

# MANAGING HVAC FOR BETTER BUILDING PERFORMANCE



**Heating, ventilation and air conditioning (HVAC) systems control the temperature, humidity, air flow and air filtering of indoor spaces.**

HVAC performance can mean the difference between healthy, productive work spaces for building occupants and unhappy tenants looking for more comfortable spaces to rent (in someone else's building).

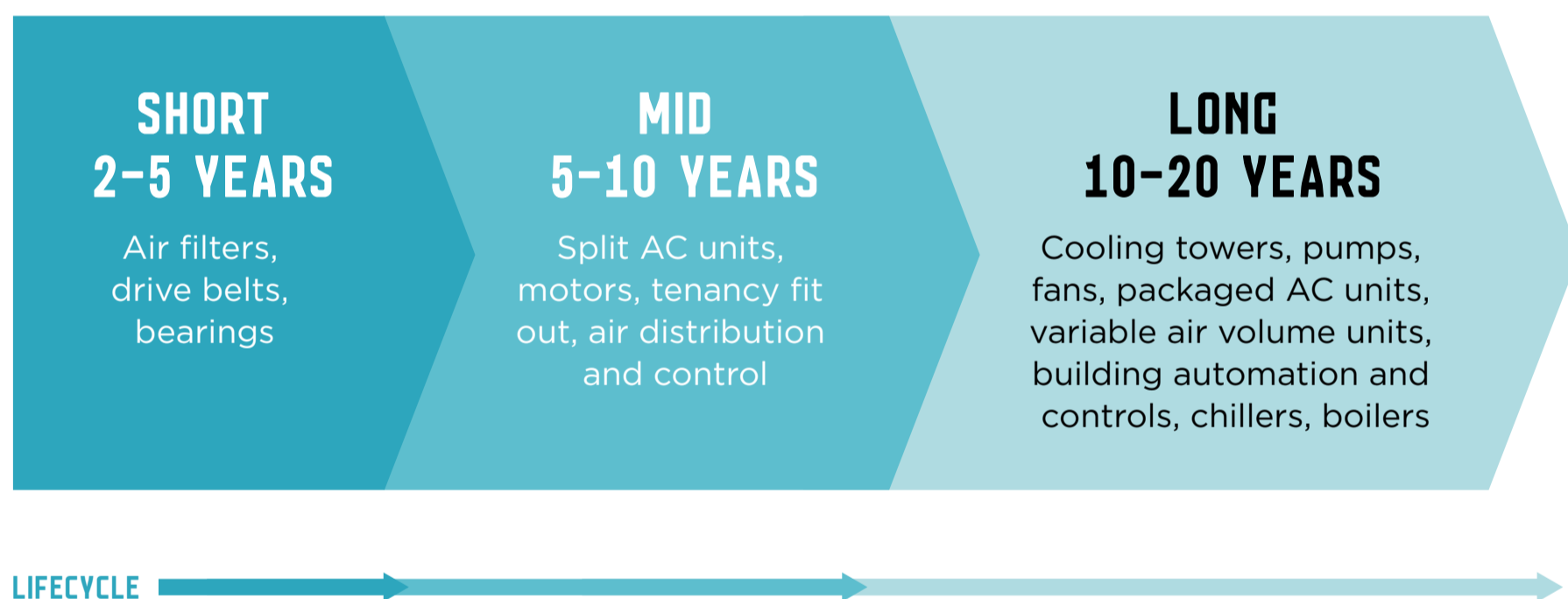
HVAC systems are big users of electricity and gas. HVAC systems typically represent over 50% of the energy efficiency improvement potential in a building and conversely represent over 50% of the risk to retaining energy efficiency and energy star ratings.

Taking good care of HVAC equipment will provide comfortable, fresh work spaces that promote staff productivity and lower operating costs.

There are many variations on the design of HVAC systems. They can be large and sophisticated, for example providing ducted conditioned air throughout a building. They can also be small and localised - or a combination of both large and small. Understanding how the various components of HVAC systems consume or influence energy use is important because knowing where changes can be made in the building's operation, tuning and maintenance will support HVAC longevity and reliability.

## HVAC LIFESPAN

What stage in their lifespan are the components of your HVAC system at?



It is good practice to ensure your HVAC system and its components perform as reliably and efficiently over their life cycle.

How do you get the best value out of your maintenance to ensure the systems don't waste energy? When is the best time to consider retrofitting and how do you get the most out of this investment?

**For advice, contact the Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH) on 8623 3000 or [www.airah.org.au](http://www.airah.org.au)**



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## RETROFITTING

### What is retrofitting?

Retrofitting refers to the replacement of obsolete equipment and the installation of new equipment to improve the operation and energy efficiency of HVAC systems.

### Why is retrofitting good for business?

- Improves building performance
- Makes buildings more attractive to investors
- Helps achieve higher rental returns and greater asset value
- Supports the attraction and retention of tenants
- Future-proofs against government regulations
- Reduces maintenance costs through extended warranties on new equipment
- Produces energy cost savings via better performing equipment
- Can produce significant improvements in National Australian Built Environment Rating System (NABERS) and Green Star ratings.

## COMMISSIONING

### What is commissioning?

Commissioning is a test to check the functioning of new equipment to ensure that it performs as designed and is integrated with other building systems.

### Why is commissioning important?

- Facilitates the correct and optimal operation of new equipment which promotes better performance
- Ensures new equipment is operating as intended and reduces the need for costly adjustments to equipment down the track
- Reduces operational costs
- Helps to achieve the projected NABERS and Green Star ratings.

## TUNING (RETRO-COMMISSIONING)

### What is tuning?

Over time, the way buildings are used can change (e.g. reconfiguring of tenant spaces) and this impacts comfort levels and operational efficiency. Tuning (retro-commissioning) refers to adjustments made to HVAC systems to restore optimal functioning.

### Why is tuning important?

- Retains building asset value
- Increases tenant satisfaction and productivity through improved comfort levels
- Increases the operational life of HVAC systems, saving money and reducing inconvenience
- Ensures a higher level of safety and reliability of systems
- Helps to improve NABERS and Green Star ratings

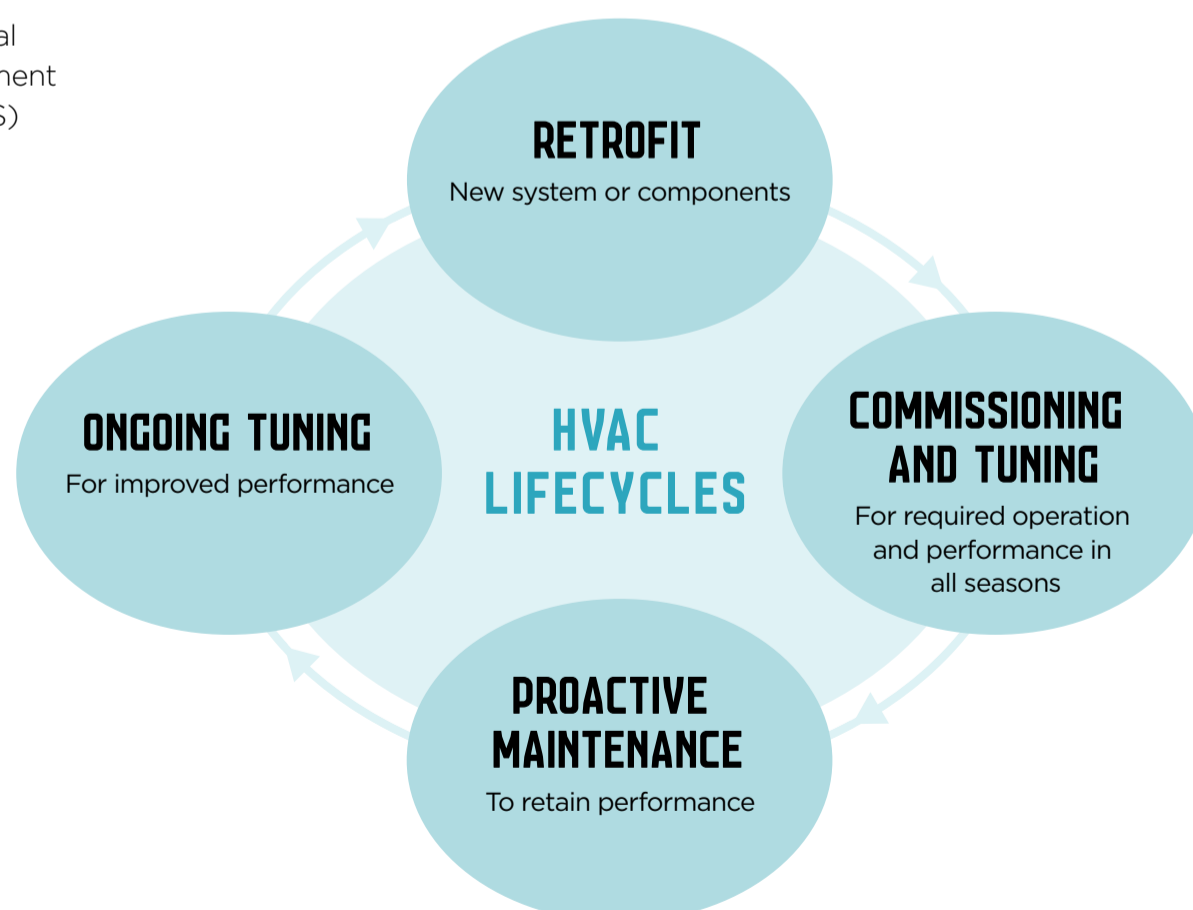
## MAINTENANCE

### What is proactive maintenance?

Proactive maintenance and regular servicing of HVAC equipment improves operational efficiency and ensures any problems are quickly rectified to prevent unexpected breakdowns.

### Why is proactive maintenance important?

- Retains building asset value
- Supports a more productive working environment for tenants
- Saves money through less breakdowns
- Extends the life of HVAC systems, saving money and inconvenience
- Helps to retain NABERS and Green Star Performance ratings
- Generates less greenhouse gases.



## THE HVAC OPPORTUNITY CYCLE

What stage in its lifespan is your HVAC system at?



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