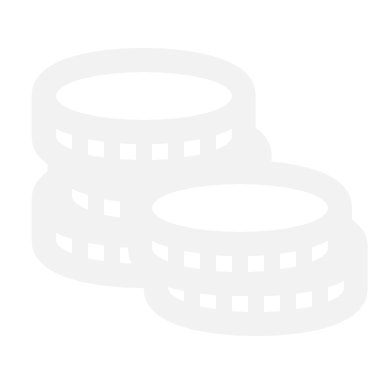
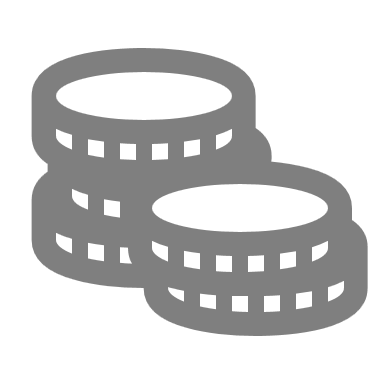
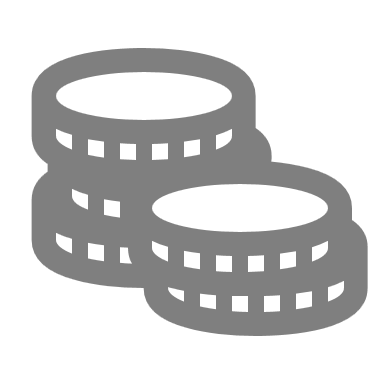
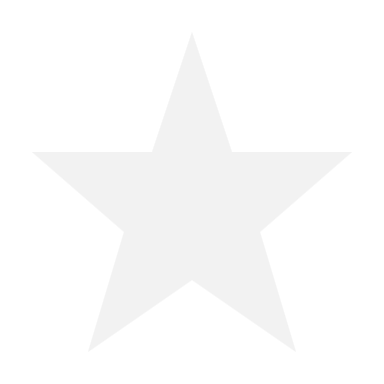
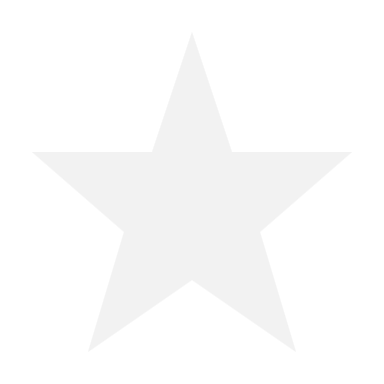
# FS08: Energy Efficient Windows

**Typical costs:**

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**Typical annual savings:**

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**About**

* Upgrading windows can help reduce heat loss. Double glazed windows are comprised of two panes of glass sealed with a gap in between. This arrangement allows significantly better insulation than single pane windows. Other options include triple glazing and secondary windows.

**Benefits**

* Reduced draughts and cold spots near windows will improve comfort in your home
* Pay less on your heating bills
* Reduce noise in your home
* Improve security
* Help combat condensation problems.

**Key Considerations**

* Materials: The most energy efficient windows have a low emissivity (low-e) coating which allows light in but stops warmth escaping. Frames for double glazed windows can be made from uPVC (long lasting), wood (requires maintenance, often used in conservation areas) or steel/aluminium. Ensure that you have confirmation from your installer that the building structure can support any additional weight from the new windows.
* Ventilation: New double glazed windows are likely to be more airtight than your old ones which can lead to a build-up of condensation. Modern double-glazed windows may have trickle vents which should be opened to allow moisture to escape and avoid damp if there is not much background ventilation.
* Permissions: Planning permission is not normally required unless the property is in a conservation area or a listed building; in these cases, [secondary glazing](https://www.cse.org.uk/advice/advice-and-support/secondary-glazing) may be more appropriate. Check with your local authority if you are unsure.
* Maintenance: Double glazing has a typical lifetime of around 20 years after which they may need to be replaced or repaired depending on the exact type of glazing used.

**Further information**

* Case studies:
  + [Budapest](http://www.lowenergyapartments.eu/wp-content/uploads/2016/03/LEAF_Case_study_showcase_Hungary_D8.4_Feb16.pdf) (Hungary)
  + [Glasgow](http://www.retrofitscotland.org/case-studies/james-nisbet-street-roystonhill-glasgow/?filters=1491) (UK)
  + [Edinburgh](http://www.retrofitscotland.org/case-studies/22-drummond-street-edinburgh/?filters=1267) (UK)
  + [Edinburgh](http://www.retrofitscotland.org/case-studies/2-roxburgh-street-(1st-floor)-edinburgh/?filters=2810) (UK)
* Useful information:
  + The [Energy Saving Trust](http://www.energysavingtrust.org.uk/home-energy-efficiency/energy-efficient-windows): More detailed information on energy efficient windows.

[Glass and Glazing Federation](http://www.ggf.org.uk/): Industry best practice membership organisation with list of approved installers.