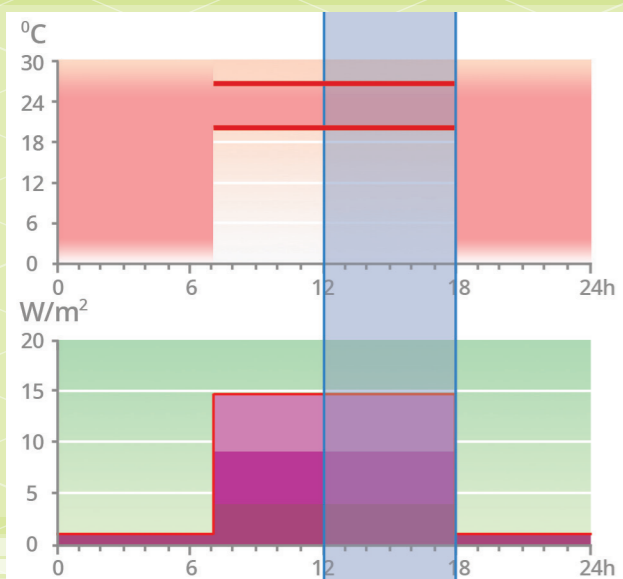
The building energy model geometry is automatically generated from the ArchiCAD BIM. ArchiCAD includes building material and glazing catalogues that list all energy-related physical properties of building structures and openings. The thermal characteristics are assigned to the skins of composite structures and to the openings, enabling accurate energy evaluation results for buildings of any size!



Operation Profiles, Building Systems

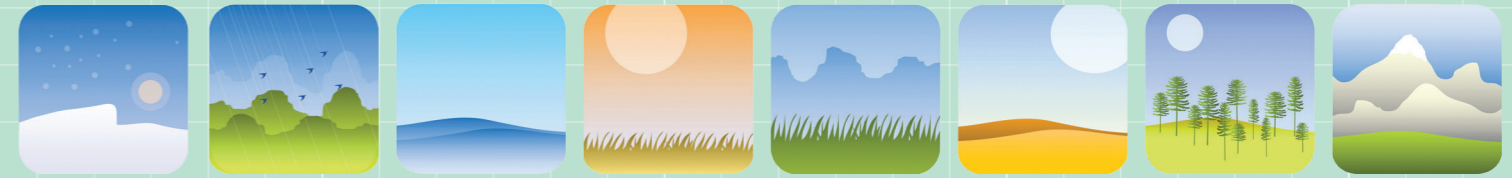
Architects can assign Operation Profiles to spaces of their design, in order to fine-tune occupancy per local regulations, or to match actual building usage. The internal temperature requirements as well as the lighting, equipment and occupancy schedules can be provided for every space in the project.

Building systems including green solutions such as solar thermal collectors, heat pumps and air-to-air energy recovery systems can also be considered throughout the energy evaluation to present a more accurate and realistic picture of the building energy demand.



COMPLIANT ENERGY EVALUATION WITH ECODESIGNER STAR

GRAPHISOFT EcoDesigner STAR turns the ArchiCAD Building Information Model into a Building Energy Model. StruSoft's building energy simulation standard-compliant VIP-Core calculation technology provides energy performance evaluation at any design stage, for any building size in minutes for every hour of the year, ready to be submitted to local authorities.



Climate Compatibility

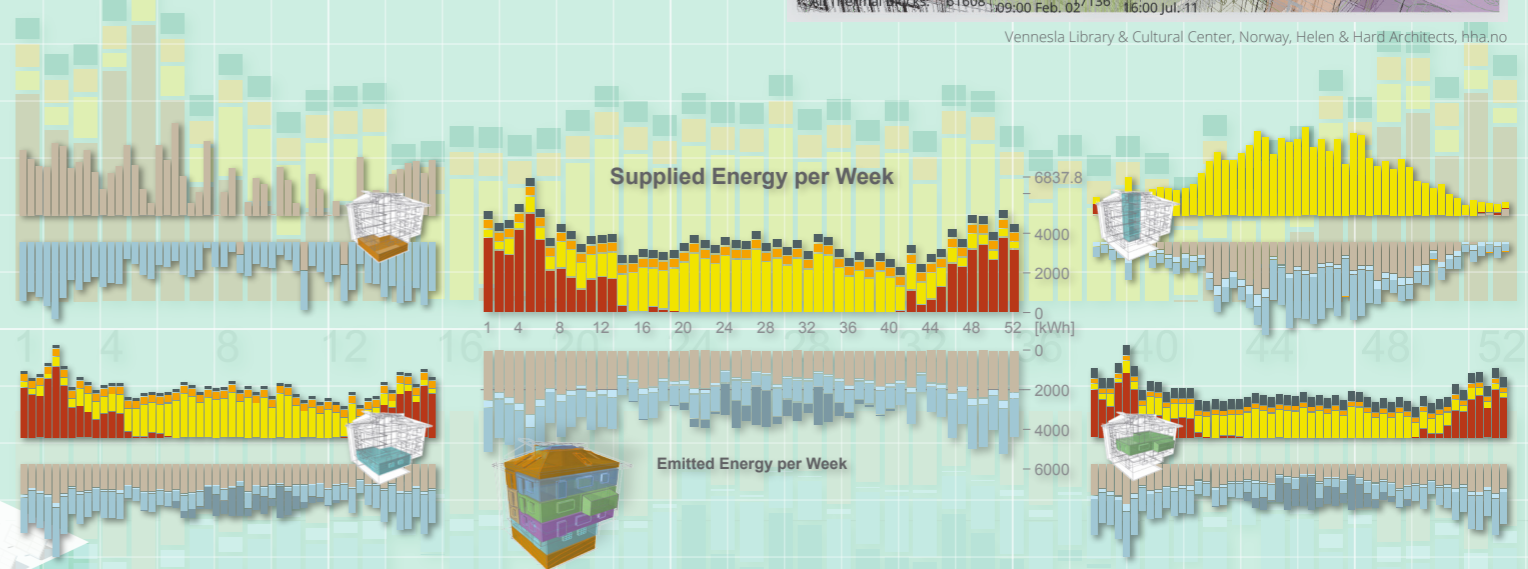
EcoDesigner STAR uses a dynamic building simulation method that is valid worldwide and can be used to precisely evaluate building energy performance in any climate or location!

Multiple Thermal Blocks

EcoDesigner STAR handles multiple thermal blocks for the energy balance calculations. These zones are grouped into thermal blocks according to orientation, occupancy and used building systems, which are necessary to perform high-accuracy energy simulations.

Thermal Block	Heating Demand		Cooling Demand		Temperature		Temperature	
	Yearly [kWh]	Hourly Peak [kW]	Yearly [kWh]	Hourly Peak [kW]	Min [°C]	Max [°C]	Min [°C]	Max [°C]
001 Storage basement	0	0	0	0	12.0	28.5	12.0	28.5
002 Staircase	360	4.9	0	0	5.0	16.00	5.0	16.00
003 Retail	14356	213.3	1000	11.3	12.0	32.4	12.0	32.4
004 Office 1	7247	8.5	1500	4.1	15.0	29.6	15.0	29.6
005 Flat 1	9390	7.5	1500	3.6	15.0	29.6	15.0	29.6
007 Flat 2 (duplex)	9303	8.3	1600	5.5	15.0	29.6	15.0	29.6
008 LA	7958	7.6	1600	4.1	15.0	29.6	15.0	29.6
009 Parking	0	0	0	0	18.00	0.00	18.00	0.00
010 Neighbor building	0	0	0	0	11.3	31.6	11.3	31.6
All Thermal Blocks	51698	65.5	1600	36.5	12.0	32.4	12.0	32.4

Vennesla Library & Cultural Center, Norway, Helen & Hard Architects, hha.no



On-Site Renewables

The EcoDesigner STAR building energy model can incorporate environmentally friendly, local, renewable solutions such as photovoltaic systems and wind turbines. Generating electricity on-site enables excellent building energy efficiency or even net zero energy building design.

Expert Building Systems

Architects can toggle independently between basic and expert Building Systems modes for each building system. Using the expert mode, the system settings can be gradually fine-tuned as the project progresses, while only the relevant parameters are displayed at all times.

