What we will buy

Energy Centre

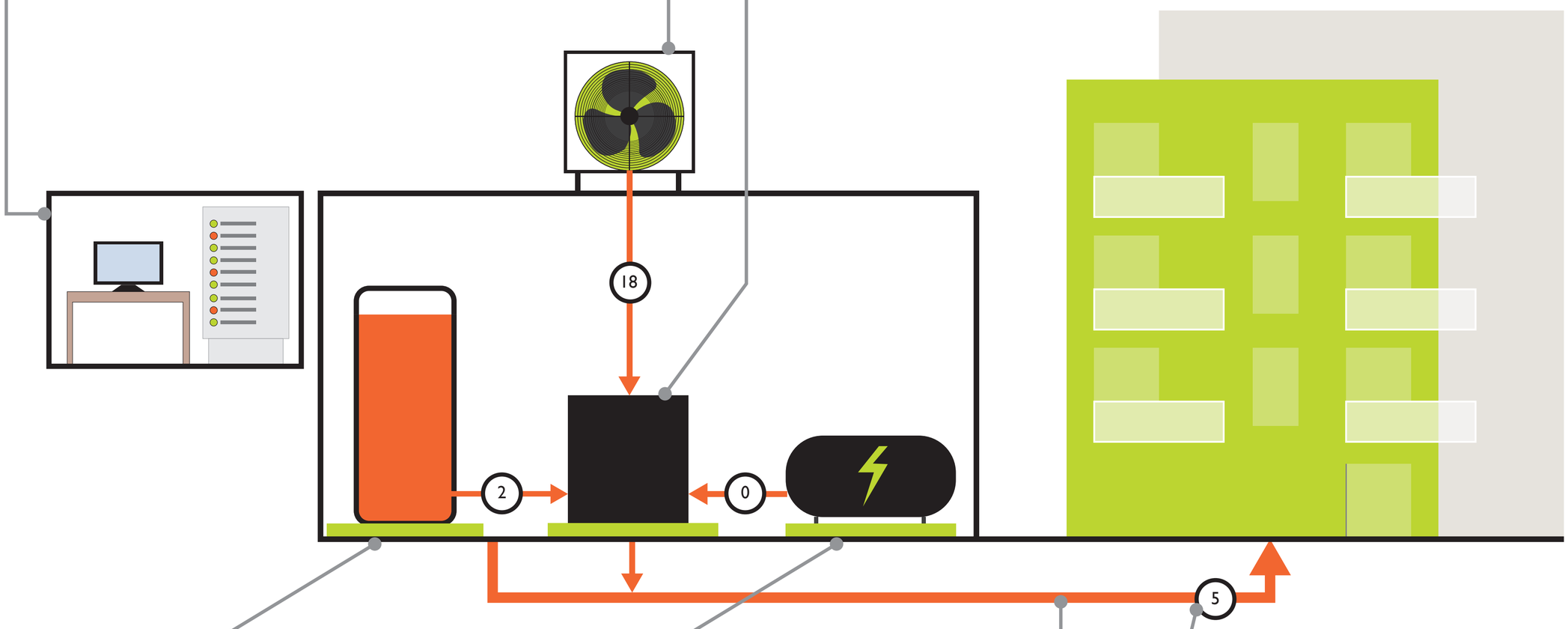
LANCASTER WEST NEIGHBOURHOOD TEAM W11

An energy centre will be built across 3 sites at Lancaster West. The diagram below shows the equipment which will be installed in the energy centre. The bullet points highlight important specifications we will ask suppliers to provide.

Building management system (BMS)
- To control and manage the energy centres and air source heat pump
- It should be open-protocol, so we can choose different suppliers to manage the heat network in the future.

1.5 MW Air source heat pump
- See next diagram for more information

Inverter driven pumps



50m3 Thermal store

2 MW Electric boiler
- It must fit inside Camelford Walk boiler room
- Engineers should optimise design & number of boilers

Bulk heat meters
- Measure heat exiting each energy source (ASHP, boiler, thermal store)
- Measure heat entering each building

Pipework
- The pipework must meet A1/ A2 fire rating
- We are open to plastic / metal pipes, if the fire rating requirements re met

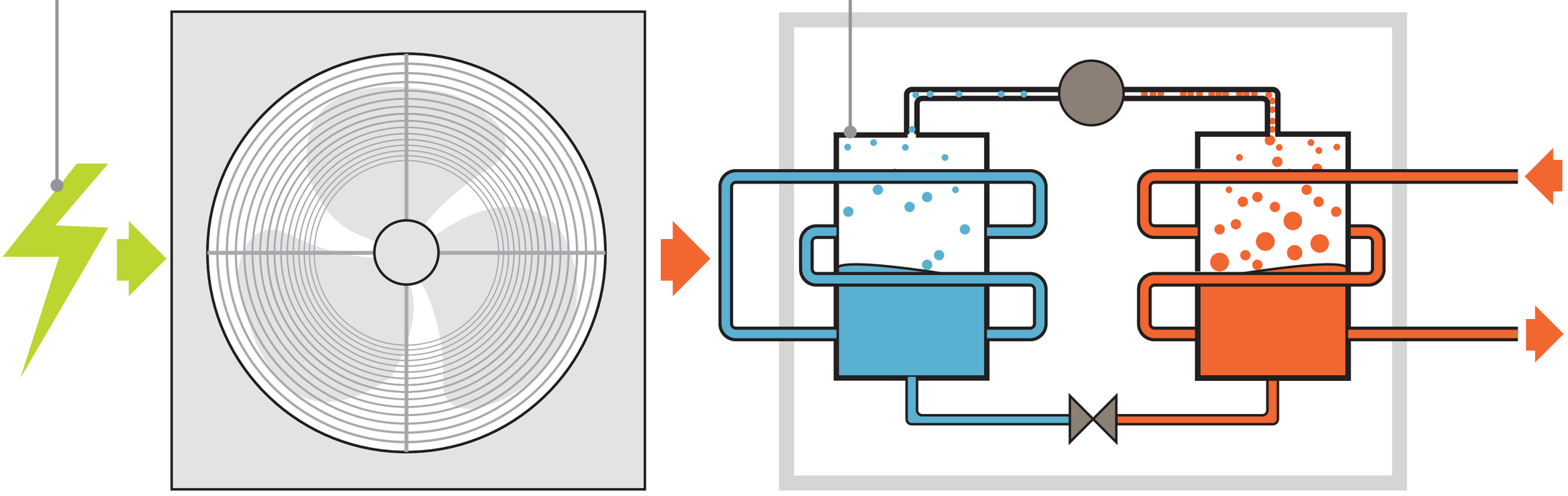
What we will buy
Air source heat pump

LANCASTER WEST
NEIGHBOURHOOD TEAM
W11

An air source heat pump (ASHP) will be installed in the energy centre. It will be the main heating and hot water energy source to Lancaster West. ASHP uses a small amount of electricity to produce lots of heat. It does this by extracting heat from air (using a fan bed) to boil and compress a refrigerant contained in the heat pump. The heat produced warms hot water sent to homes. Fridges use the same process for cooling.

Energy efficiency
- Green electricity will supply power to the Air Source Heat Pump and electric boiler. This will be bulk-bought by the Council
- Higher energy efficiency proposals will be preferred

Refrigerant
- To be non-flammable
- To have a global warming potential <5
- Equipment and design must follow British Standard EN 378-1-4-Refrigerating systems and heat pumps - Safety and environmental requirements



External fan bed

Internal heat pump

Reliability
- Engineers to design the heat pump so there is no single-point failure.
- Appointed engineers should demonstrate how they will maintain a reliable heat supply and fulfil an excellent customer service.

Performance and maintenance
- Spare parts to be available on mainland Britain.
- Parts and labour required to maintain the Air Source Heat Pump (ASHP) are to be gauranteed by the ASHP supplier.
- The performance set are to be achieved on the 3 coldest winter days (each 10 days apart) within the first winter.

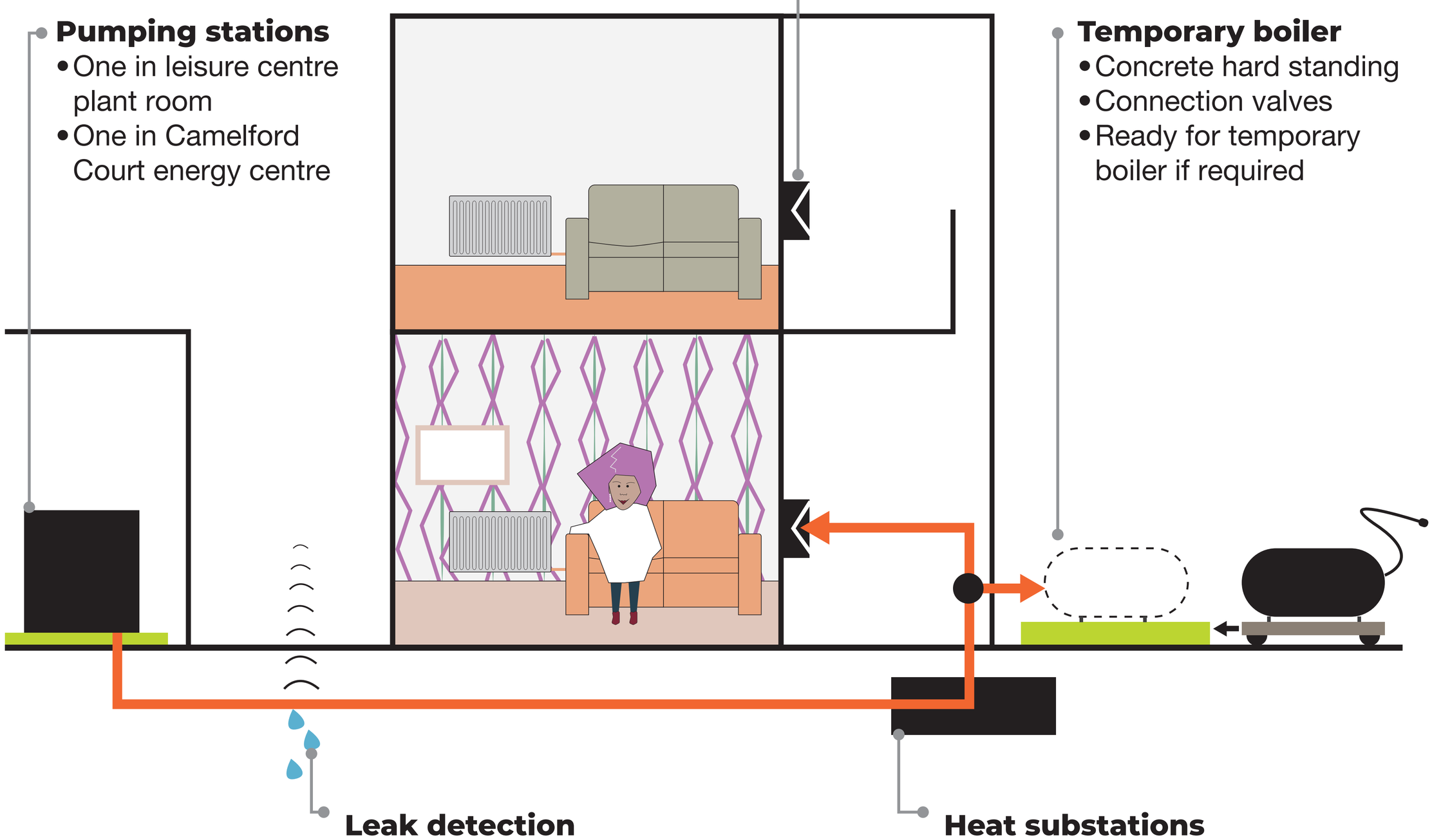
What we will buy
For communal areas

LANCASTER WEST NEIGHBOURHOOD TEAM W11

Each residential block will be connected by pipes to the energy centre. Reliable heating is essential, so we have designed lots of back-up systems. These include pipes with leak detection, extra valves to connect temporary boilers, and breaker units to each home.

Isolation valves
- Required for each property
- These will enable isolation for maintance or to recover heating bill debts from household

Pumping stations
- One in leisure centre plant room
- One in Camelford Court energy centre



Temporary boiler
- Concrete hard standing
- Connection valves
- Ready for temporary boiler if required

Leak detection
- To be included on underground pipes and any internal hidden pipes

Heat substations
- 5 substations will boost heat delivered across Lancaster West
- Pressure sensors fitted to substation will provide heat controls for each building

What we will buy
For each home

LANCASTER WEST NEIGHBOURHOOD TEAM W11

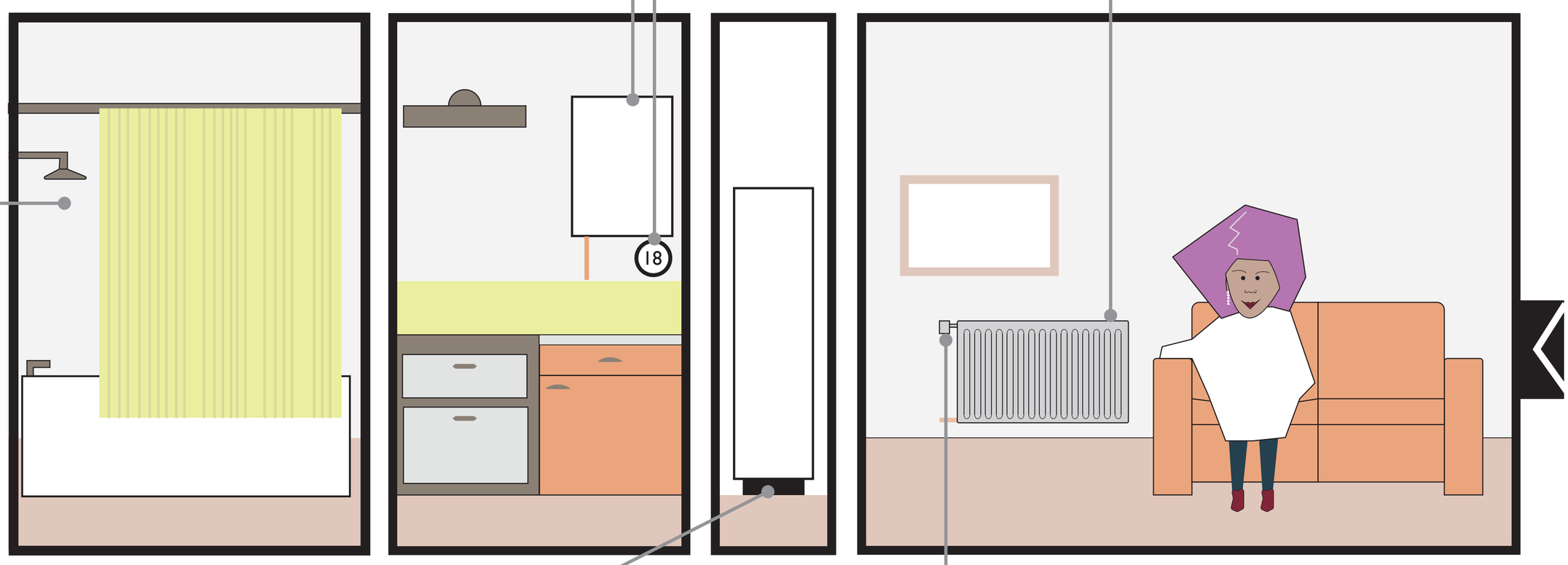
The new heat network will offer different installations to homes, depending on whether they have already been refurbished, or are awaiting refurbishment. Homes that have been refurbished will only require the installation of a heat interface unit. Those to be refurbished will also receive a HIU, new heat conrols, pipes and radiators will be installed as part of the general refurbishment programme.

Heat interface unit (HIU)
- This box (similar siz to gas boiler) provides heat control within the home
- SAV or similar HIU model is recommended. Contractors will be asked to provide evidence that the best model is selected
- Heat meters will be installed inside the HIU, to verify the temperature at entry and exit to the home
- Digital connectivity to relay 30-minute usage data to a digital gateway and data storage

PAYG Credit meter (option)
- Heat meters (within the HIU), should be compatible with a Pay-As-You-Go meter that could be installed in some homes

Thermostats
- Easy to use thermostat, for measuring temperatre in home
- Should include an app for remote temperature control

Radiators + pipes
- New radiators, similar to existing to be installed
- Conventional copper pipes to be installed, these will be hideen by skirthing boards



Domestic hot water
- Hot water feed must be suitable for hot showers
- Heat network contractors will connect hot water taps
- New bathrooms and heated towel rail to be fitted by refurbishment contractor

Existing cylinder / harton tanks
- The new heat network must work with the cylinders or harton units in homes today
- This will limit disruption to homes that are already refurbished or that do not wish to be refurbished

Radiator control valves
- Danfoss thermostatic radiator valves to be installed
- These are good quality vavles used to control radiator temperature
- They are to be fitted horizontally on top of the radiator, for easy access and better heat control.

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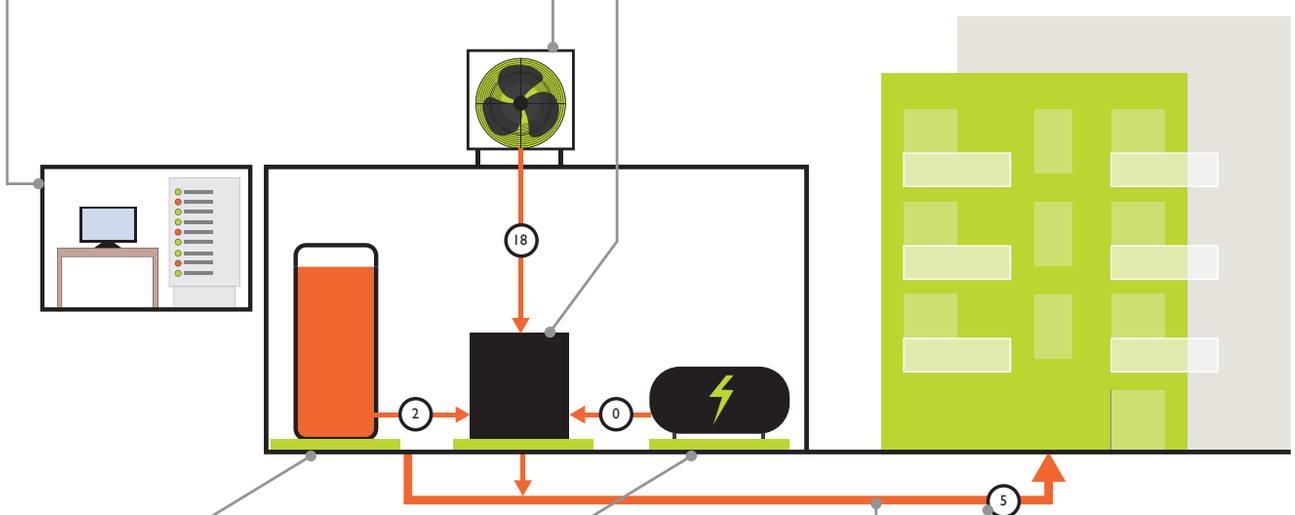

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