



Recommissioning (RCx) Pre-Screening Tool¹

This RCx pre-screening tool has been developed to help select the best building candidate(s) for recommissioning. Prioritizing a portfolio of buildings and selecting those with the greatest likelihood for success can assist with long-term planning and enable to capitalize on short term paybacks. This pre-screening tool is designed to be used at the planning phase of the standardised RCx process. For additional information, please refer to the Recommissioning Guide for Building Owners and Managers, which is available free-of-charge online at: canmetenergy.nrcan.gc.ca/rcx_guide.html

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Main references

- CanmetENERGY's Advanced RCx Course, ISBN: 978-1-100-90417-7, Cat.: M154-18/2008F-PDF, NRCan, Nov. 2008.
- CanmetENERGY's RETScreen International Clean Energy Project Analysis Software (Version 4), available at: www.retscreen.net.
- CanmetENERGY's RCx Guide for Building Owners and Managers, ISBN 978-1-100-10035-7, Cat.: M39-123/2008E-PDF, NRCan, 2008.
- Lia Webster, Matthew Gibbs, Ani Duttgupta. *Effects of Project Screening Criteria on RCx Energy Savings*, Nexant, Inc., NCBC 2007.

1. See the RCx Glossary for definitions of the terminology used by Natural Resources Canada (NRCan): canmetenergy.nrcan.gc.ca/rcx_glossary.html

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Recommissioning (RCx) Pre-Screening Tool

Project name	
Project location	
Prepared for	
Prepared by	

Upcoming retrofit projects or tenant improvements

- 0 pts One planned within the next 2 years
 3 pts None planned within the next 2 years

Thermal comfort and indoor environmental quality (IEQ)

- 0 pts Infrequent occupants complaints about comfort or IEQ
 2 pts Single recurrent complaints about **either** temperature, noise **OR** odour
 4 pts Multiple recurrent complaints about temperature, noise **OR** odour
 6 pts Multiple recurrent complaints about temperature, noise **AND** odour

Occupant rate of absenteeism

- 0 pts Normal rate of absenteeism
 2 pts Abnormally high rate of absenteeism

Mechanical Equipment Condition

Age of majority of equipment

- 0 pts More than 12 years **OR** equal or less than 3 years from end of useful life
 1 pts Less than 12 years **OR** more than 3 years from end of useful life

Building maintenance

- 0 pts No maintenance is performed
 1 pts Scheduled maintenance **only** on mechanical systems
 2 pts Scheduled maintenance **on both** mechanical and control systems

Mechanical problem(s)

- 0 pts No problem identified
 1 pts Infrequent mechanical problems
 2 pts Recurrent mechanical problems

Mechanical Equipment Characteristics

Minimum outdoor air (OA) fraction

- 0 pts **Low** level of outdoor air (fraction below 10%)
 2 pts Outdoor air on CO₂ detection
 4 pts **High** level of outdoor air (fraction above 10%)

Economizer types

- 0 pts No economizer
 1 pts Water **or** air-side economizer
 2 pts Water **and** air-side economizers

Air-side distribution system type

- 0 pts Constant volume
 2 pts Variable volume

Air handling unit (AHU) setback strategies

- 0 pts Temperature **AND** static pressure reset used
1 pts Temperature **OR** static pressure reset used
2 pts No resets used

Heat recovery

- 0 pts No heat recovery
2 pts Yes, heat recovery is installed

Cooling Plant

- 0 pts No cooling or district cooling
0 pts Packaged direct expansion (DX) units only
1 pts Custom air handling units (AHUs)
2 pts Chilled water system with air cooled condenser
3 pts Chilled water system with cooling tower

Staging strategy for cooling and heating equipment

- 0 pts Automated based on actual loads
2 pts Manual based on estimated loads or outdoor air temperatures
4 pts Central system with no resets

Presence of simultaneous heating and cooling

- 0 pts Control in place to prevent heating and cooling simultaneously
1 pts No control to prevent heating and cooling simultaneously

Heat production systems

- 0 pts District heating plant
1 pts Decentralized heating systems
2 pts Central heating plant

Heat distribution type

- 0 pts Electric perimeter heating
1 pts Hydronic perimeter heating
2 pts Integrated to packaged unit / distributed heat pumps

Type of reheat system

- 0 pts No reheat system
2 pts Electric or hydronic reheat system

Building Controls

Type of control(s)

- 0 pts Local controllers or all pneumatic
1 pts Pneumatic actuators and direct digital control (DDC)
3 pts All direct digital control (DDC)

Direct digital control (DDC) trend and storage capabilities

- 0 pts None available
1 pts Available for 24h monitoring with sampling rate of 5 minutes or **MORE**
2 pts Available for 24h monitoring with sampling rate of **LESS** than 5 minutes

Level of control(s)

- 1 pts Central plant
3 pts Central plant and air handling units (AHUs)
4 pts All equipment including zone-level and/or lighting

Use of automated scheduling

- 0 pts Scheduled to match occupancy with an optimum start program in use
1 pts Scheduled to match occupancy
3 pts No automated scheduling used

Total points cumulated for equipment and operation characteristics

- <30 pts Average potential
30 to 45 pts High potential
> 45 pts Very high potential

Building Context**Up-to-date building documentation**

- 0 pts Not available
1 pts Majority available and up-to-date
2 pts Clear, complete, and up-to-date documentation available

Owner and in-house champion

- 0 pts No to low support available
2 pts Owner support available **without** an in-house champion
4 pts Good owner support available **with** an in-house champion

Building staff capacity

- 0 pts No building staff available
1 pts Building staff can provide operation status
3 pts Building staff can perform some of the recommissioning (RCx) tasks

Controls staff capacity

- 0 pts No controls staff available
1 pts Onsite staff with controls capabilities available
2 pts Local controls subcontractor or offsite expert available
3 pts Onsite staff with full control capabilities available

Total points cumulated for building context

- <7 pts Average potential
7 to 10 pts High potential
> 10 pts Very high potential