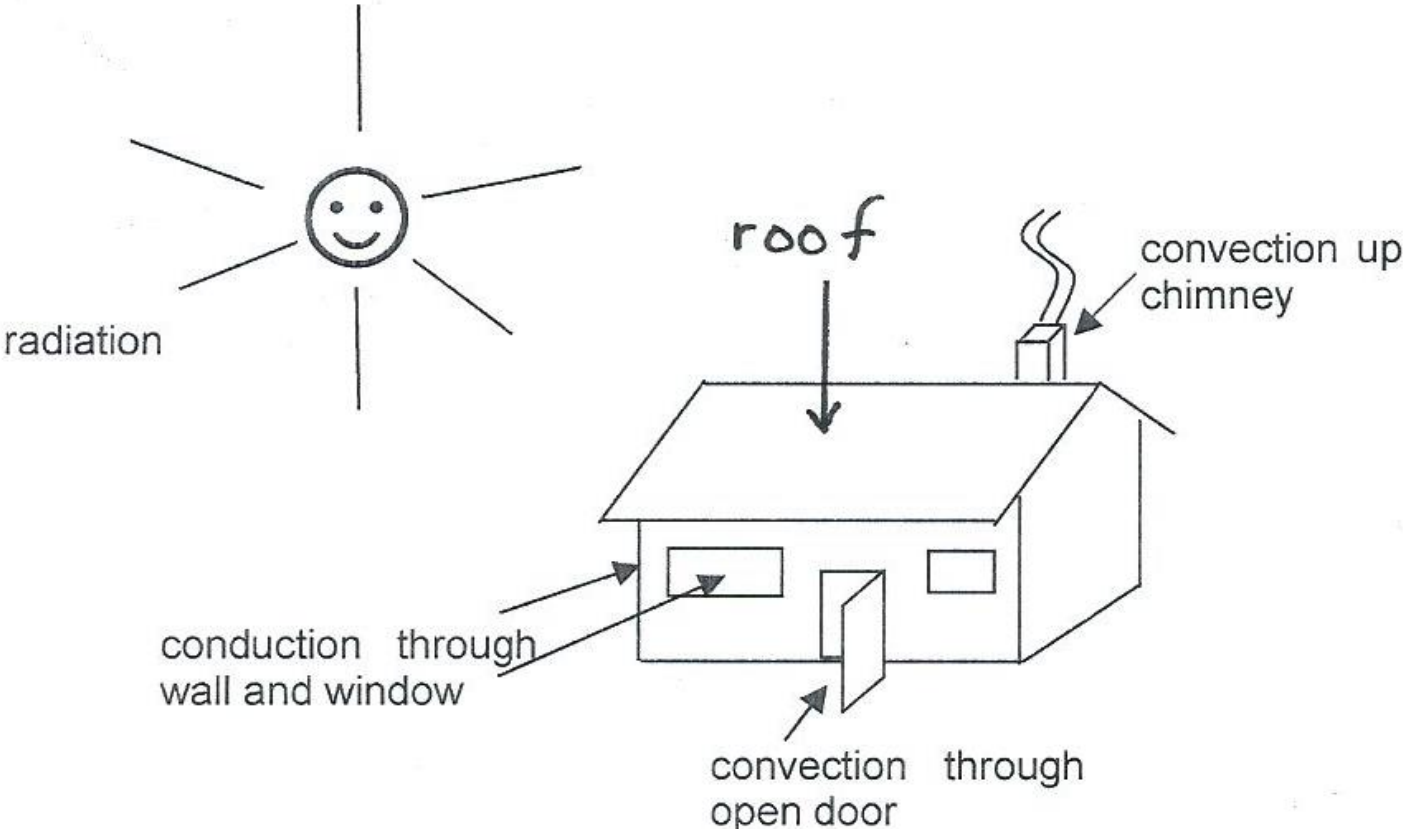


# Preparing buildings for low carbon heating



## 2 Why prepare buildings

- To limit climate change, gas boilers will be phased out over the next 10 years
- They will be replaced by low carbon heating systems, like heat pumps which concentrate low grade heat, not produce it
- However low carbon heating systems are only economic in well insulated buildings
- So in this webinar we will describe what you can do to prepare your building and heating system for low carbon heating



# 3 Identifying heat losses

## *Ventilation losses*

Via windows and doors, floors and ceilings. Draught excluders are very effective and are low cost

## *Loft insulation*

Optimum level is 300 mm but houses prior to 1965 may have none

## *External wall insulation*

Use your hand or a thermometer to measure temperatures adjacent to wall. If cold then then unlikely to be insulated

## *Windows*

Single glazed windows – condensation forms on cold days



## 4 Reducing heat losses

- Consult energy performance register at <https://find-energy-certificate.digital.communities.gov.uk/find-a-certificate/search-by-postcode>
- Inserting your postcode will list your dwelling and if not bought or sold in the past 10 years, other buildings within same post code
- Identifies existing insulation measures; ranks new measures and costs
- EPC will also estimate reduction in heating bills



## 5 Restoring radiator efficiency

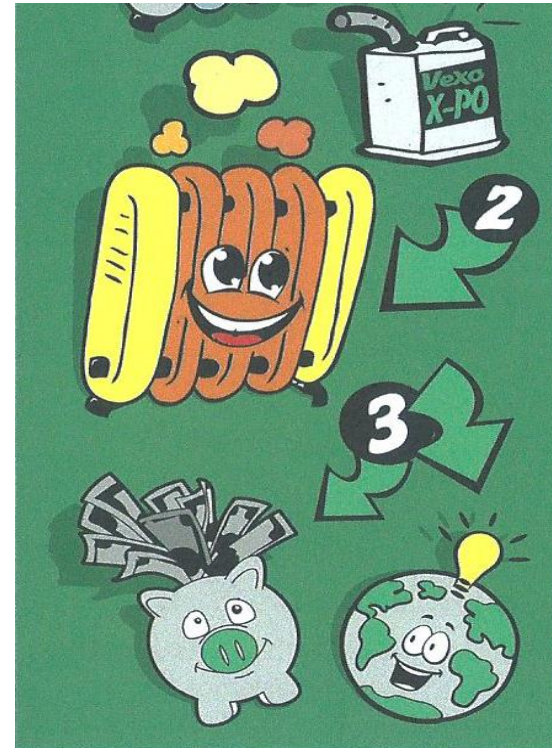
- Very low cost option for increasing heat output and reducing bills
- If your radiators have cold areas or need bleeding then corrosion is occurring between your central heating water and your radiators
- Results in formation of gases and inorganic salts which will reduce heat output
- Solution add a small quantity of corrosion limiting inhibitor/descaler to central heating water and ensure level maintained whenever your boiler is serviced

## 6 Benefits of adding inhibitor/descaler

- radiators are uniformly warm and no need to bleed
- radiator output increase up to 7%
- Operate boiler at lower temperature
- limit corrosion will extend life of

heating system

- Take up Vexo's offer of a free 3 year supply [voucher@vexoint.com](mailto:voucher@vexoint.com)



# 7 Insulating loft

- Prior to 1965 no insulation was required so your loft may have none
- Generally easy to access and measure thickness of insulation
- Top up if less than 200 mm; 300 mm is recommended level
- DIY possible as insulation rolls are lightweight and easy to lay once loft is cleared of storage items
- Board over before replacing any items stored in the loft
- Ensure that there is still sufficient ventilation to prevent condensation



## 8 Insulating external cavity walls

- Post 1945 buildings all have 50mm cavity between inner and outer courses
- Quality of cavity can be checked using a borescope/camera
- Installer will drill holes in outer walls into which mineral fibres will be blown
- Cavity infilled with mineral fibres provides good insulation
- Both loft and cavity wall insulation are eligible for ECO funding if certain criteria are met; installer will be able to advise





## 9 Insulating external solid walls

- Pre 1945 no cavity required between inner and outer courses
- Check absence of cavity by wall thickness and brick orientation
- External wall insulation costs more than cavity wall insulation but can be very effective
- Insulating the inner walls is less effective and more disruptive and floor space is lost
- If costs high, then only insulate some walls or if objections to changing external appearance



# 10 Insulating windows

- large source of heat loss as radiators often located beneath and double glazing was not mandatory until 1995
- Single glazing can result in condensation on inside of windows due to temperature difference between inside and outside
- Fitting a secondary glazing film or fitting an extra glass pane are lower cost options but not as effective
- So very desirable to fit double glazing and if funds are limited, to fit initially to the most used room(s)



# 11 What you can and should do

- Identify sources of heat loss
- Undertake some low cost measures by DIY
- Other measures obtain quotes from installers
- Use EPC register as a guide to costs
- Take up Vexo's offer of free inhibitor/descaler  
email to [voucher@vexoint.com](mailto:voucher@vexoint.com)
- Check availability of grants with Citizens Advice Bureau and RBC's local authority delivery scheme



# 12 Citizens Advice Reading

Keep warm in winter, save money all year

The energy team can help with reducing the cost of energy bills

- Finding the cheapest appropriate supplier for you
- Claiming any grants, benefits or discounts you may be entitled to
- Using less energy by being more energy efficient by making simple changes in the home

Advice is currently offered by phone or video call. Contact [energy@citizensadvicereading.org](mailto:energy@citizensadvicereading.org) to arrange an appointment

Citizens Advice Consumer Service – 0808 223 1133

Consult [rcab.org.uk/energy](http://rcab.org.uk/energy) for more information

# 13 Trading Standards

- Recommendations/ BWC/ Trustmark
- Research Research Research!
- Obtain three quotations if possible
- Ask about customer services/ what if things go wrong
- Agree payment terms
- Pay using a credit card if possible

# 14 Preparing buildings for low carbon heating

- Insulate fabric so that heat loss is no greater than 5 kW at - 1 C
- Restore radiator efficiency by adding inhibitor/descaler
- Check that sufficient heat output at 50 C CH water temperature so that radiators can be reused with low carbon heating systems
- Do not install a combi gas boiler but a boiler with a separate hot water tank as low carbon heating systems cannot produce instantaneous hot water



# 15 Preparing for low carbon heating

- Some measures are low cost and bring immediate comfort
- Other measures are more costly and may be eligible for grants such as LAD funding from next April
- What is important is to ensure that any measures will prepare buildings and heating systems for conversion to low carbon
- Any measures will help limit climate change
- Download **creating warmer homes leaflet set** from [www.readingcan.org.uk](http://www.readingcan.org.uk)



# 16 Information leaflet set

- Creating warmer homes Do it yourself warmth check
- Reducing ventilation losses
- Restoring radiation efficiency
- Upgrading insulation to reduce heat loss
- Getting the work done
- Preparing buildings for low carbon heating
- Low carbon heating via heat pumps
- Solar electricity generation and solar heated water

