Natural Resources Canada | Ressources naturelles Canada

CAN-QUEST Building Energy Modelling Software

CAN-QUEST is new software from Natural Resources Canada (NRCan) for modelling building energy use. It is based on eQUEST 3.62 – the popular United States tool. CAN-QUEST includes such features as

- Canadian weather data
- support for metric and imperial measurements
- English and French interfaces

The tool improves upon NRCan's EE4 software, which has been in wide use across Canada for more than 10 years.

CAN-QUEST was created to demonstrate performance path compliance with either the *National Energy Code of Canada for Buildings 2011* (NECB 2011) or its predecessor, the *Model National Energy Code of Canada for Buildings 1997* (MNECB 1997). Two tools exist, one for the MNECB 1997 and one for the NECB 2011. Only the NECB 2011 tool is supported and recommended as a compliance tool by NRCan.

Improvements in CAN-QUEST include that it

- is supported by a DOE2.2 energy simulation engine
- uses advanced 2- and 3-D graphical representation of building geometry
- supports parametric runs for a quick assessment of an energy-efficient design
- supports technologies such as photovoltaics, ground loop heat exchangers, cogeneration, thermal storage, and new types of heating, ventilating and air-conditioning systems
- offers "wizard" functionality to allow for quick preliminary assessments of energy use
- provides detailed help resources within the user interface

National Energy Code of Canada for Buildings

The 2011 *National Energy Code of Canada for Buildings* (NECB 2011) requires that commercial and institutional buildings be 25 percent more energy efficient than the previous code. To date, four provinces (Nova Scotia, Ontario, Manitoba and British Columbia) and one charter city (Vancouver) have adopted the NECB 2011. Several other provinces and territories are expected to adopt the NECB 2011 by 2015.

To ensure that new buildings, additions and major retrofits align with and/or exceed the new code, CAN-QUEST is one of the tools that has been developed to demonstrate compliance with the NECB 2011.

One advantage of this new software is its speed. When the data for a proposed building design are entered, the software automatically generates a reference building based on the requirements of the energy code selected in the tool. By building both the proposed and reference models simultaneously, the software cuts modelling time in half.

CAN-QUEST can help with provincial, territorial and municipal code compliance or with utility-sponsored programs for building energy efficiency or demand reduction.

Download the software

CAN-QUEST is available free from NRCan. Contact info.services@nrcan-rncan.gc.ca for more information. A manual for modelling building energy in CAN-QUEST will be available in 2014.

More software information is available from eQUEST (English only).

Canada

Software training

NRCan has developed two training courses that provinces and territories can modify for their local conditions and use to train professionals in their jurisdictions about working with CAN-QUEST:

- a one-day introduction to the NECB 2011 and CAN-QUEST for the building owners and managers, building inspectors, city planners, architects, and engineers who will manage NECB 2011-compliant projects
- a two-day, hands-on computer course that focuses on the software and the modelling process for the architects, engineers and technicians who will prepare building energy models to show compliance with the NECB 2011

CAN-QUEST training will be coordinated across Canada by individual authorities having jurisdiction through their code offices and utilities, as well as through other stakeholder organizations with expertise in the building sector.

Training will start in the spring of 2014. For information about training scheduled in your area or about CAN-QUEST, contact NRCan at info.services@nrcan-rncan.gc.ca or 1-877-360-5500 (toll-free) (613-992-3245 in the National Capital Region).

Natural Resources Canada's Office of Energy Efficiency
Leading Canadians to Energy Efficiency at Home, at Work and on the Road

October 2014

Aussi disponible en français sous le titre :
CAN-QUEST, le logiciel de modélisation de la consommation d'énergie des bâtiments