

SECTION D: ENERGY EFFICIENCY

This section refers to energy efficiency measures taken to improve energy consumption in this building, such as retrofitting or renovations and lighting or heating conservation measures.

D1: In 2000, have there been retrofitting or renovations that could have significantly affected the energy consumption of this building?
(This EXCLUDES work that resulted in an increase or reduction of building total floor space as this aspect was covered in question B2.)

- 1 - Yes
 2 - No ➔ Go to question D2

D1a: If the following retrofitting or renovations were executed in 2000, please indicate the month in which they were completed:

	Month in 2000 (mm)	Not applicab le
a) Lighting system?	_ _	1 - <input type="radio"/>
b) Heating equipment?	_ _	1 - <input type="radio"/>
c) Ventilation or air conditioning equipment?	_ _	1 - <input type="radio"/>
d) Basement or foundation?	_ _	1 - <input type="radio"/>
e) Roof – structure or surface?	_ _	1 - <input type="radio"/>
f) Roof – insulation?	_ _	1 - <input type="radio"/>
g) Walls – siding?	_ _	1 - <input type="radio"/>
h) Walls – insulation?	_ _	1 - <input type="radio"/>
i) Other? Please specify _____	_ _	1 - <input type="radio"/>

D2: Prior to 2000, have there been retrofitting or renovations that could have significantly affected the energy consumption of this building?

- 1 - Yes
 2 - No ➔ Go to Question D3

D2a: If the following retrofitting or renovations were executed, please indicate in what year they were completed:

(Please record up to a maximum of two years under each type)

	Year (yy)	Year (yy)	Not applicab le
a) Lighting system?	1 9 _ _	1 9 _ _	1 - <input type="radio"/>
b) Heating equipment?	1 9 _ _	1 9 _ _	1 - <input type="radio"/>
c) Ventilation, air conditioning?	1 9 _ _	1 9 _ _	1 - <input type="radio"/>
d) Basement or foundation?	1 9 _ _	1 9 _ _	1 - <input type="radio"/>
e) roof – structure or surface?	1 9 _ _	1 9 _ _	1 - <input type="radio"/>
f) roof – insulation ?	1 9 _ _	1 9 _ _	1 - <input type="radio"/>
g) walls – siding?	1 9 _ _	1 9 _ _	1 - <input type="radio"/>
h) walls – insulation?	1 9 _ _	1 9 _ _	1 - <input type="radio"/>
i) Other? – Please specify	1 9 _ _	1 9 _ _	1 - <input type="radio"/>

D3: What factor(s) was or would be the most important for your organisation to undertake energy efficiency retrofits in your buildings?

- 1 -Economic competitiveness
- 2 - Concern for the environment
- 3 - Access to special funding/program (grant, interest free loan, etc.)
- 4 - Others: (Specify) _____

D4: What length of payback is your organisation considering to undertake a particular energy efficiency retrofit measure?

|_____| (Record number of years)

D5: Here is a list identifying different types of windows.

Which best describes the most common type of windows present in this building in 2000?

- 1 - Single glazing
- 2 - Double glazing
- 3 - Triple glazing
- 4 - Double glazing – Sealed glazing
- 5 - Double glazing with low-e coating
- 6 - Triple glazing with low-e coating
- 7 - Double glazing- Low-e –gas filled
- 8 - Triple glazing- Low-e – gas filled

D5a: Did the building windows have tinted or reflective glass or shading films in 2000?

- 1 - Yes
- 2 - No

D5b: Did the building windows have exterior awnings or interior horizontal or vertical shades or mini blinds?

- 1 - Yes
- 2 - No

D6: Here is a list of some lighting conservation features. For each, indicate the percentage of the building lighting system that possessed these features in 2000:

	0% (None)	1 to 10%	11 to 25%	26 to 50%	51 to 75%	76 to 90%	Over 90%
a) Reflectors specifically designed to increase the amount of light from the fixture? (i.e. Specular reflectors)	1 - <input type="radio"/>	2 - <input type="radio"/>	3 - <input type="radio"/>	4 - <input type="radio"/>	5 - <input type="radio"/>	6 - <input type="radio"/>	7 - <input type="radio"/>
b) Energy efficient ballast?	1 - <input type="radio"/>	2 - <input type="radio"/>	3 - <input type="radio"/>	4 - <input type="radio"/>	5 - <input type="radio"/>	6 - <input type="radio"/>	7 - <input type="radio"/>
c) Daylight controls that detect natural light and turn off lighting when natural light is sufficient?	1 - <input type="radio"/>	2 - <input type="radio"/>	3 - <input type="radio"/>	4 - <input type="radio"/>	5 - <input type="radio"/>	6 - <input type="radio"/>	7 - <input type="radio"/>
d) Occupancy sensors that shut off lights when rooms are not occupied?	1 - <input type="radio"/>	2 - <input type="radio"/>	3 - <input type="radio"/>	4 - <input type="radio"/>	5 - <input type="radio"/>	6 - <input type="radio"/>	7 - <input type="radio"/>
e) Time clocks or time switches that turn interior lights on or off according to a predetermined schedule?	1 - <input type="radio"/>	2 - <input type="radio"/>	3 - <input type="radio"/>	4 - <input type="radio"/>	5 - <input type="radio"/>	6 - <input type="radio"/>	7 - <input type="radio"/>
f) Manual dimmer switches?	1 - <input type="radio"/>	2 - <input type="radio"/>	3 - <input type="radio"/>	4 - <input type="radio"/>	5 - <input type="radio"/>	6 - <input type="radio"/>	7 - <input type="radio"/>
g) Energy efficiency lamps?	1 - <input type="radio"/>	2 - <input type="radio"/>	3 - <input type="radio"/>	4 - <input type="radio"/>	5 - <input type="radio"/>	6 - <input type="radio"/>	7 - <input type="radio"/>
h) Other lighting feature? – Please specify	1 - <input type="radio"/>	2 - <input type="radio"/>	3 - <input type="radio"/>	4 - <input type="radio"/>	5 - <input type="radio"/>	6 - <input type="radio"/>	7 - <input type="radio"/>

Definition:

Lighting conservation features: A building feature or practice designed to reduce the amount of energy consumed by the lighting system.

D7: Here is a list of heating/cooling (HVAC) conservation features. For each, indicate if they were present in this building in 2000.

	Yes	No
a) A variable air volume (VAV) system on the heating or cooling system?	1 - <input type="radio"/>	2 - <input type="radio"/>
b) Equipment that uses outside air for cooling (outdoor air economizer)?	1 - <input type="radio"/>	2 - <input type="radio"/>
c) A temperature setback?	1 - <input type="radio"/>	2 - <input type="radio"/>
d) An equipment reset?	1 - <input type="radio"/>	2 - <input type="radio"/>
e) Heat recovery system on the exhaust air?	1 - <input type="radio"/>	2 - <input type="radio"/>
f) Regularly scheduled maintenance and repair?	1 - <input type="radio"/>	2 - <input type="radio"/>

Definition:

Heating/Ventilation/Air-Conditioning (HVAC) Conservation Features: A building feature designed to reduce the amount of energy consumed by the heating, cooling, and ventilation equipment.

D8: What was the average window-to-wall ratio of this building in 2000?

_____ % (Record window-to-wall ratio in percent)

D9: What was the overall R-value of the walls of this building in 2000?

_____ (Record R-value) (If you do not know, please complete D9a.)

Definition:

Overall wall R-value: Represents the walls' thermal resistance, which indicates how well the walls resist heat from flowing between the outdoors and indoors. The overall R-value accounts for all exposed wall construction, including framing effects and air layers.

D9a: Which of the following best describes the exterior wall type of this building?

- 1 - Curtain walls?
- 2 - Metal stud framing **with** surface insulation?
- 3 - Metal stud framing **without** surface insulation?
- 4 - Wood frame walls **with** surface insulation?
- 5 - Wood frame walls **without** surface insulation?
- 6 - Concrete block **with** interior finishing?
- 7 - Concrete block **without** interior finishing?
- 8 - Pre-cast panel?

D10: What was the overall R-value of the roof of this building in 2000?

_____ | (Record R-value) (If you do not know, please complete D10a.)

Definition:

Overall roof R-value: Represents the roof's thermal resistance, which indicates how well the roof resists heat from flowing between the outdoors and indoors.

D10a: Which of the following best describes the roof type of this building?

- 1 - Attic roof **fully** insulated?
- 2 - Attic roof **partially** insulated?
- 3 - Attic roof **not** insulated?
- 4 - Insulated wood truss roof?
- 5 - **Not** insulated wood truss roof?
- 6 - Insulated metal truss roof?
- 7 - **Not** insulated metal truss roof?
- 8 - Insulated deck-type roof?
- 9 - **Not** insulated deck type roof?

D11: If you do not know the answer to any question in this section (building's energy efficiency), would you know who could provide the information?

- 1 - Another contact
Please specify: _____
- 2 - Building Service Company
Please specify: _____
- 3 - Don't know