

# Long-term Care Air Conditioning Program

*Managing, preserving, maintaining and optimizing the Province's real estate portfolio*



# Agenda

- ▶ MLTC Air Conditioning Strategy Details & Background
- ▶ Request For Information (RFI) Highlights
- ▶ Ventilation and COVID-19 (Public Health Ontario recommendations)
- ▶ Air Conditioning Options
- ▶ Program Support Details
- ▶ Equipment Supplier Details Demo
- ▶ Program Progress Tracking Demo
- ▶ Q & A

# MLTC Air Conditioning Strategy

## Proposed Amendments to Regulations

- ❑ The ministry is putting forward regulatory amendments for approval that would enhance air conditioning (including all mechanical cooling systems) requirements in LTC homes, to improve the safety and comfort of LTC residents. Proposed amendments include a requirement for air conditioning (AC) in designated cooling areas as of May 15th, 2021.

## Provincial Commitment

- ❑ In Summer 2020, the government made a public commitment to improve air conditioning solutions in long-term care homes across the province.

## Prioritization of Funding

- ❑ To ensure LTC homes that do not currently have air conditioning in common areas and resident rooms meet these expectations, the ministry is prioritizing the following funding for the implementation of air conditioning in these homes:
  - Long-Term Care Minor Capital Funding
  - Infection Prevention and Control (IPAC) Minor Capital Funding
  - Investing in Canada Infrastructure Program (ICIP)

# Funding Details

## Long-Term Care Minor Capital & Infection Prevention and Control (IPAC) Minor Capital

Funding under the LTC Minor Capital and IPAC Minor Capital Programs for 2021-22 is being prioritized for the MLTC Cooling Strategy. If all common areas and resident rooms have air conditioning then funding may be used for other eligible expenses under these programs.

- ❑ **\$23.9M for the Long-Term Care Minor Capital Program** – Eligible homes will receive funding equal to the greater of 75% of their 2020-21 allocation or \$5,000 for the year plus \$1.17 per day per eligible bed.
- ❑ **\$61.4M Infection, Prevention and Control (IPAC) Minor Capital** – All homes will receive a base allocation of \$50,000. An additional per-bed allotment will also be provided. Older homes (with bed classifications of B, C or upgraded D) will receive \$600 per bed, and newer homes (with bed classifications of New, A, or D-retrofit) will receive \$254 per bed.

## Investing in Canada Infrastructure Program

- ❑ **\$100M in one time federal-provincial funding for the Investing in Canada Infrastructure Program (ICIP)** – Under the program, approved projects will receive one-time federal-provincial funding to support COVID-19 resilience infrastructure projects, prioritizing Heating, Ventilation, and Air-Conditioning (HVAC) projects.

# Implementation of LTC Air Conditioning Timeline

## AC Survey:

A survey was shared with all LTC homes in February 2021.

## MC and IPAC MC Funding Letters to LTC Homes:

Communication to LTC homes notifying them of the air conditioning strategy, including the MC and IPAC MC funds on March 19, 2021.

## Regulation comes into force:

All homes will be required to have air conditioning in designated cooling areas by May 15, 2021.

## Follow-Up Survey:

A follow-up survey will be conducted in late May for homes who reported they do not have air conditioning in the March 2021 survey.



March 2021

April 2021

Spring & Summer 2021

## IO Procurement:

IO to solicit market for AC vendors/options to be in place by the end of March.

## IO Procurement Continued:

IO and CBRE to participate in MLTC-led webinar with LTC homes during the week of March 29, 2021 providing an introduction and overview of the AC program.

## Accountability & Compliance:

- Attestation from homes re: compliance with funding terms.
- Collection of information on the use of funds including amount of funding spent, the amount of funding used specifically for air conditioning in common areas and resident rooms, and on improvements of the use of air conditioning systems.

# Long-term Care (LTC) Home AC Program

- ▶ Scope of work:

Infrastructure Ontario (IO) has been engaged by the MLTC to assist in developing an air conditioning (AC) supply chain for LTC homes to directly engage with.

- ▶ Program timelines:

- Designated cooling areas are required to have ACs installed by May 15<sup>th</sup>, 2021.
- Various options for common areas and resident rooms ACs to be installed by summer 2021.

- ▶ Common space definition:

“Common areas” generally include all resident accessible areas in the home (such as a library, TV lounge, lobby, recreational rooms, dining areas, etc.)

# Request For Information (RFI) Highlights

- ▶ IO Property Services carried out a Request For Information (RFI) from Industry for AC options to support the needs of LTC homes.
- ▶ The RFI response included 13 vendor proposals with various AC options currently available in market including installation services if required.
- ▶ As of the close of the RFI on March 13<sup>th</sup>, an inventory of over 70,000 AC units were identified as available between March and May.

# Ventilation and COVID-19 – Public Health Ontario Reference Documents

## FOCUS ON

### Heating, Ventilation and Air Conditioning (HVAC) Systems in Buildings and COVID-19



March, 2021

<https://www.publichealthontario.ca/-/media/documents/ncov/ipac/2020/09/covid-19-hvac-systems-in-buildings.pdf?la=en>

## AT A GLANCE

### The Use of Portable Fans and Portable Air Conditioning Units during COVID-19 in Long-term Care and Retirement Homes

#### Key Findings

- Careful consideration should be given to the use of portable fans and air conditioning units in long-term care homes or retirement homes.
- Portable fans and portable air conditioning units require routine cleaning and preventative maintenance.
- Portable fans and portable air conditioning units need to be strategically located to minimize risk of potential healthcare-associated infections.
- Alternative cooling methods should be explored in the long-term care setting.

<https://www.publichealthontario.ca/-/media/documents/ncov/ltrh/2020/08/covid-19-fans-air-conditioning-ltrh.pdf?la=en>

# The Use of Portable Fans & Portable AC Units during COVID- 19 in Long-Term Care and Retirement Homes

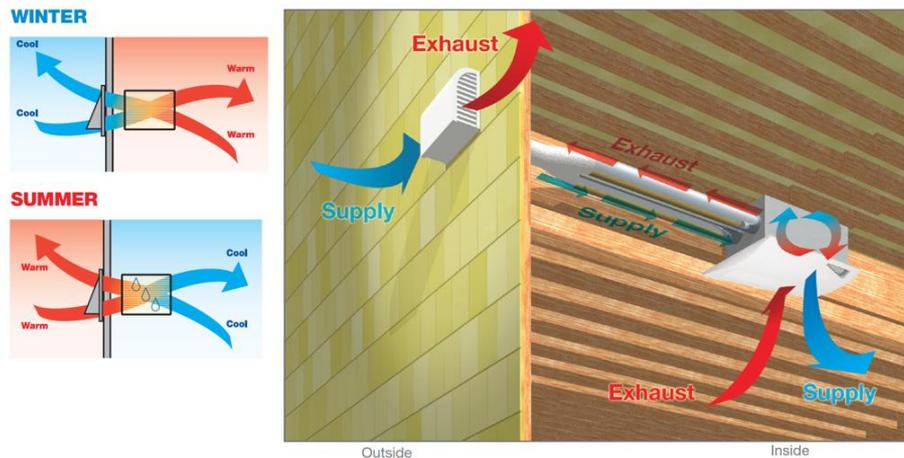
- ❑ Strive for maximum indoor temp of 26°C in LTC homes
- ❑ Avoid air flow at head or face level (direct the air upwards or to exhaust)
- ❑ Maintain fans at low speeds
- ❑ Preference should be given to AC units with fresh air capability
- ❑ Operable windows should be used in conjunction with AC units that have no fresh air capability (recirculation fans only)
- ❑ Preference should be given to units with condensation exhaust system
- ❑ Maintenance of AC units is key to avoid legionella and other potential pathogens (mold)

Note: LTC homes to coordinate ventilation requirements with AC vendors.

# Fresh Air Capability

- ▶ Some alternative approaches to increase fresh air:
  - ❑ Increase the fresh air intake of base building HVAC systems (if possible)
  - ❑ Regular/periodic ventilation through window openings
  - ❑ Use of Energy Recovery Ventilator (ERV) systems:  
ERVs draw clean, fresh outdoor air into a space and exhaust stale indoor air.

Balanced Ventilation With Spot ERV



Note 1: Through-wall AC is the only cooling option that provides fresh air intake capability.

Note 2: LTC homes to coordinate ventilation requirements & PHO recommendations with AC vendors.

# AC Selection Consideration Factors

In order to select the right AC unit, consider the following factors:

- ▶ **AC Unit Size:** AC unit sizing based on the area being served
  - Rule of thumb: A 1-Ton AC can cool a 600 ft<sup>2</sup> area. (1 Ton cooling = 12000 BTU)
- ▶ **Public Health Ontario (PHO) Recommendations:** COVID-19 mitigation strategies
- ▶ **Installation:** Location & setup (mechanical and electrical)
- ▶ **Maintenance:** Manufacturer & PHO's recommendations
- ▶ **Energy Consumption:** High efficiency AC units
  - A room AC's efficiency is measured by the energy efficiency ratio (EER).
  - The EER is the ratio of the cooling capacity (in BTU) to the power input (in watts).
  - The higher the EER rating, the more efficient the AC.

# Potential AC Options

The following AC options are available to all LTC homes:

1. Portable
2. Window-mounted
3. Through-wall
4. Single-zone Ductless Split
5. Multi-zone Ductless Split
6. Variable Refrigerant Flow

# Potential Option 1: Portable AC

A Portable Air Conditioner (PAC) is a self-contained portable system ideal for cooling single rooms.

**Pros:**

1. Easy to install
2. Portable

Portable AC	Minimum	Maximum
AC size range	5300 BTU	20000 BTU
Unit price range	\$349	\$3,518
Energy Efficiency Rating (EER)	5	15
Power requirements	Typically 120 volt	
Typical installation time	1/2 day	

**Cons:**

1. Higher operating noise levels compared to other options
2. Not effective for very large rooms
3. Potential electrical limitations based on the number of operating units
4. Designed to sit on floor (potential tripping hazard)
5. No fresh air intake
6. Condensation pans may require manual drainage



Danby / Portable AC

AC Make
Comfort-Aire
Zone Air Portable
Perfet Aire
Dolceclima
Danby
Toshiba
LG
Dayton
Friedrich

Note: LTC homes to coordinate ventilation requirements & PHO recommendations with AC vendors.

# Potential Option 2: Window-mounted AC

Window-mounted ACs use refrigerant to absorb heat inside your home and disperse it outside.

**Pros:**

1. More popular – i.e. more options
2. Low noise output
3. Exterior drain

Window-mounted AC	Minimum	Maximum
AC size range	6000 BTU	20000 BTU
Unit price range	\$208	\$1,374
Energy Efficiency Rating (EER)	8	12
Power requirements	Available in either 120 volt or 240 volt	
Typical installation time	1/2 day	

**Cons:**

1. Blocks a part of the window
2. Not all windows are configured for window mounted AC's
3. Potential base building limitations based on the number of AC units required
4. No fresh air intake



AC Make
Comfort-Aire
Friedrich
Perfet Aire
Comfort Aire
Danby
LG
Toshiba
Frigidaire

Note: LTC homes to coordinate ventilation requirements & PHO recommendations with AC vendors.

# Potential Option 3: Through-wall AC

Through-wall ACs are similar to window-mounted ACs. However, they are installed in wall sleeves.

**Pros:**

1. No window blockage
2. Fresh air intake capability
3. Exterior drain

Through-wall AC	Minimum	Maximum
AC size range	6000 BTU	20000 BTU
Unit price range	\$422	\$3,645
Energy Efficiency Rating (EER)	8	12
Power requirements	Available in either 120 volt or 240 volt	
Typical installation time	2 days	

**Cons:**

1. Requires wall opening



AC Make
Perfect-Comfort
Friedrich
Perfet Aire
Comfort Aire
Maestro
Garrison
Danby
LG

Danby / Through-wall AC

Note: LTC homes to coordinate ventilation requirements & PHO recommendations with AC vendors.

# Potential Option 4: Single-zone ductless split system

Single-zoned means there's one indoor unit connected to a dedicated outdoor unit. Ideal for single-storey buildings.

## Pros:

1. Low noise output
2. Single-zone temperature control

Single-zone Ductless Split AC	Minimum	Maximum
AC size range	6000 BTU	20000 BTU
Unit price range	\$462	\$3,439
Energy Efficiency Rating (EER)	10	33
Power requirements	Available in either 120 volt or 240 volt	
Typical installation time	1 day	

## Cons:

1. No fresh air intake
2. Limitation on the distance between the indoor and outdoor units
3. Drainage provisions required



AC Make
Carrier
Elios
Century
Airlux
Napoleon
Trane
York
Danby
LG

Note: LTC homes to coordinate ventilation requirements & PHO recommendations with AC vendors.

# Potential Option 5: Multi-zone ductless split system

Multi-zone ductless split system means there are multiple indoor units connected to a dedicated outdoor unit. Ideal for single-storey buildings.

Multi-zone Ductless Split AC	Minimum	Maximum
AC size range	8000 BTU	>24000 BTU
Unit price range	\$482	\$70,652
Energy Efficiency Rating (EER)	10	33
Power requirements	Available in either 120 volt or 240 volt	
Typical installation time	2 days (for 1 outdoor & 2 indoor units)	

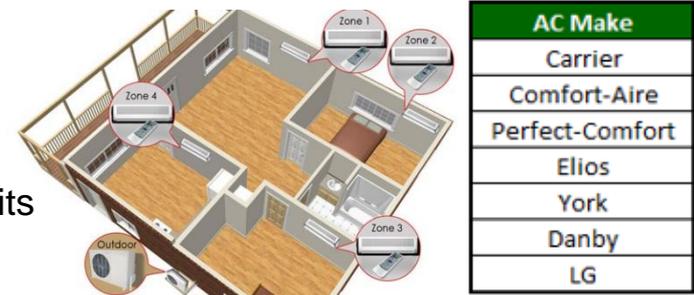
## Pros:

1. Low noise output
2. Multi-zone temperature control (e.g. common spaces)

Note: The maximum price is for a multi-system with 9 indoor units.

## Cons:

1. Limitation on the distance between the indoor and outdoor units
2. No fresh air intake
3. Drainage provisions required



Note: LTC homes to coordinate ventilation requirements & PHO recommendations with AC vendors.

# Potential Option 6: Variable Refrigerant Flow (VRF) AC

Variable Refrigerant Flow (VRF) is an HVAC technology which uses refrigerant as the cooling and heating medium. Ideal for multi-floor buildings.

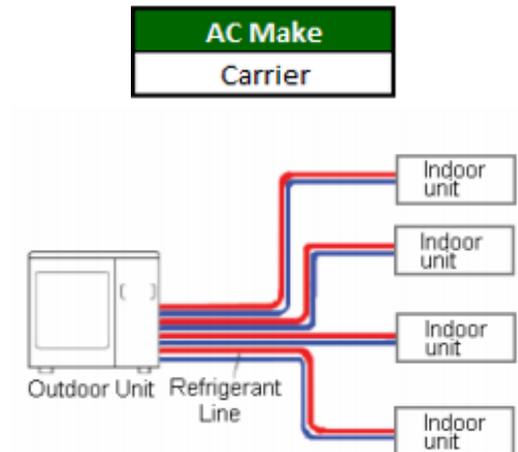
Variable Refrigerant Flow AC	Minimum	Maximum
AC size range	5000 BTU	30000 BTU
Unit price range	\$1,024	\$3,250
Energy Efficiency Rating (EER)	15	20
Power requirements	Available in either 120 volt or 240 volt	
Typical installation time	2 days (for 1 outdoor & 2 indoor units)	

## Pros:

1. Low noise output
2. Multi-zone temperature control (e.g. common space)
3. Both heating and cooling capabilities

## Cons:

1. Limitation on the distance between the indoor and outdoor
2. No fresh air intake



Note: LTC homes to coordinate ventilation requirements & PHO recommendations with AC vendors.

# Summary of AC Options

The below table compares different AC options:

Feature	Portable	Window-mounted	Through-wall	Single-Zone Ductless Split	Multi-Zone Ductless Split	Variable Refrigerant Flow
Operating efficiency	Low	Medium	Medium	High	High	High
Unit price	Low	Lowest	Low	Medium	High	High
Installation complexity	Low	Low	High	Medium	High	High
Fresh air capability	No	No	Yes	No	No	No
Noise levels	High	Medium	Medium	Low	Low	Low
Maintenance requirements	Low	Low	Medium	High	High	High
Takes up floor space	Yes	No	No	No	No	No
Requires exhaust venting	Yes	No	No	No	No	No
Electrical requirements	Dedicated receptacle			Dedicated 240V supply		

Note: LTC homes to coordinate ventilation requirements & PHO recommendations with AC vendors.

# LTC Home AC Program Support

## **IOLTCSupport@cbre.com**

Contact Infrastructure Ontario Property Services (IOPS) for support in the following areas:

- ▶ Program tracking survey
- ▶ RFI Inquiries
- ▶ Vendor engagement questions
- ▶ PHO/IPAC queries
- ▶ Clarifications on selection criteria

Emails are monitored daily with responses typically provided within one business day from receipt.

## **LTC.info@ontario.ca**

Contact MLTC for support in the following areas:

- ▶ Funding questions
- ▶ Issues with MLTC portal

# Equipment Supplier Details - Demo

## User Guide

The following workbook contains the information needed for you to identify the most appropriate air conditioning options for your home and contact the relevant vendors. **Available supplies in each sheet are as of March 13th and are not updated.**

**Option 1:** Go to Summary Table and view the available A/C makes for each room type. Once you've identified a vendor, go to Contact Table and reach out by phone or email.

**Option 2:** Go to Full Table and filter by relevant specifications for your need. Once you've identified a vendor, go to Contact Table and reach out by phone or email.

**Option 3:** Go to Contact Table and reach out to vendors in your area for a full inquiry based on your need

GO TO SUMMARY

GO TO FULL TABLE

GO TO CONTACT

Note: Vendor data and AC inventory numbers are based on the RFI results dated March 13, 2021 and are subject to change based on industry demand.

# LTC Home AC Progress Tracking Survey - Demo



## LTC AC Program Progress Tracking

Please enter your email address. \*

Select or enter value

Send me a copy of my responses

Submit

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