








Meetings, Conferences, Symposia and Workshops

2004	
September 22-23	NFRC Annual Fall Meeting To be held in Portland, OR • www.nfrc.org/meetings.html 
September 22-24	AHR Expo-Mexico To be held at the Cintermex Convention Center in Monterrey, Mexico www.ahrexpomex.com
September 27-30	NASEO 2004 Annual Meeting To be held in Chicago, IL • http://www.naseo.org/events/annual/default.htm
October 7-8	IBPSA France Conference (at AICVF Congress) To be held in Toulouse, France • http://www.ibpsa-france.net/
October 10-14	World Energy Engineering Congress To be held in Austin, TX • www.energycongress.com 
October 18-19	ICEBO 2004 To be held in Paris, France • http://kheops.champs.csstb.fr/icebo2004/Default.aspx?IDPage=1
November 10-12	GreenBuild Int'l Conference To be held in Portland, OR • www.greenbuildexpo.com
December 1-3	35 th International Congress on Heating, Ventilation and Air Conditioning To be held in Belgrade, Serbia • contact todoorb@eunet.yu 
December 5-10	Performance of the Exterior Envelopes of Whole Buildings IX International Conference To be held in Clearwater Beach, FL • www.ornl.gov/buildings/ 
2005	
February 5-9	ASHRAE Winter Meeting To be held in Orlando, FL • www.ashrae.org 
May 12-13	Canadian Building Science and Technology Conference To be held in Ottawa, Canada • www.nbec.net/conference.htm 
May 30-June 02	IEA Heat Pump Conference To be held at Caesars Palace in Las Vegas, NV • www.ornl.gov/hp2005
June 25-29	ASHRAE Annual Meeting To be held in Denver, CO • www.ashrae.org 
July 06-09	HVAC Asia, Singapore Contact • hqlink@singnet.com.sg

2005 (Continued)

August 08-12 ASES/ISES Solar World Congress 2005



To be held in Orlando, Florida • <http://www.swc2005.org/>

August 15-18 IBPSA's BS 2005



To be held at École Polytechnique de Montréal in Montreal, Canada • <http://www.ibpsa.org/>

October 09-12 8th REHVA World Congress --
Clima 2005



To be held in Lausanne and Luzern, Switzerland • <http://www.clima2005.ch/>

2006

January 21-25 ASHRAE Winter Meeting



To be held in Chicago, IL • www.ashrae.org

June 24-28 ASHRAE Annual Meeting



To be held Quebec City, Canada • www.ashrae.org

July 09-12 SOLAR 2006

<http://www.ases.org/>

Directory of Software and Services for EnergyPlus

Program Name	Description	Cost
EnergyPlus 1.2	Downloadable from www.energyplus.gov/	Free!
	Support mailto:EnergyPlus-Support@gard.com Support Group groups.yahoo.com/group/EnergyPlus_Support	

Users' Tools for EnergyPlus

Vendor	Description
Joe Huang and Associates 31 Sarah Lane Moraga CA 94556-2563 Ph: (925) 247-9180	DrawBDL allows users to visually review the building geometry in both EnergyPlus and DOE-2 input files. DrawBDL can export the DOE-2 surface data in EnergyPlus IDF format; useful for those users who wish to convert their DOE-2 input files into EnergyPlus input files.
Square One Research Centre for Research in the Built Environment, Bute Building King Edward VII Avenue CARDIFF, CF10 3NB - Wales United Kingdom	Ecotect couples an intuitive 3-D design interface with a comprehensive set of performance analysis functions (visualization, solar and daylighting analysis, shadows and shading, lighting design, thermal performance, UK building regulations, ventilation, and acoustic analysis) with interactive information displays. It also can export an EnergyPlus IDF file. For more details, click here for an article from the Building Energy Simulation User News.
Taylor Systems Engineering, Inc. 9801 Fair Oaks Blvd., Suite 100 Fair Oaks, CA. 95628 Ph: (916) 961-3400 Fx: (916) 961-3410	TSe+ is the first of a suite of tools to manage data for EnergyPlus. These (alpha) tools are available free of charge from Taylor Systems Engineering. TSe+Mat (materials library) is an interface to the materials datasets that come bundled with EnergyPlus and allows users to manage their frequently used material inputs for EnergyPlus data by manipulating new and existing material DataSets from EnergyPlus and exporting them in the required IDF format. TSe+Glz (glazing library) is the second module of the TSe+ suite. It was an alpha release as of Sept 2003. TSe+Glz allows the user to create, edit and manage window glazing, and gas, shade and blind materials and constructions.

Users' Tools for EnergyPlus (Continued)

The Deringer Group, Inc.
1349 Addison Street
Berkeley, CA 94702
Ph: (510) 843-9000
Fx: (510) 843-9005

EnergyPlus Online Simulations are online tools embedded in the Deringer Group's EcoAdvisor, a set of training modules on sustainable buildings. These tools can be used by anyone and require no special knowledge of EnergyPlus.

EnergyPlus Interface Support Tools

This set of stand-alone Windows-based tools is intended to make the text-based use of EnergyPlus faster, easier, and more accurate. The tools assume that the user is somewhat familiar with typical text-based interfaces for energy simulations. So far there are two proof-of-concept tools.

DrawEzPlus

is a 3-D rendering tool that reads the geometry data in an EnergyPlus input file and uses a set of OpenGL commands to render the building objects. Two key steps are involved. First, the EnergyPlus input file is parsed and all vertices data is extracted into a temporary file, organized by type of building object. Second, the temporary file is processed by a set of OpenGL utilities that produces renderings of the 3-D data. The current version allows the user to: toggle between orthogonal (parallel lines do not converge) and perspective views, toggle between line and surface (fill) presentation modes, and select to draw any mix of key building objects (floor, walls, roof, windows, and attached and detached shading). DrawEzplus 1.1 will produce renderings in either orthogonal view simulations.

EzPlus-Parm

is a stand-alone Windows tool intended primarily for EnergyPlus parametric analysis. It was designed to simplify the running of multiple parametric EnergyPlus simulations and helps a user organize and edit files.

Interfaces for EnergyPlus

Vendor	Description	Cost
DesignBuilder Software, Ltd. Palace Chambers 41 London Road Stroud Gloucestershire, GL5 2AJ UK www.designbuilder.co.uk/	DesignBuilder provides a range of environmental performance data such as: annual energy consumption, maximum summertime temperatures and detailed feedback on temperatures and heat flows in the building. DesignBuilder provides an interface to the latest EnergyPlus version for envelope, solar, ventilation and daylighting capabilities as well as heating and cooling load modeling. The software comes with summer and winter design data for 1439 worldwide locations and has access to more than 500 hourly simulation weather files.	See website
EPlusInterface Contact Santosh Philip	EPlusInterface is an open source initiative to develop a comprehensive interface for EnergyPlus. The code is free for anyone to use. The license is GPL. Modules currently under development are listed below; a few are ready to use. For latest downloads and status check the website .	

U.S. EnergyPlus CONSULTANTS

California				
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Tianzhen Hong, PhD, P.E. thong@archenergy.com	Architectural Energy Corporation www.archenergy.com/	142 Minna Street	San Francisco, CA 94105	(415) 957-1977 fax: 957-1381
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Directory of Software and Services for DOE-2

ESTSC Versions of DOE-2

Program Name and Vendor	Description	Cost
DOE-2.1E (Ed Kidd, Kim Buckner) estsc@adonis.osti.gov	Source code, executable code and complete current documentation for:	Windows U.S. Govt/Non-Profit/Educ \$ 300 U.S. Public, Mexico, Canada \$ 575 Japan \$1268 Other Foreign \$1075
ESTSC P.O. Box 1020 Oak Ridge, TN 37831-1020 Ph: 865-576-2606 / Fx: 576-2865 www.osti.gov/estsc	DOE-2.1E/Version 121 (1000-zone version) OS: Windows, SUN UNIX	Support Limited operational support (telephone assistance for installation, media or platform questions).

Commercial Versions of DOE-2

Program Name and Vendor	Description	Cost
ADM-DOE-2 (Richard Burkhardt) ADM Associates 3239 Ramos Circle Sacramento, CA 95827-2501 Ph: 916-363-8383 / Fx: 363-1788 www.adm-energy.com/	Use on 386/486 PCs with a math co-processor and 4MB of RAM. The package contains everything needed to run the program: program files, utilities, sample input files, and weather files. More than 300 weather files available. OS: DOS, Windows 95	<u>Input</u> ----- <u>Output</u> ----- <u>Support</u> ----- \$395 + \$15/SH including one set weather data (your choice) and documentation
Compare-IT (Matt Brost) RLW Analytics, Inc. info@rlw.com 1055 Broadway, Suite G Sonoma, CA 95476 Ph: 707-939-8823 / Fx: 939-9218 www.rlw.com	Compare-IT allows DOE-2 professionals to add value to their projects by giving clients "what-if" scenarios using DOE-2. The interface is designed for novice energy analysts and the GUI can be customized for each client's particular interests. Based DOE-2.1E. OS: DOS, Windows (98, 95, NT)	<u>Input</u> : Customizable windows GUI dynamically built based on DOE-2 macros. ----- <u>Output</u> ----- <u>Support</u> ----- \$500 consultant \$2000 client Documentation available
DOE-Plus (Steve Byrne) Item Systems info@item.com 8121 - 188 th St. SW. Edmonds, WA 98026 Ph: 425-640-3210 www.item.com/doeplus.htm	Complete support for all DOE-2 commands. Utility programs included: Prep, Demand Analyzer, weather processor. Over 500 worldwide weather files. Imports BDL files created with a text editor or other program. Based on DOE-2.1E. OS: DOS, Windows (3.1, 95, NT)	<u>Input</u> Interactive, graphical, fill-in-the-blanks ----- <u>Output</u> Customizable tables and graphics ----- \$895 with DOE-2 and doc \$495 without DOE-2 Source code not available.

Note: We list third-party DOE-2-related products and services for the convenience of program users, with the understanding that the Simulation Research Group does not have the resources to check the DOE-2 program adaptations and utilities for accuracy or reliability.

Commercial Versions of DOE-2 (continued)

Program Name and Vendor	Description	Cost
EnergyPro 3.0 (D. Vonderkulen) EnergySoft LLC 1025-5 th Street, Suite A Novato, CA 94945 Ph: 415-897-6400 / Fx: 897-6422	Nonresidential load calculations for HVAC equipment sizing. Exports forms to AutoCad for inclusion on blueprints. On-line help. 344 weather files for the U.S. and Canada. OS: DOS, Windows (95, NT). For California Users: Performs Title 24 compliance calculations; state-certified HVAC and DHW Equipment directories, Title 24 lighting calculations. Based on DOE-2.1E	DOE-2 Module: Non-residential \$ 700 ^{1,2} Residential \$ 250 ^{1,2} Program Interface \$ 195 ³ 1 price reflects cash discount 2 includes documentation 3 required
EZDOE (Bill Smith) Elite Software P.O. Box 1194 Bryan, TX 77806 Ph: 409-846-2340 / Fx: 846-4367	Provides full screen, fill-in-the-blank data entry, dynamic error checking, context-sensitive help, mouse support, graphic reports, a 750-page user manual, and extensive weather data. Full implementation of DOE-2 on DOS-based 386 and higher computers. On-line help. Some weather files. Based on DOE-2.1E. DOS	\$1295 w/documentation Source code not available.
FTI/DOE2 (Scott Henderson) Finite Technologies Inc. 3763 Image Drive Anchorage, Alaska 99504 Ph: 907-333-8937 / Fx: 333-4482	Version 3.0 Release -- FTI/DOE is 100% compatible with LBNL version. Source code versions will compile with most F77-compliant compilers. On-line help: 344 weather files for the U.S. and Canada. Based on ESTSC DOE-2.1E. No demo, 30-day trial period OS: DOS, Windows (3.x, 95, NT) AIX, ULTRIX, VMS, Linux, NeXTStep,	\$ 995.99 US w/documentation \$1066 Int'l w/documentation \$4999.99 Source code
PRC-DOE-2 (Paul Reeves) Partnership for Resource Conservation 140 South 34 th Street Boulder, CO 80303 Ph: 303-499-8611 / Fx: 554-1370	Text-based version of DOE-2 includes documentation. Extensive information on new features, including information on new system types, new commands, new options, etc., added to later versions of 2.1E. OS: DOS, Windows (95, NT)	\$ 495 w/documentation Source code not available.
VisualDOE 3.1 (Eric Kolderup) Charles Eley Associates 142 Minna Street (2 nd floor) San Francisco, CA 94105 Ph: 415-957-1977 / Fax 1381	Fast construction of building geometry with pre-defined blocks and drawing interface. Import zone shapes from CADD file (dxf). Point+click to define zone properties and HVAC systems. Dynamic 3-D model views. Online help. LiveUpdate through internet. 400+ US, foreign weather files. OS: Windows 95/98/NT/ME/2000/XP	\$800 new commercial license \$400 commercial upgrade from version 2.6 60% discount for educational use \$3000 Site license (up to 8 registration keys) \$8000 corporate license (up to 15 registration keys) Support: 90 days free phone plus 1 year email support.; thereafter \$300/year per licensed user

Support Tools for DOE-2

Program Name and Vendor	Description	Cost
DOE-2 Parametric Study Tool The Deringer Group, Inc. 1349 Addison Street Berkeley, CA 94702 Ph: (510) 843-9000, Fx: 843-9005	DOE2PARM – is an MS Windows-based tool that permits you to run, edit and link all the related input and output files together in the same window.	<i>Free!</i>
DoeRayMe (Jason Glazer, P.E.) GARD Analytics 1028 Busse Highway Park Ridge, Illinois 60068-1802 Ph: 847-698-5690	DoeRayMe is a simple and flexible user interface for DOE-2 “screening tool” applications. DoeRayMe uses a specially developed DOE-2 input template to change the user interface. This allows new “screening tools” to be developed by anyone with DOE-2 knowledge.	
DrawBDL Joe Huang & Associates (Joe Huang) 31 Sarah Lane Moraga CA 94556-2563 Ph: 925-247-9180	DrawBDL, Version 3.0, is a graphic debugging and drawing tool for DOE-2 building geometry. DrawBDL reads your BDL input and makes a rotate-able 3-D drawing of your building with walls, windows, and building shades shown in different colors for easy identification. OS: DOS, Windows (3.1, 95, 98, NT) [Works with 2.1E] email: tmchow@compuserve.com	\$125.00 plus shipping
PRC-DOE-2 Partnership for Resource Conservation (Paul Reeves) 140 South 34 th Street Boulder, CO 80303 Ph: 303-499-8611, Fx: 554-1370	PRC-Tools aid in extracting, analyzing, and formatting DOE-2 output. PRC-Grab automates the process of extracting any number of answers from DOE-2 standard output files. PRC-Hour and PRC-Peak format the hourly output and create Peak-Day and Average-Day load shapes for any number of periods and for any combination of hourly values. OS: Windows (95, 98, NT) [Works with 2.1E]	\$99.00
RIUSKA Olof Granlund Oy (Tuomas Laine) P O Box 59 Helsinki, FIN-00701 Finland Ph: +358 (9) 351031 / Fx: 35103421	With RIUSKA user can add building envelope materials, internal loads and HVAC-system into the created 3D-model of the building and perform thermal calculations. RIUSKA can be used for space simulations to dimension cooling or heating equipments, or for energy calculations of the whole building. OS: Windows (95, 98, NT) [Works with 2.1E]	Contact Tuomas Laine for pricing.
Visualize-IT RLW Analytics, Inc. (Matt Brost) 1055 Broadway, Suite G Sonoma, CA 95476 Ph: 800-472-6716 Fx: 707-939-8823	Visualize-IT 2.0 is a Windows application designed to help you explore and summarize short-interval time series data, e.g., measurements taken once every 15 minutes over a period of weeks, months or years. Visualize-IT has been developed specifically for electric and gas load data measuring class profiles, market-segments, individual customer sites or specific end uses. Customized DOE2.1e hourly output importer. Visualize-IT is highly useful and informative for looking at DOE2 output and/or comparing to interval metered data. It is equally useful for other time series measurements such as weather, industrial process control, and water quality. OS: Windows 95, 98 and NT	\$500.00 per set Volume Discounts Available

Special Versions of DOE-2

Program Name and Vendor	Description	Cost
Building Energy Analyzer InterEnergy Software 1700 South Mount Prospect Road Des Plaines, IL 60018 support@interenergysoftware.com www.interenergysoftware.com	InterEnergy Software, Inc. was established in 1998 by the Gas Research Institute and the Institute of Gas Technology to develop and market software for the energy industry. <u>Building Energy Analyzer</u> - Easy to use software provides quick economic analysis for commercial and industrial building; allows users to compare energy options and to estimate energy loads and costs. <u>BinMaker PRO</u> - Weather data for engineering. <u>DesiCalc</u> - Software for screening desiccant dehumidification/cooling applications; allows users to easily run hour-by-hour simulations to compare the energy needs and costs of using desiccant-based equipment with those of competing electric air-conditioning equipment.	see website for prices
CBIP cbip.nrcan.gc.ca/cbip.htm Office of Energy Efficiency Natural Resources Canada 580 Booth St., 18th Floor Ottawa ON K1A 0E4, CANADA	Natural Resources Canada's Commercial Building Incentive Program (CBIP) offers a financial incentive for the incorporation of energy efficiency features in new commercial and institutional building designs. The objective of this new incentive is to encourage energy-efficient design practices and to bring about lasting changes in the Canadian building design and construction industry. The program will be offered until March 31, 2004.	Web Based (free)
Cool Tools (Peter Turnbull) Pacific Gas & Electric Company pwt1@pge.com www.hvacexchange.com/cooltools/	The CoolTools™ project objective is to develop, disseminate and promote an integrated set of tools for design and operation of chilled water plants. CoolTools products are Internet based, public domain resources available to building owners, design professionals, and operators involved in both new construction and retrofits.	Web Based (free)
Energy Gauge USA (Danny Parker) Florida Solar Energy Center 1679 Clearlake Road Cocoa, FL 32922	<i>Energy Gauge USA</i> allows the simple calculation and rating of residential building energy use in the US. The simulation calculates a six-zone model of the residence (conditioned zone, attic, crawlspace, basement, garage and sunspace) with the various buffered spaces linked to the interior as appropriate. TMY weather data for the program are available for 239 US locations.	Contact Danny Parker at FSEC for availability.
Home Energy Saver (Residential DOE-2) hes.lbl.gov	Calculation of residential energy consumption using DOE-2.1E. In 10-20 seconds, the program performs a full annual simulation for a typical weather year (involving 8760 hourly calculations) from 239 locations around the United States.	Web Based (free)
PERFORM 2001 California Energy Commission 1516-9 th St., MS-13 Sacramento, CA 95814 Ph: 916-654-5385	Created for the State of California Energy Commission's, Title 24 energy code. Perform 2001 is an interface shell with DOE-2 as the engine. PERFORM 2001 calculates building energy consumption for space heating, space cooling and domestic hot water heating, and compares the energy consumption of the building design against the requirements of the standards. DOS input. Output is only California Title 24 compliant. [Based on DOE-2.1E] Technical support \$100/year from Gabel-Dodd Energy Soft LLC, Call 415-883-5900 for details.	\$250 including PERFORM 2001 program and manual on CD. (VISA/MC) Order #PS-400-04-017 www.energy.ca.gov/reports/reports_400.html
RESFEN-3.1 Building Technologies, MS 90-3111 Lawrence Berkeley Laboratory Berkeley, CA 94720	RESFEN calculates the energy and cost implications of a building's windows and insulated walls. Also compares the relative energy and cost impacts of two different windows. RESFEN calculates the heating and cooling energy use and associated costs, also the peak heating and cooling demand for specific window products. [Based on DOE-2.1E] OS: Windows 95, 98, NT	Free! Download
TEXAS EMISSIONS REDUCTION CALCULATOR Texas A&M University	The Texas Emissions Reduction Calculator was created to provide Texans with an accurate, easy-to-use tool for calculating the emission reduction credits attributable to a single-family residence.	Free! Download

INTERNATIONAL DOE-2 RESOURCE CENTERS

The people listed here have agreed to be primary contacts for DOE-2 program users in their respective countries. Each resource center has the latest program documentation, all back issues of the User News, and recent LBNL reports pertaining to DOE-2. Users may make arrangements to photocopy the new material for a nominal cost. We hope to establish centers in other countries; please contact us if you want to establish a center in your area.

Australia and Australasia

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Solution to the Doughnut Maze from Section 1

