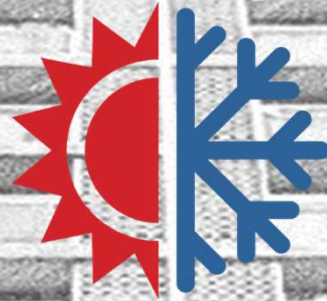


# BILTON TOWERS

Replacement of the Heating / Cooling infrastructure



Important information for the attention of the leaseholders of Bilton Towers ahead of the Extraordinary General Meeting of 23<sup>rd</sup> November 2023.

# Overview

Why do we need to replace the current system ?

What alternatives are available ?

Which system is recommended, and why ?

How can this project be financed ?

What resolutions will be voted upon at the E.G.M. ?

# Overview

Why do we need to replace the current system ?

What alternatives are available ?

Which system is recommended, and why ?

How can this project be financed ?

What resolutions will be voted upon at the E.G.M. ?

# An obligation as per the head lease ...

No. 750060.

*The Companies Act, 1948*

COMPANY LIMITED BY SHARES

## Memorandum

AND

## Articles of Association

OF

BILTON TOWERS RESIDENTS  
COMPANY LIMITED

Incorporated the 13th day of February,

(2) To provide heating, lighting, water, air conditioning portorage, Lifts and all other services usually provided for a luxury block of flats or to the advantage of the tenants and occupiers of residential flats.

(3) To appoint independent Contractors or Managing Agents to carry out on behalf of the Company any or all of its obligations under the said Lease and to remunerate such independent Contractors or Managing Agents and to enter into Service Agreements therewith



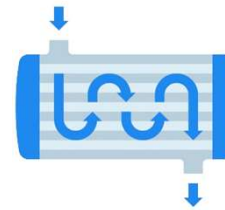
### Heating :

- Boilers replaced in 2012 and 2016
- Now in good condition



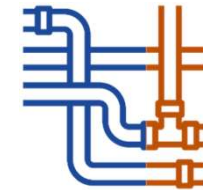
### Cooling :

- Partial upgrade in 2008
- **Frequent breakdowns**
- **Costly repairs**
- Low energy efficiency



### Air convectors :

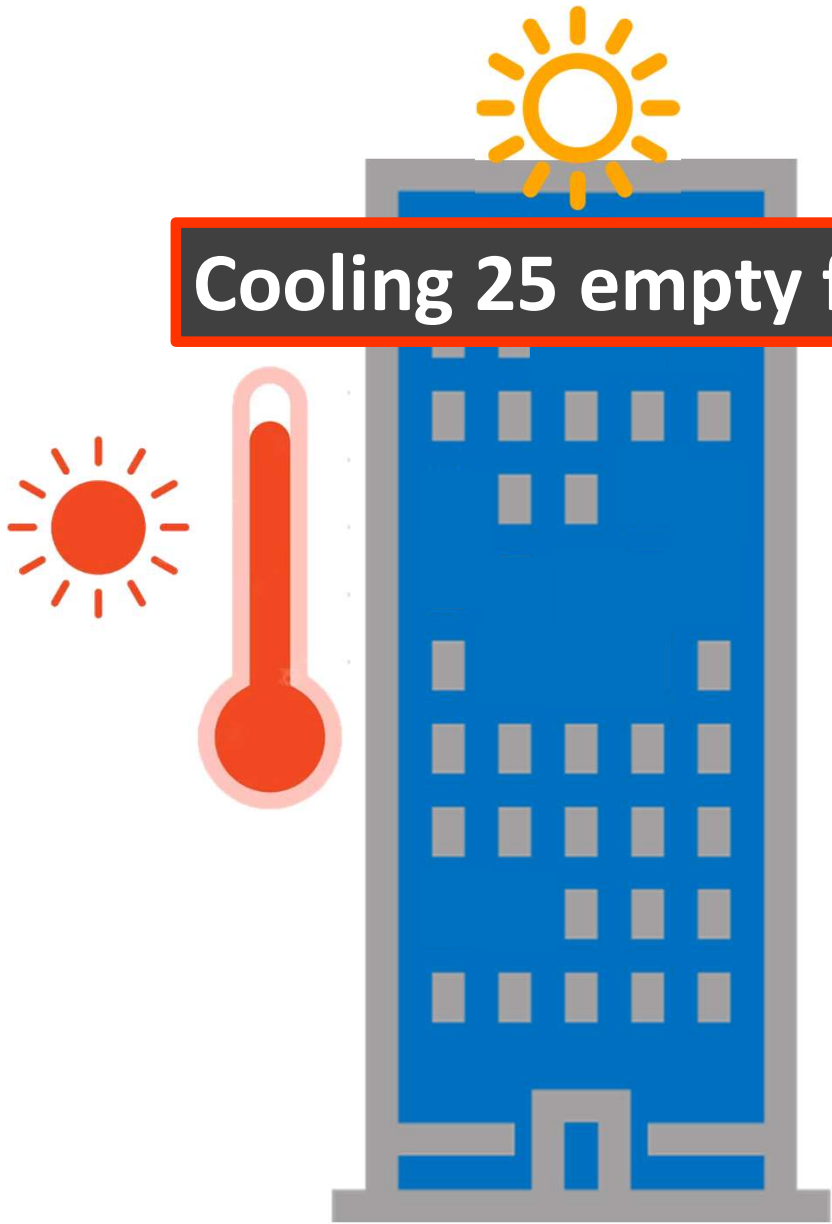
- 60 years old
- Many in poor condition
- **No temperature control**
- Low efficiency



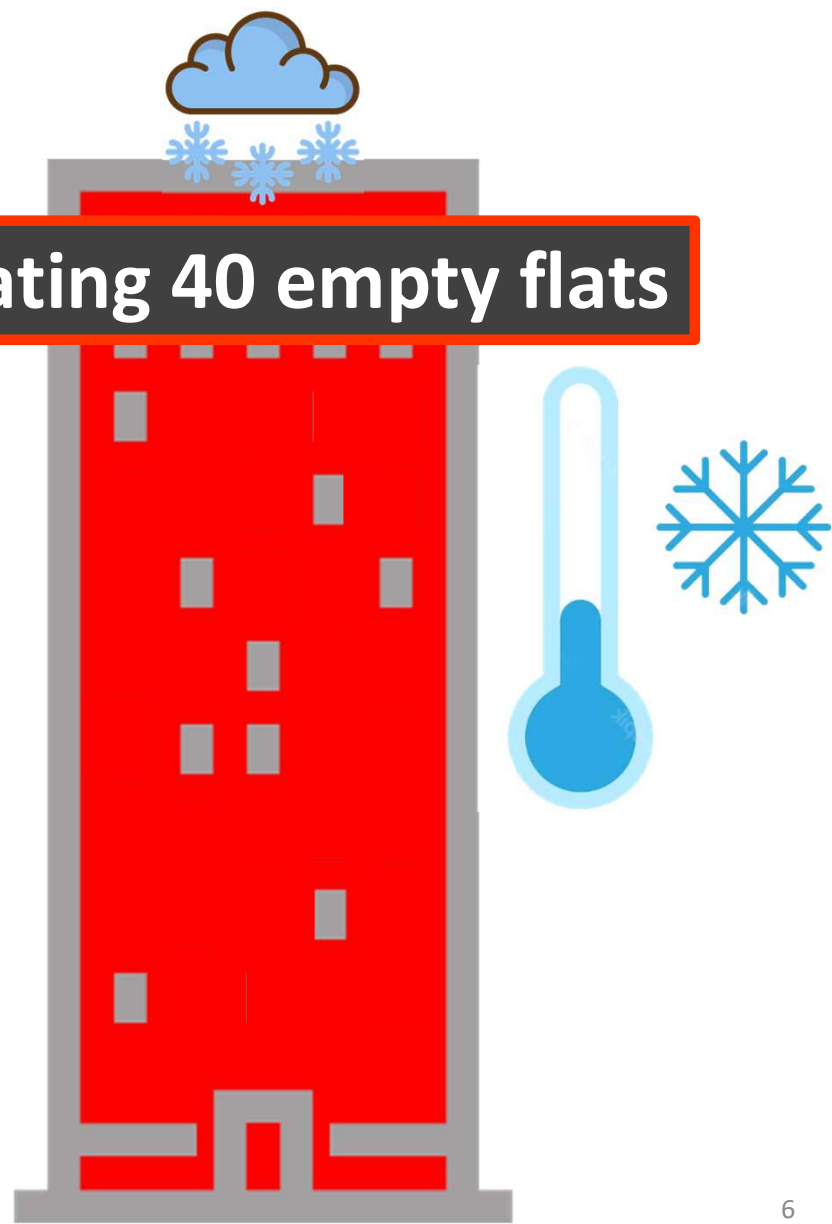
### Pipes :

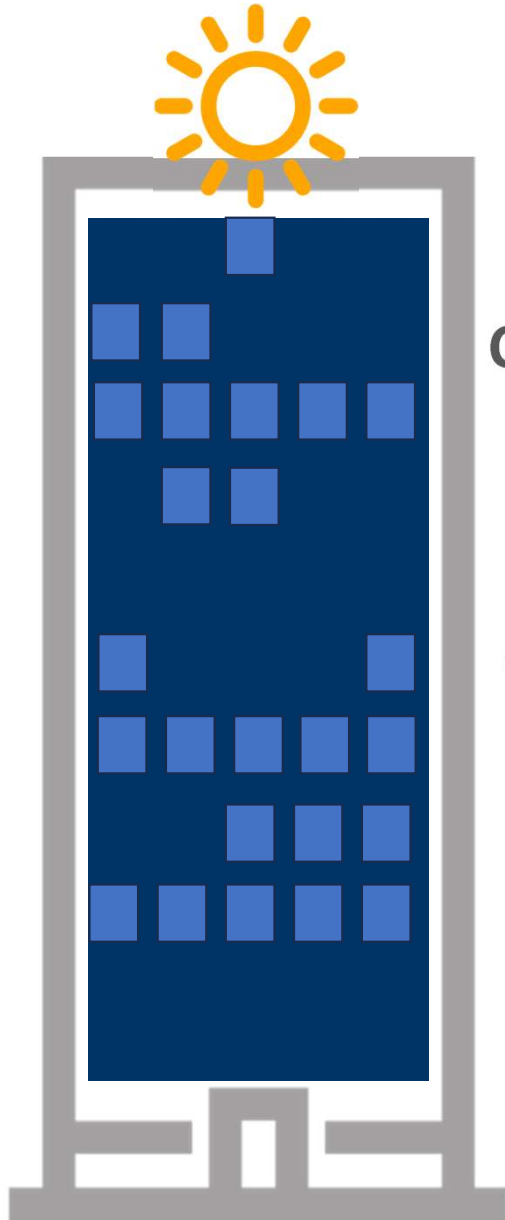
- 60 years old
- **Not insulated**
- Corrosion caused by condensation
- **Growing risk of leaks / damage to the flats**

Cooling 25 empty flats



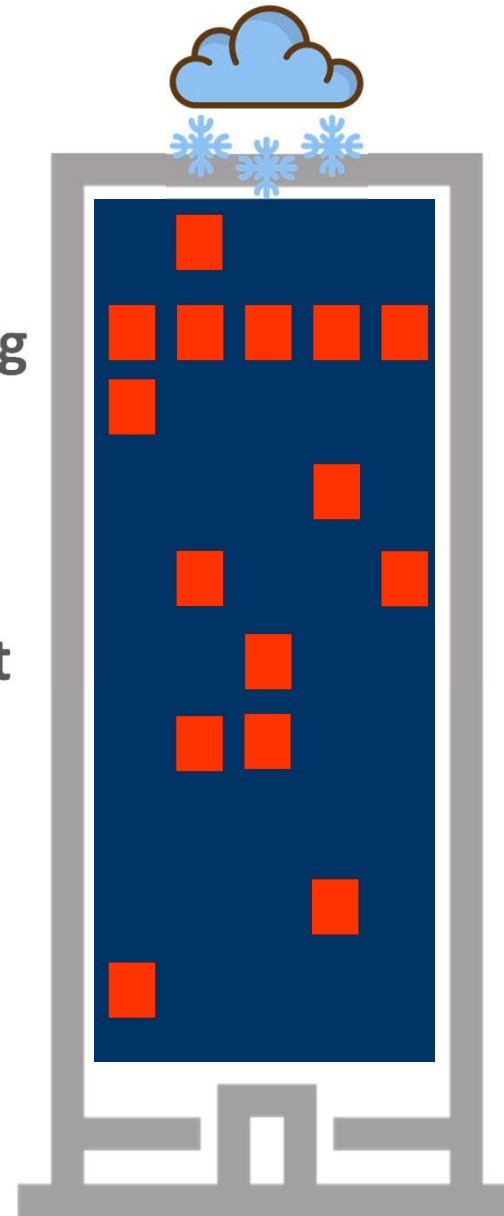
Heating 40 empty flats





Cooling / Heating  
only where  
needed

Greater comfort  
and significant  
savings  
(25% - 40%)



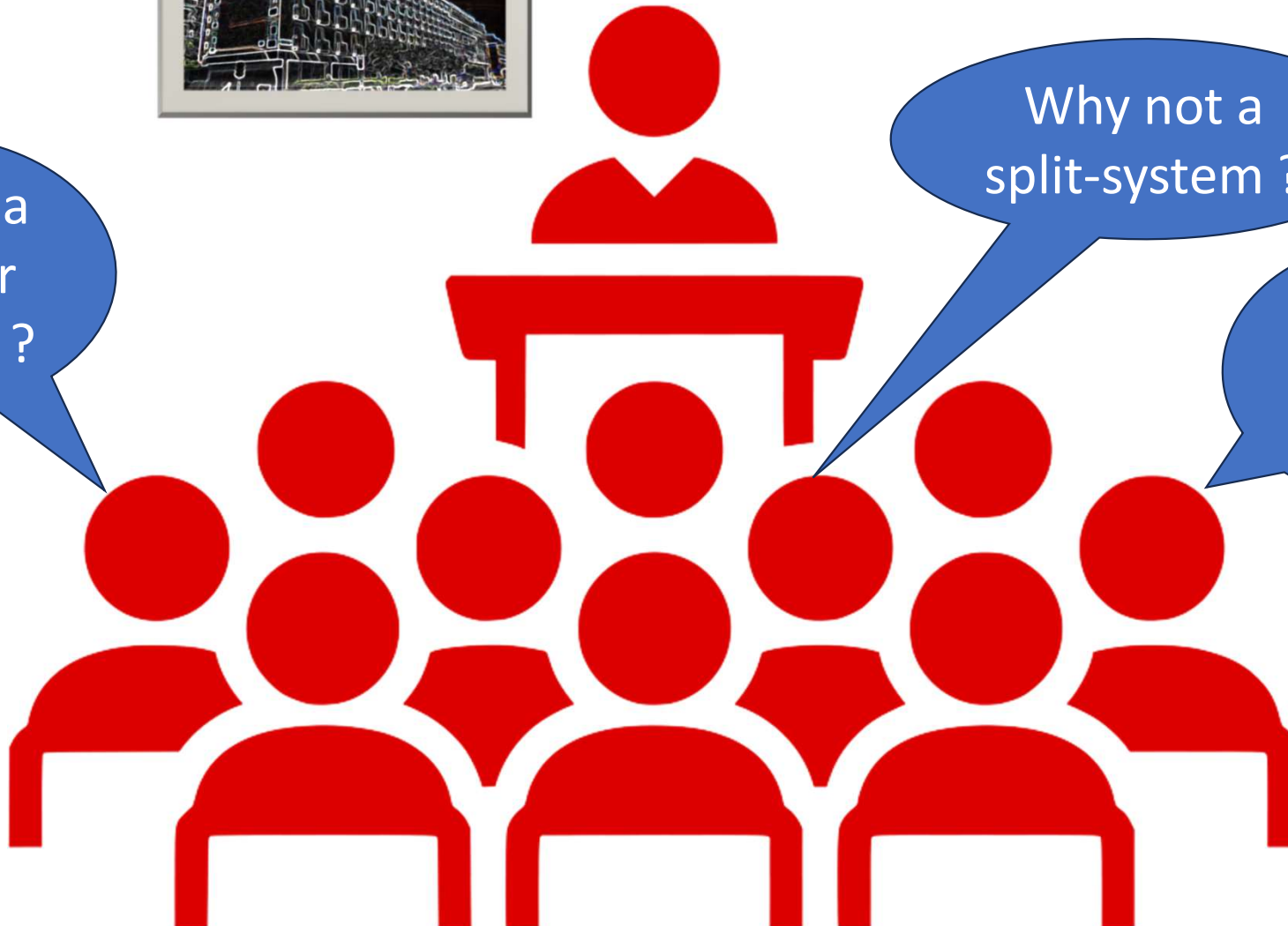


June  
22  
2023

Why not a  
split-system ?

Or  
maybe a  
" VRF " ?

Is there a  
cheaper  
solution ?





# Overview

Why do we need to replace the current system ?

**What alternatives are available ?**

Which system is recommended, and why ?

How can this project be financed ?

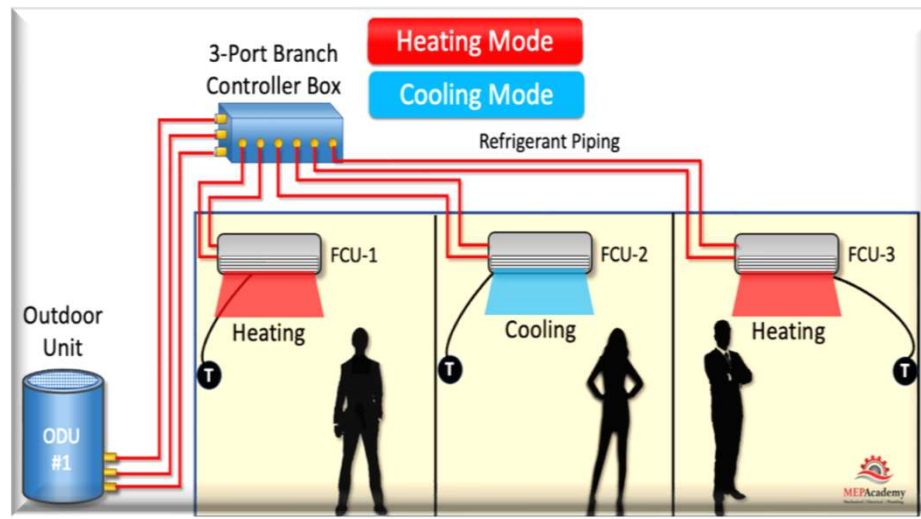
What resolutions will be voted upon at the E.G.M. ?

# Three ways of providing heating & cooling

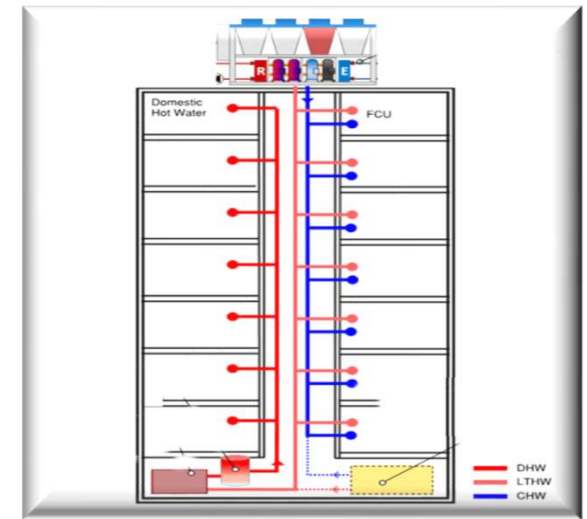
Stand-alone split system



Central Variable Refrigerant Flow (VRF)



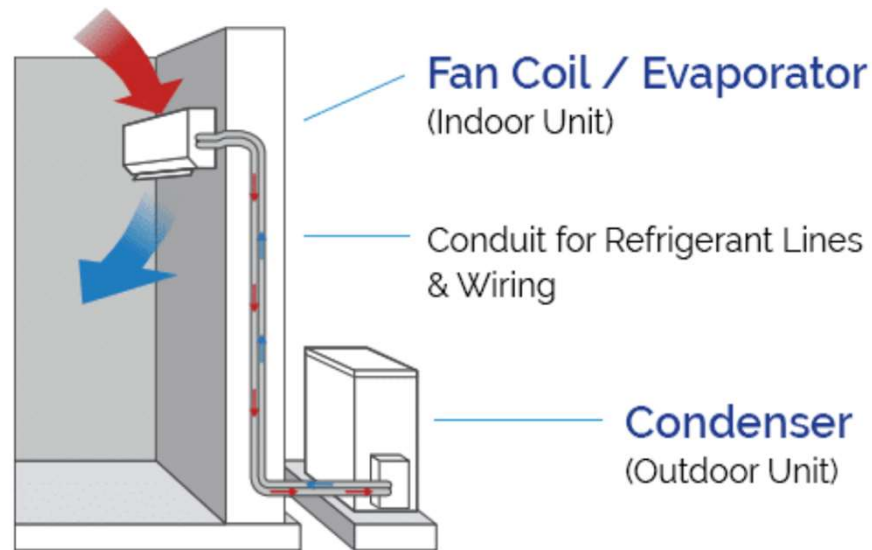
Closed Loop Heating (LTHW) & Chilled Water Systems (CHW)



# Stand-alone split system

- + Each apartment has its own cooling system
- + Simple installation
- + Removes the need for existing chillers and cooling tower
- + Removes need for new riser pipework

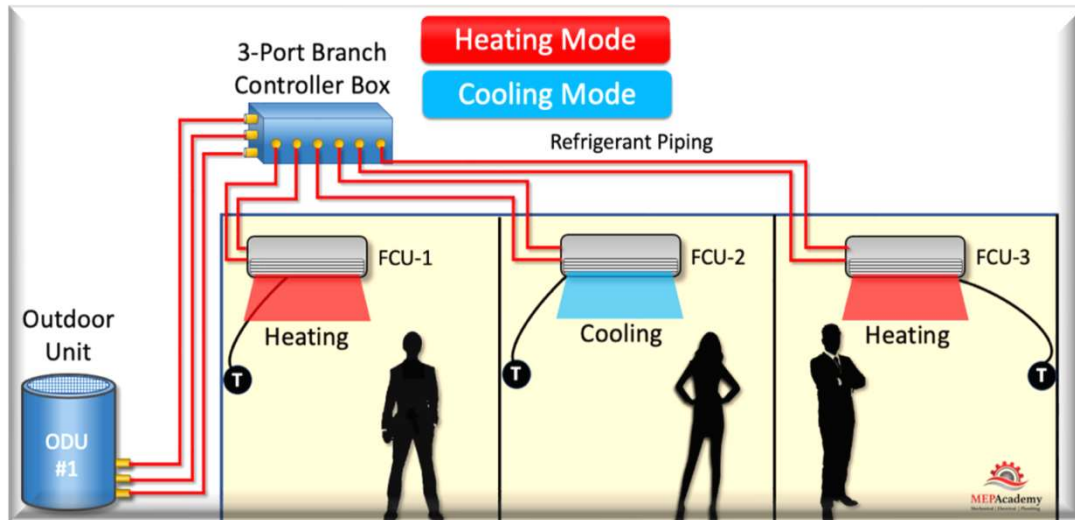
- Aesthetic impact
- Noise concerns
- Limited balcony space
- Planning permission
- New electrical supplies to each flat



# Central Variable Refrigerant Flow (VRF)

- + Energy efficiency
- + Environmentally friendly
- + Zoning flexibility

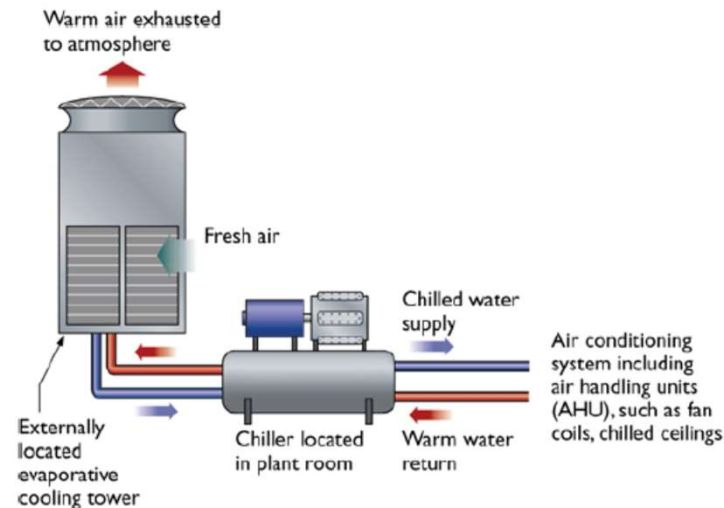
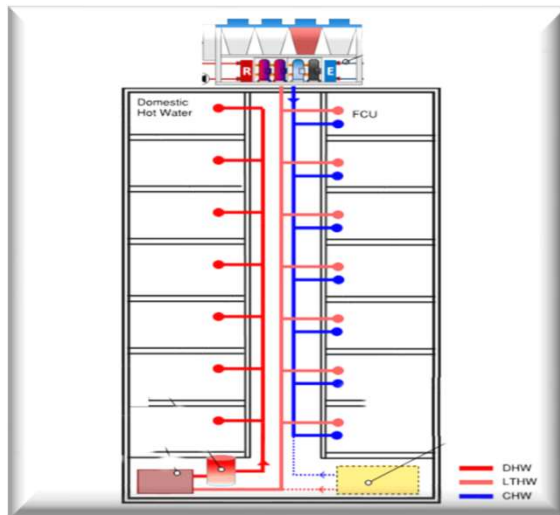
- Installation complexity and disruptive
- Limited roof space
- Cost
- Planning permission
- Strip out of existing chillers and cooling tower



# Closed loop heating and cooling “LTHW/CHW” using low temperature hot water and chilled water

- + Cost
- + Retain existing heating & cooling system
- + Aesthetics
- + Simple installation
- + No planning issues

- System cannot heat and cool simultaneously (not a relevant consideration in a residential block such as Bilton Towers)

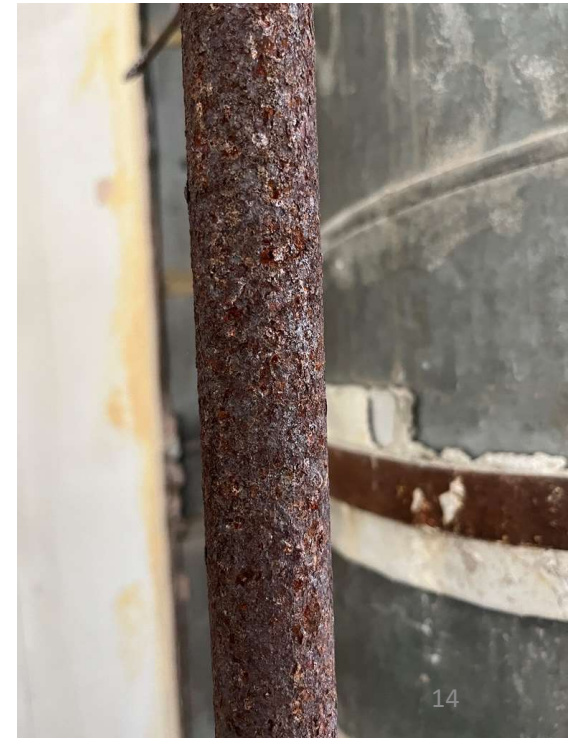


Replacement of the pipework is a prerequisite



# Pipework

- Far simpler than the VRF alternative
- But corroded pipework needs replacing
- Can't connect new convectors to rusty pipes
- New insulated pipes far more energy efficient



# Overview

Why do we need to replace the current system ?

What alternatives are available ?

**Which system is recommended, and why ?**

How can this project be financed ?

What resolutions will be voted upon at the E.G.M. ?

# Recommended solution

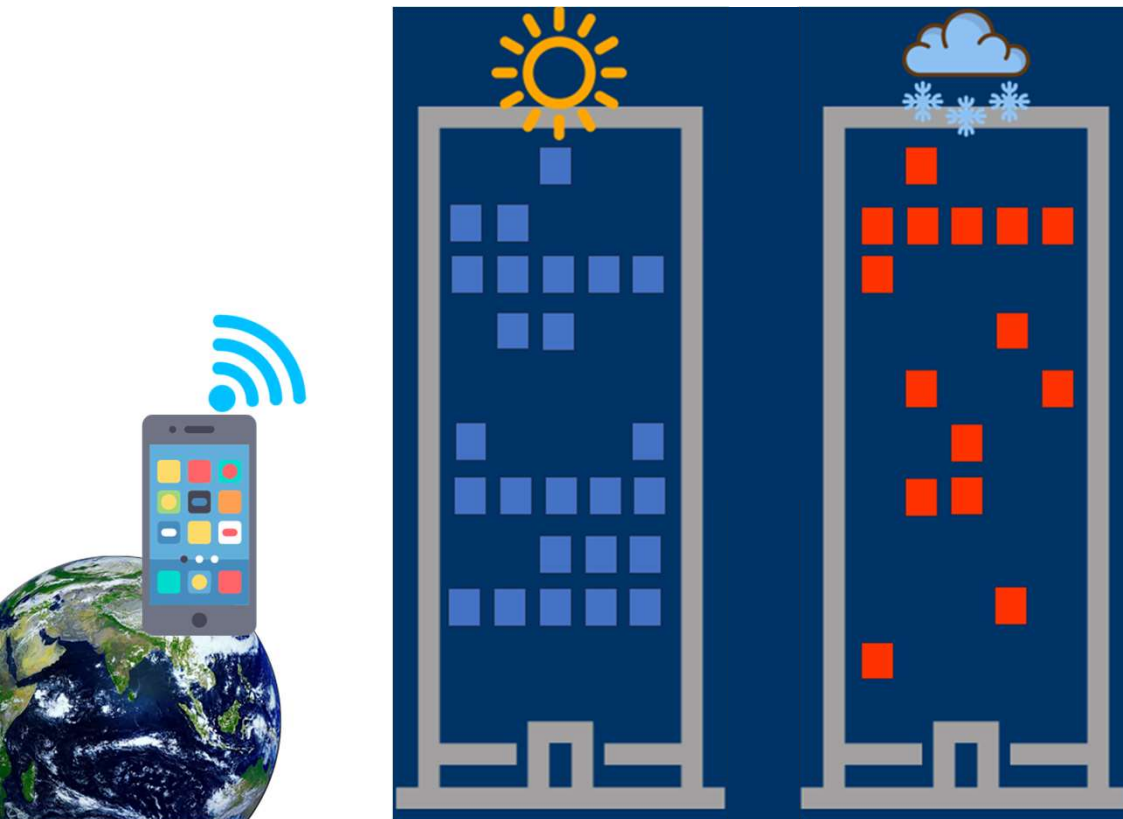
- New constructions would opt for a VRF system, **but not feasible at Bilton Towers** :
  - Extensive pipework inside the flats (high disturbance, high cost to restore interior decorations)
  - Voluminous pipes from central system to each internal unit
  - Need to remove existing infrastructure on the roof top
  - Increase power supply to the building, cost of re-wiring
  - Need to maintain existing heating system for domestic hot water
- **Split-system not feasible at Bilton Towers** :
  - Planning permission unacceptable to Westminster Council and Portman Estate (as freeholders)
  - Noise disturbance for neighbouring buildings
  - Increase power supply to each flat, cost of re-wiring
  - Need to maintain existing heating system for domestic hot water
- **RECOMMENDATION as per detailed survey and reports by McBains** :
  - Overhaul of the existing system, with new convectors and new chilling system
  - Makes use of most of the existing infrastructure
  - Each set of pipes can supply 12 (resp. 6) floors of the building
  - Replacement convectors located in same place as current units
  - Minimised disruption inside the flats





# Recommended solution

Our proposal is to retain the existing CHW and LTHW system with the upgrades on the pipework, air convectors, pumps and new cooling tower.



## JAGA air convector units

- ✔ Same location as current Weathermaster units
- ✔ Thermostatic control in each room
- ✔ Can be remote-controlled with smartphone app



# Pipework replacement

## Three possible approaches

- Install in parallel to existing
- First replace all pipework
- Then install convectors flat by flat

Impact :

- Repeated disruption
  - a) Draw pipes
  - b) Replace convectors later
  - c) Long interruption of service
- Drill through thick concrete
- Very noisy works
- Limited space in existing ducts

- New pipework on outer facade
- First replace all pipework
- Then install convectors flat by flat

Impact :

- Planning permission !  
(and freeholder consent)
- Less disruption during works
- Drill through outer façade
- Scaffold for long periods of time
- Difficult access for maintenance

- Install pipes in current air duct
- Then install convectors on all floors , duct by duct

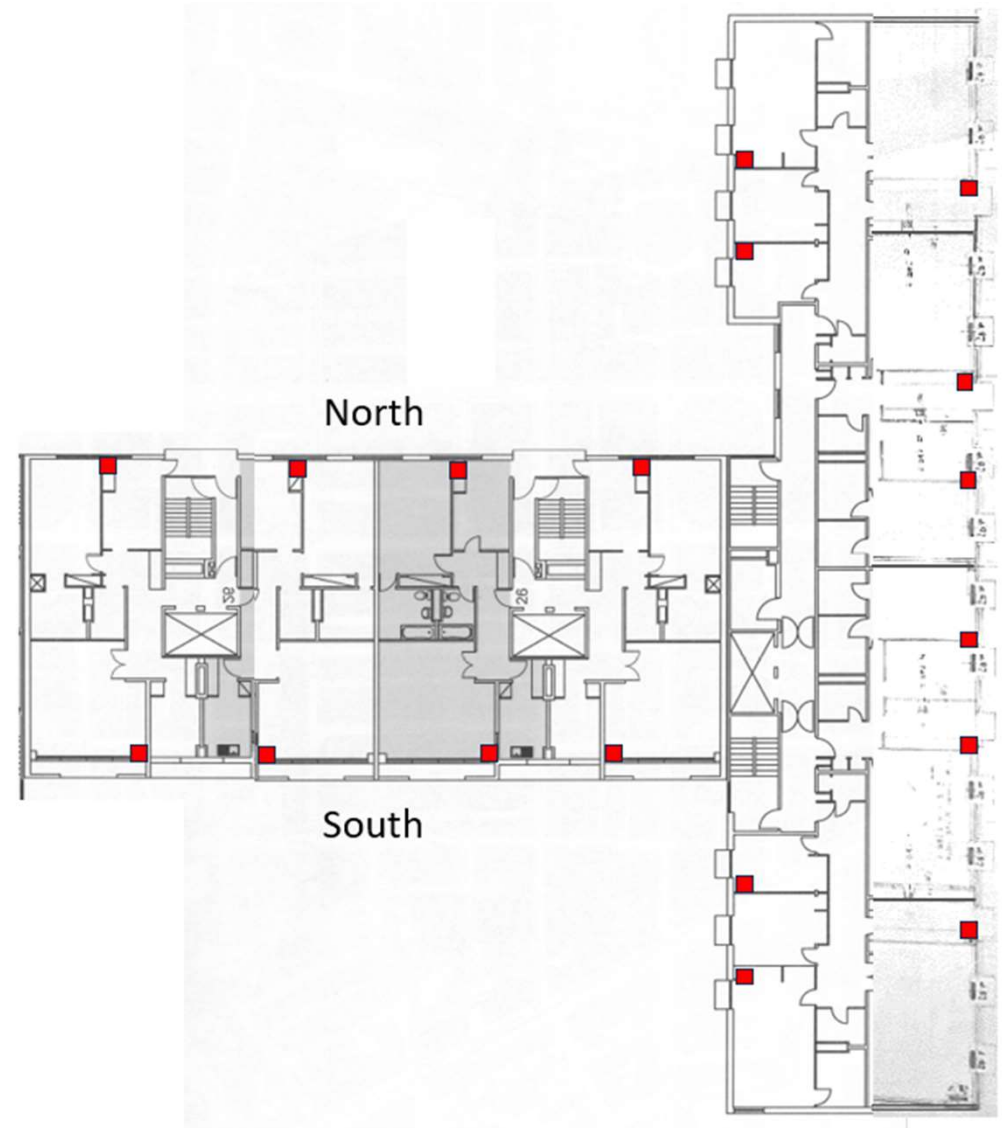
Impact :

- Repeated disruption
  - a) Living rooms
  - b) Bedrooms
- Use existing space – less drilling
- Limited duration of impact on interior decorations

# Pipework replacement

## How ?

- Minimise disruption to the flats
- Replace in existing location
- Tower block :
  - Living room pipes accessed from balcony
  - Bedrooms : open duct in small bedroom
- Lower block :
  - Bedrooms : open duct in small bedroom
  - Living room : open duct in kitchen
- Lower block 3-bedroom flats :
  - Master bedroom : open one duct
  - Bedrooms : open duct in small bedroom
  - Living room : open duct in kitchen



# Using air ducts for new pipework

- Open one side of existing ducts (impact on interior decorations)
- Remove large diameter air pipe
- Use the opening between the floors to install new pipes on the full height of the building :
  - 2 insulated pipes to circulate the heating/cooling
  - 1 pipe to drain condensation
  - 1 pipe to feed fresh air into the flats (smaller than current)
- Connect the pipes to the new convectors using the existing smaller horizontal air ducts
- Remove old rusty pipework



Why do we need to replace the current system ?

What alternatives are available ?

Which system is recommended, and why ?

How can this project be financed ?

What resolutions will be voted upon at the E.G.M. ?

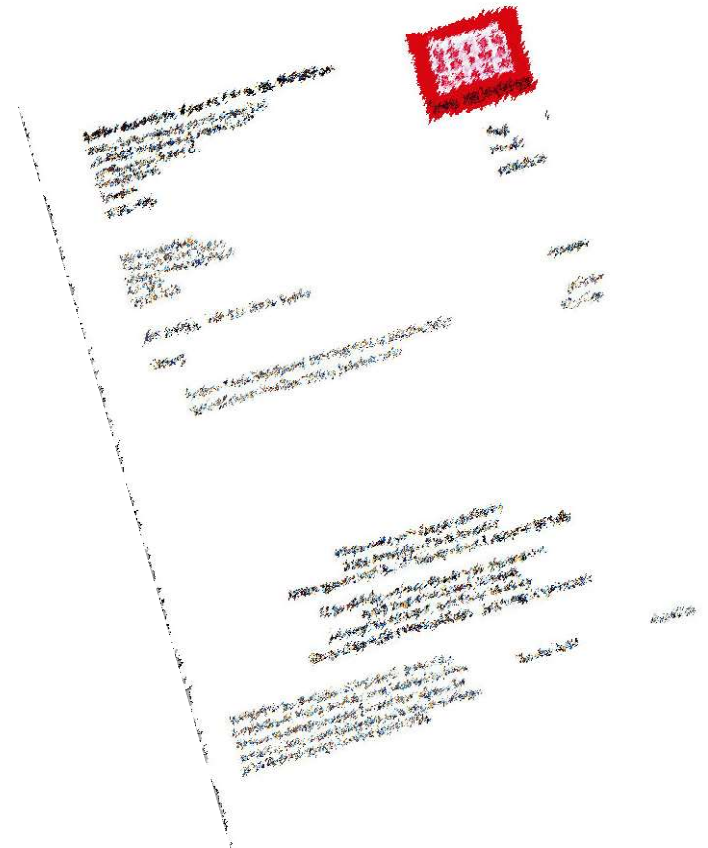
# Financing through the Reserve Fund

## Use of funds :

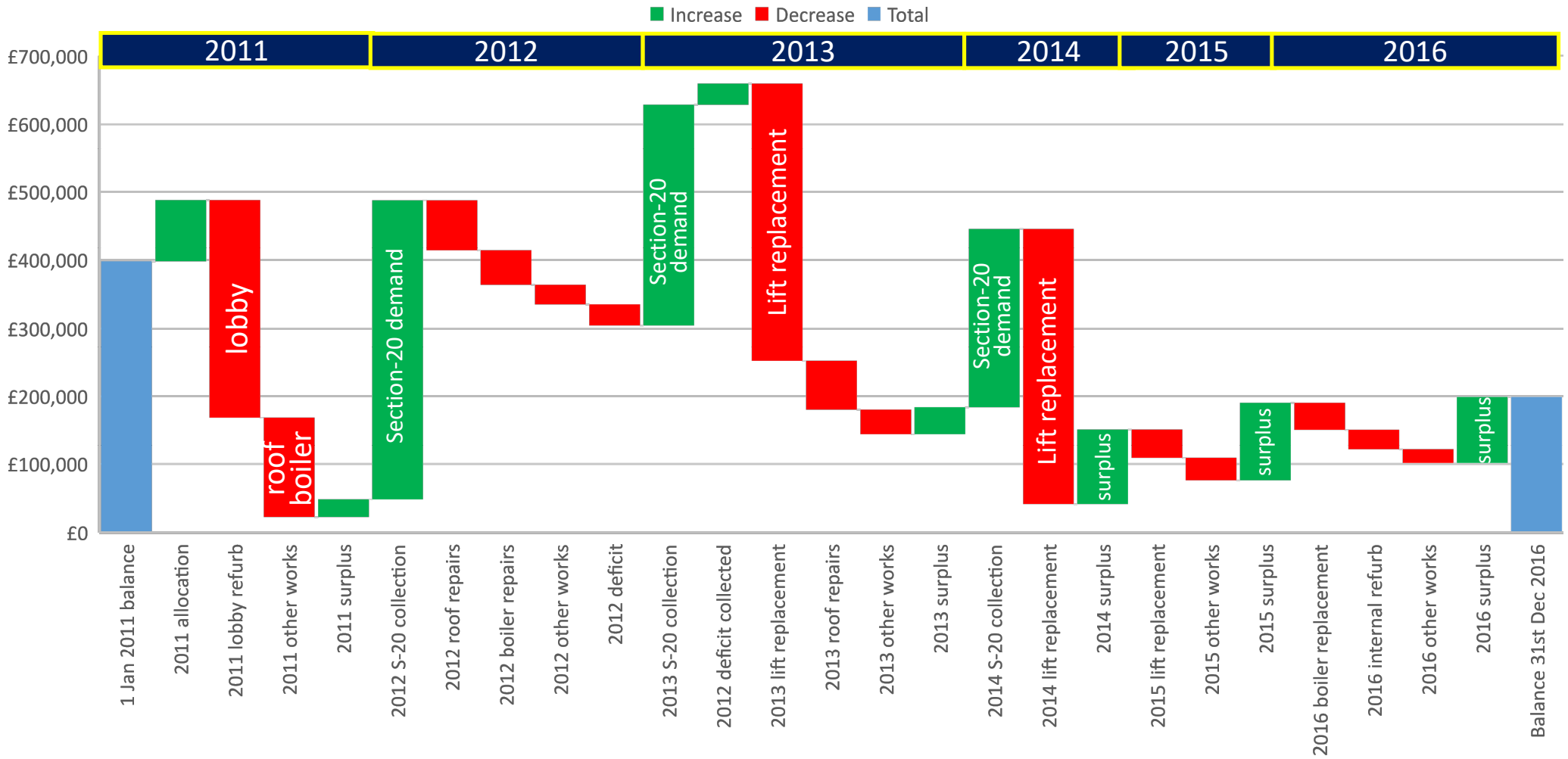
- Major projects
  - Lobby refurbishment (2011)
  - Replacement of lifts (2014-2016)
  - Landings / interior refurbishment
- Non-recurring costs
  - Boiler replacement
  - Roof repairs
  - Heating / cooling repairs etc.

## Source of funds :

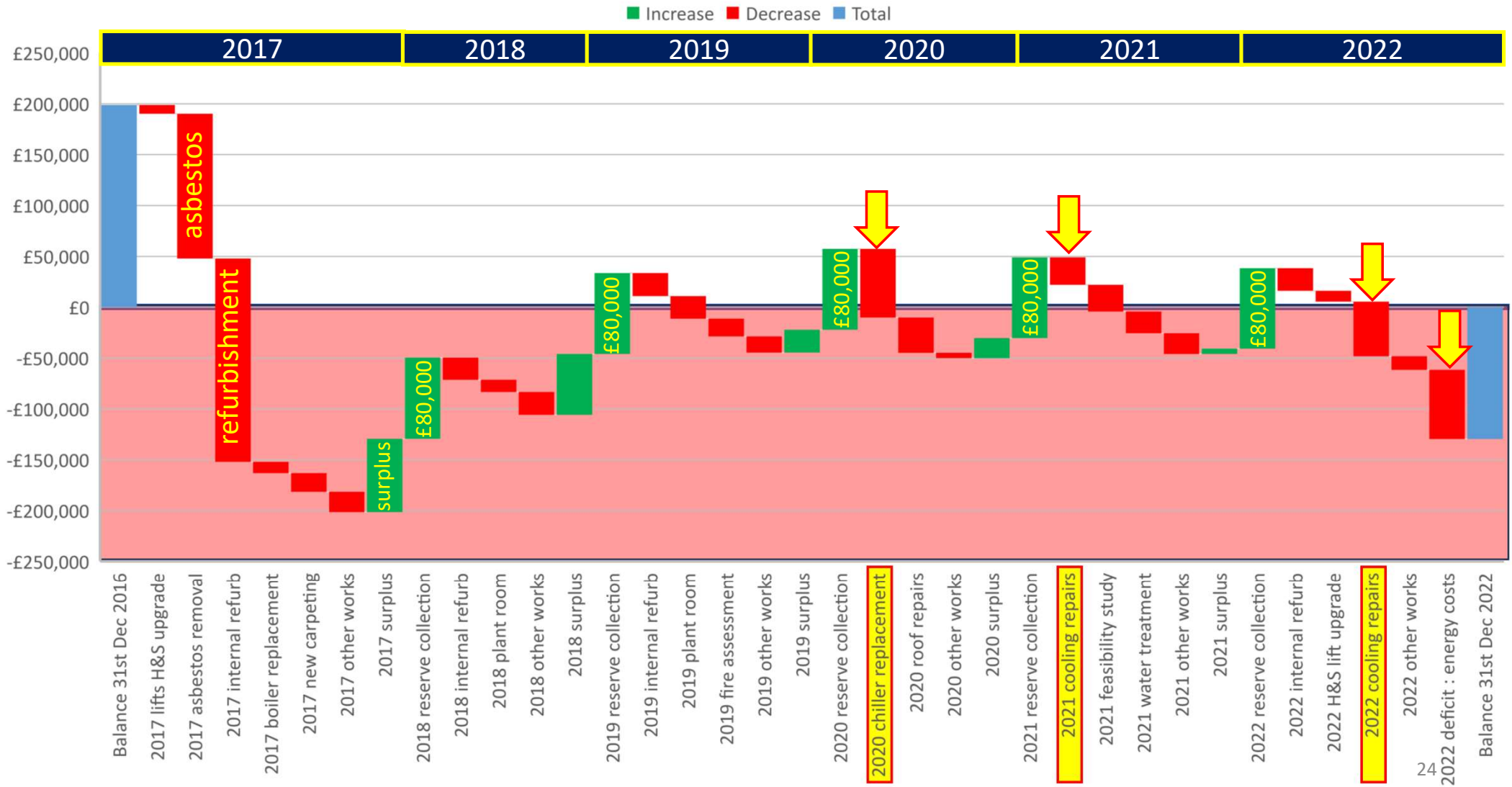
- Annual surplus of service charge account
- Since 2018 : annual contribution £ 80 k
- “Section-20” demands (£ 1M+ in 2012-2014)



# BILTON TOWERS : EVOLUTION OF RESERVE FUND 2011-2016

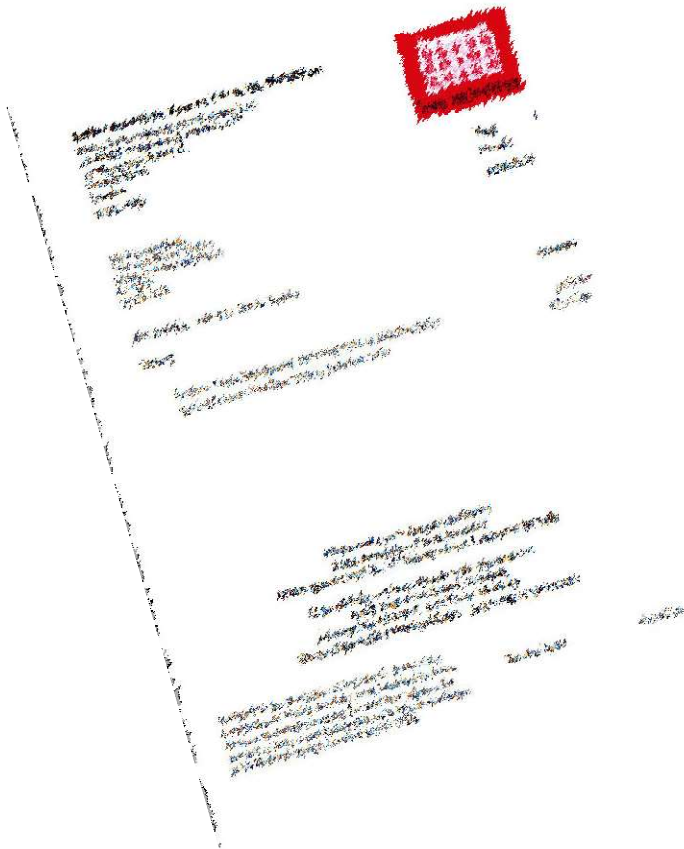


# BILTON TOWERS : EVOLUTION OF RESERVE FUND 2017-2022





# Financing



- Pipework replacement
- New cooling system
- Installation of convectors
  
- Some funds must be collected before the works can start
  
- Based on conservative estimate of £ 1.9M :
  - AGM can decide to end or reduce quarterly collection of funds if expected total cost is lower

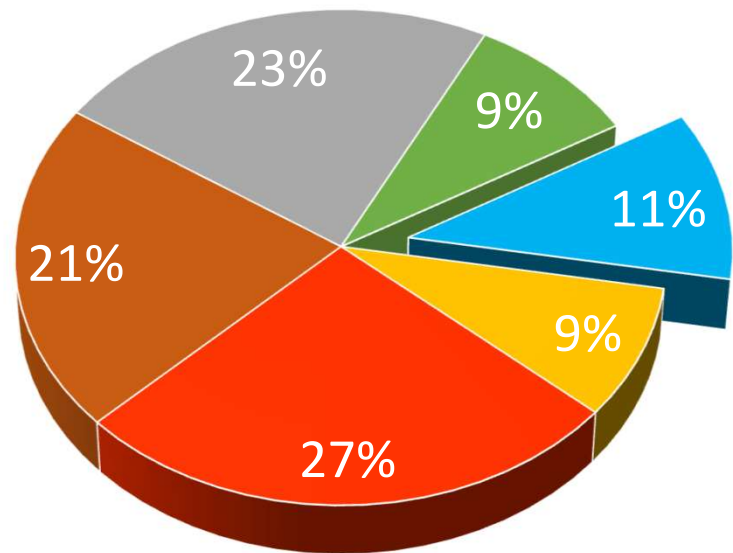
# Can we forego the cooling in the future ?

- Obligation under the lease
- Changing the lease would require :
  - 75% approval votes
  - Less than 10% objections
  - Change to headlease and 72 sub-leases : legal costs !
- Reduced comfort and standard of Bilton Towers
- Loss of value greater than cost of the total project

(2) To provide heating, lighting, water, **air conditioning**, portorage, Lifts and all other services usually provided for a luxury block of flats or to the advantage of the tenants and occupiers of residential flats.

(3) To appoint independent Contractors or Managing Agents to carry out on behalf of the Company any or all of its obligations under the said Lease and to remunerate such independent Contractors or Managing Agents and to enter into Service Agreements therewith

# Breakdown of total project cost

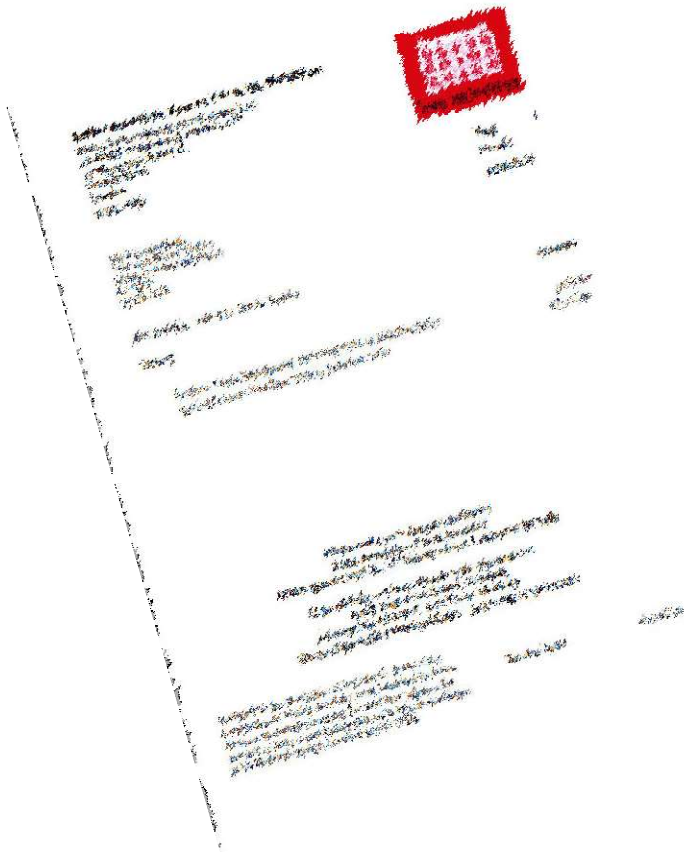


- Cooling
- Convector
- Other
- Controls
- Pipework
- Contingency

- Pipework replacement is unavoidable
- New convectors : more energy-efficient
- New cooling tower
- Cost of total project = 1.5% value of flats
- Cooling replacement = 0.2% value of flats

- Cost of project is a cashflow strain,
- but a worthwhile investment

# Financing : how much contribution per quarter?



- Minimum duration : 2 years
- Should not exceed 4 years :
  - Inflation of labour costs
  - Exchange rate fluctuations (£ vs €)
  - Prolonged disturbance
- Extending the duration :
  - fine-tuning of pipework options and costs
  - spread the cost over more quarters
- No works during first 12 months :
  - Better preparation
  - Lessons learnt from pilot

# Financing : how much contribution per quarter?

- Option A : project financed in 2 years

105%

Q1 24	Q2 24	Q3 24	Q4 24	Q1 25	Q2 25	Q3 25	Q4 25
£ 250k	£ 250k	£ 250k	£ 250k	£ 250k	£ 250k	£ 250k	£ 250k

- Option B : project financed in 3 years

70%

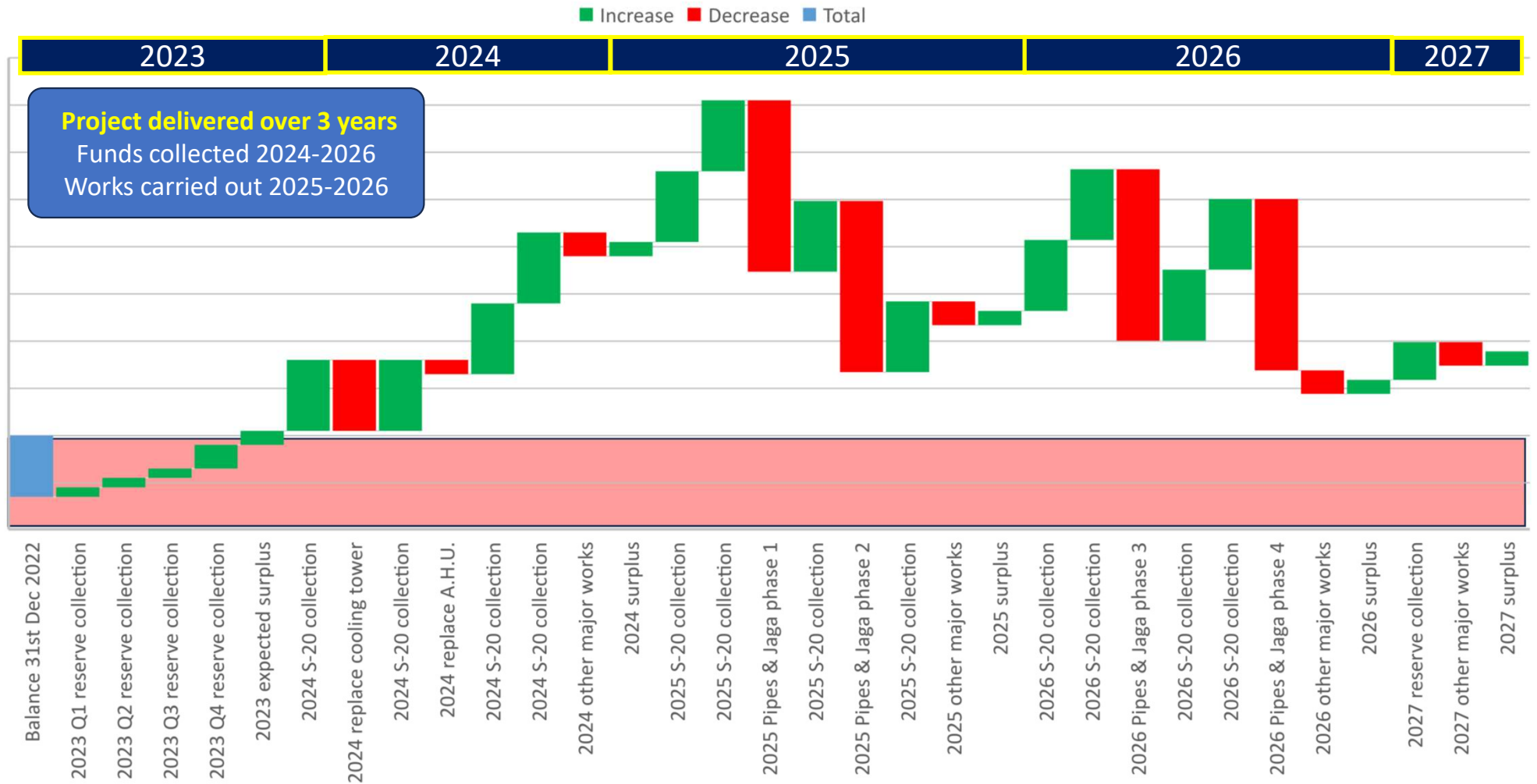
Q1 24	Q2 24	Q3 24	Q4 24	Q1 25	Q2 25	Q3 25	Q4 25	Q1 26	Q2 26	Q3 26	Q4 26
£ 167k	£ 167k	£ 167k	£ 167k	£ 167k	£ 167k	£ 167k	£ 167k	£ 167k	£ 167k	£ 167k	£ 167k

- Option C : project financed in 4 years

53%

Q1 24	Q2 24	Q3 24	Q4 24	Q1 25	Q2 25	Q3 25	Q4 25	Q1 26	Q2 26	Q3 26	Q4 26	Q1 27	Q2 27	Q3 27	Q4 27
£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k	£ 125k

# BILTON TOWERS : RESERVE FUND FORECAST 2023-2026



**Project delivered over 3 years**  
 Funds collected 2024-2026  
 Works carried out 2025-2026

Assumes £ 50k p.a. "other works" and a service charge surplus of £ 30k p.a. Annual contribution to reserve fund of £ 80k resumes in 2027.

# Overview

Why do we need to replace the current system ?

What alternatives are available ?

Which system is recommended, and why ?

How can this project be financed ?

What resolutions will be voted upon at the E.G.M. ?

# Extraordinary General Meeting

- Do you accept the replacement of the heating and cooling infrastructure of Bilton Towers as recommended in the McBains report :
  - replace the cooling tower and air handling unit to allow air conditioning in 2024
  - replace the pipework that feeds the convectors
  - replace the existing Weathermaster units with JAGA air convectors

YES       NO

- Do you accept the estimated £ 2M to be collected :
  - Over 2 years (project completed in 2026) YES
  - Over 3 years (project completed in 2027) YES
  - Over 4 years (project completed in 2028) YES







[RMICHAELS@RMDPROPERTIES.CO.UK](mailto:RMICHAELS@RMDPROPERTIES.CO.UK)

**RMD Properties  
67 Bryanston Court  
George Street  
London W1H 7HD**

**If you cannot attend the forthcoming EGM in person,  
please return your completed voting or proxy form  
by 21<sup>st</sup> November 2023**