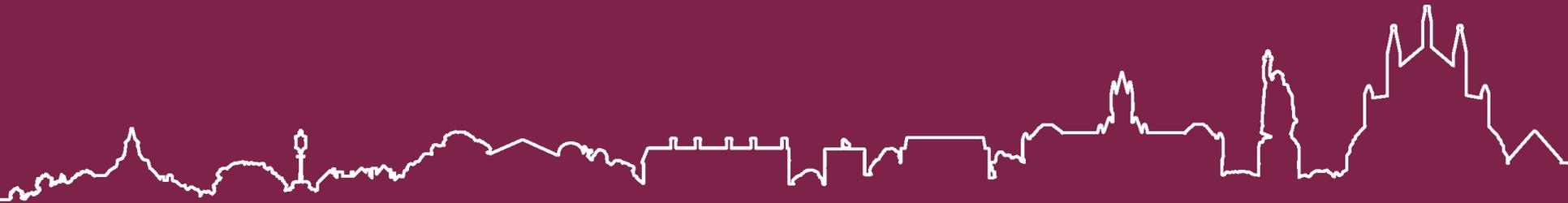


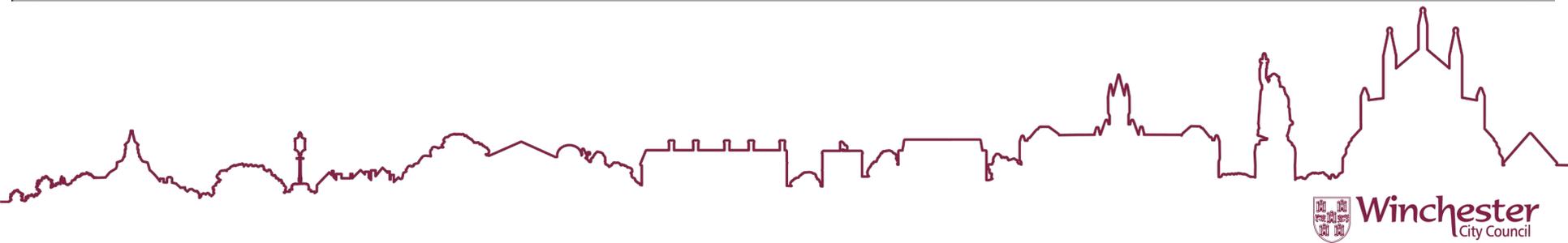
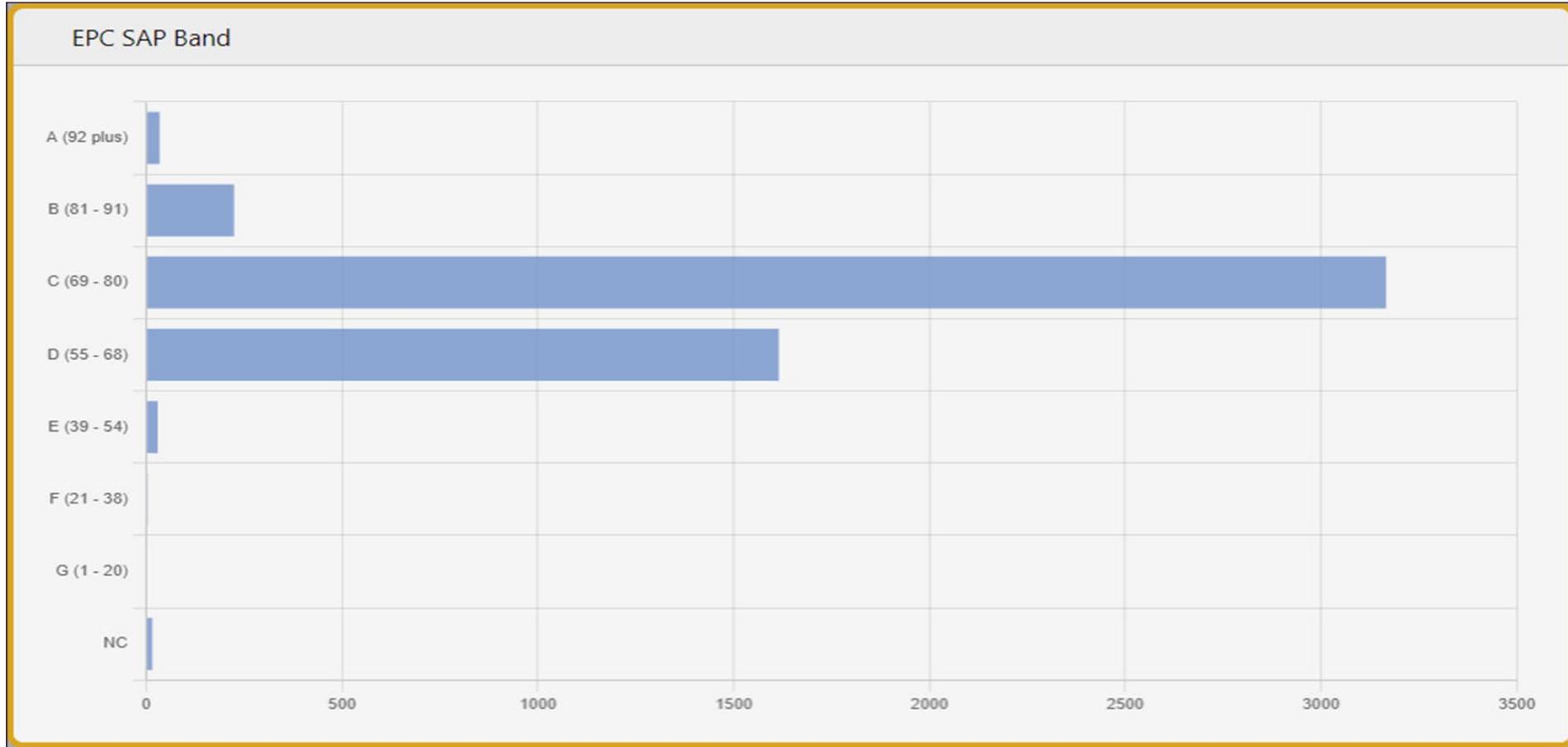
Retrofit Programmes to Council Homes

Business & Housing Policy Committee

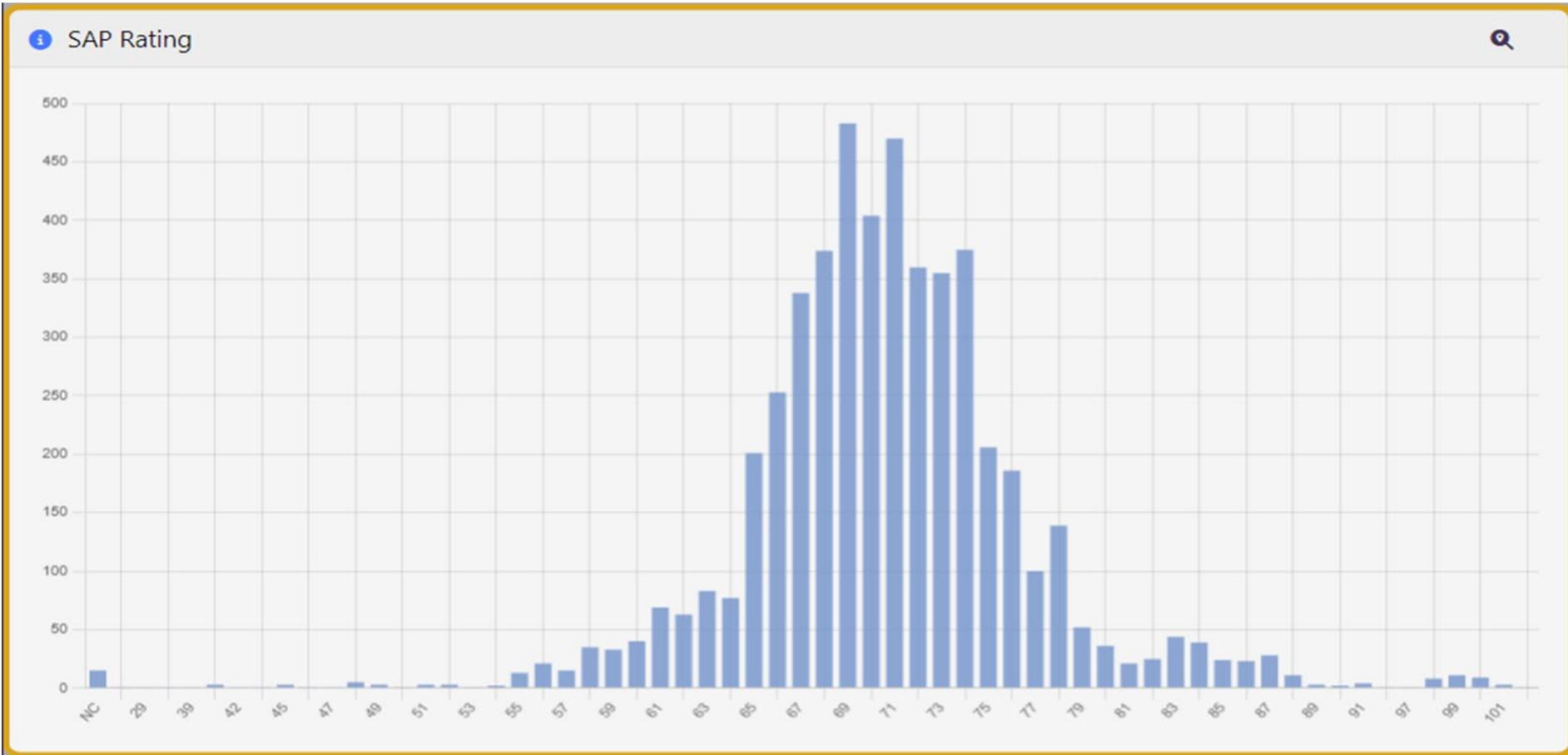
12th July 2023



Council Homes - EPC SAP Bandings (66% Band C or above)



Council Homes – SAP Rating (average SAP 70.55)



Average running costs: GAS (System boiler)

| Energy efficiency measures | Indicative specification / notes | Energy | | | | Costs | | | | Carbon | |
|---|---|------------|-----|---------------------|----------------------|------------------|---------------------|--------------|----------------|------------------|----------------------|
| | | EPC | EPC | Total annual energy | Annual energy saving | Total fuel bill | Saving on fuel bill | Capital cost | Simple payback | Carbon emissions | Annual carbon saving |
| | | | | kWh/yr/yr | kWh/yr/yr | £/yr | £/yr | (£) | (years) | | (tonnes/yr) |
| Baseline | Assumes no cavity wall insulation, no loft insulation and windows ~20 years old | 57D | | 21992 | - | £2,698.27 | n/a | 0 | n/a | 4.17 | n/a |
| Wall only | Cavity wall insulation | 63D | | 18628 | 3364 | £2,340.67 | £357.59 | 2000 | 5.59 | 3.53 | 0.64 |
| Loft only | Loft insulation to 0.16 U-value | 63D | | 18317 | 3675 | £2,307.61 | £390.65 | 1500 | 3.84 | 3.47 | 0.7 |
| Windows & doors only | Windows and doors to 1.40 U-value | 59D | | 21008 | 984 | £2,593.67 | £104.60 | 4300 | 41.11 | 3.99 | 0.18 |
| All fabric - walls, loft, windows and doors | As above | 71C | | 13457 | 8535 | £1,791.00 | £907.27 | 7800 | 8.60 | 2.55 | 1.62 |
| All fabric + Mixergy cylinder | All fabric as above Mixergy cylinder – 210l | 72C | | 13113 | 8879 | £1,754.43 | £943.84 | 9200 | 9.75 | 2.47 | 1.70 |
| All fabric + Mixergy cylinder + PV with solar diverter | Mixergy cylinder as above + 3.63kWp solar PV -Note that the majority of the benefit comes from the solar PV. | 81B | | 10175.7 | 11816.3 | £1,310.95 | £1,387.32 | 14700 | 10.60 | 1.82 | 2.35 |
| Uninsulated + Mixergy cylinder | No fabric upgrades Mixergy cylinder – 210l | 59D | | 21636 | 356 | £2,660.42 | £37.84 | 1400 | 37.00 | 4.09 | 0.08 |
| Uninsulated + Mixergy cylinder + PV with solar diverter | Mixergy cylinder as above + 3.63kWp Note that the majority of the benefit comes from the solar PV. | 67D | | 18690.7 | 3301.3 | £2,216.09 | £482.17 | 6900 | 14.31 | 3.45 | 0.72 |

All values are approx.

Average running costs: GAS (combi boiler)

| Energy efficiency measures | Indicative specification / notes | Energy | | | | Costs | | | | Carbon | |
|---|---|-----------|----------|---------------------|----------------------|------------------|---------------------|--------------|----------------|------------------|----------------------|
| | | EPC | EPC | Total annual energy | Annual energy saving | Total fuel bill | Saving on fuel bill | Capital cost | Simple payback | Carbon emissions | Annual carbon saving |
| | | | | kWh/yr/yr | kWh/yr/yr | £/yr | £/yr | (£) | (years) | (tonnes/ yr) | (tonnes/ yr) |
| Baseline | Assumes no cavity wall insulation, no loft insulation and windows ~20 years old | 57 | D | 21993 | - | £2,698.37 | n/a | 0 | n/a | 4.17 | n/a |
| Wall only | Cavity wall insulation | 63 | D | 18641 | 3352 | £2,342.05 | £356.32 | 2000 | 5.61 | 3.53 | 0.64 |
| Loft only | Loft insulation to 0.16 U-value | 63 | D | 18330 | 3663 | £2,309.00 | £389.38 | 1500 | 3.85 | 3.47 | 0.7 |
| Windows & doors only | Windows and doors to 1.40 U-value | 59 | D | 21018 | 975 | £2,594.73 | £103.64 | 4300 | 41.49 | 3.99 | 0.18 |
| All fabric - walls, loft, windows and doors | As above | 71 | C | 13493 | 8500 | £1,794.82 | £903.55 | 7800 | 8.63 | 2.55 | 1.62 |
| All fabric + Sunamp | There is no benefit from installing a Sunamp on its own, without the PV | | | 0 | | £0.00 | | | | | |
| All fabric + Sunamp + PV with solar diverter | 3.63kWp PV + Sunamp Thermino ePV | 87 | B | 11053 | 10940 | £1,394.35 | £1,304.02 | 15800 | 12.12 | 2.15 | 2.19 |
| Uninsulated + Sunamp | There is no benefit from installing a Sunamp on its own, without the PV | | | 0 | | £0.00 | | | | | |
| Uninsulated + Sunamp + PV with solar diverter | 3.63kWp PV + Sunamp Thermino ePV | 73 | C | 19585 | 2408 | £2,301.31 | £397.07 | 8000 | 20.15 | 3.77 | 0.40 |

All values are approx.

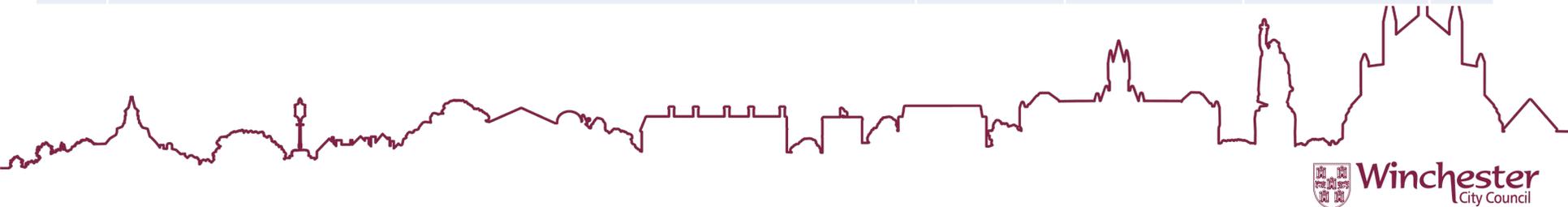


Average running costs: Electric (quantum)

| Energy efficiency measures | Indicative specification / notes | Energy | | Costs | | | | Carbon | | | |
|---|---|------------|-----|---------------------|----------------------|------------------------|---------------------|--------------|----------------|------------------|----------------------|
| | | EPC | EPC | Total annual energy | Annual energy saving | Total annual fuel bill | Saving on fuel bill | Capital cost | Simple payback | Carbon emissions | Annual carbon saving |
| | | | | kWh/yr/yr | kWh/yr/yr | £/yr | £/yr | (£) | (years) | (tonnes/ yr) | (tonnes/ yr) |
| Baseline | Assumes no cavity wall insulation, no loft insulation and windows ~20 years old | 20G | | 18928 | - | £4,703.72 | n/a | 0 | n/a | 2.30 | n/a |
| Wall only | Cavity wall insulation | 29F | | 15925 | 3003 | £3,980.35 | £723.38 | 2000 | 2.76 | 1.92 | 0.38 |
| Loft only | Loft insulation to 0.16 U-value | 30F | | 15650 | 3278 | £3,914.02 | £789.70 | 1500 | 1.90 | 1.89 | 0.41 |
| Windows & doors only | Windows and doors to 1.40 U-value | 23F | | 18047 | 881 | £4,491.50 | £212.22 | 4300 | 20.26 | 2.19 | 0.11 |
| All fabric - walls, loft, windows and doors | As above | 47E | | 11394 | 7534 | £2,888.84 | £1,814.88 | 7800 | 4.30 | 1.36 | 0.94 |
| All fabric + Mixergy cylinder | All fabric as above Mixergy cylinder – 210l | 48E | | 11147 | 7781 | £2,833.11 | £1,870.61 | 9200 | 4.92 | 1.33 | 0.97 |
| All fabric + Mixergy cylinder + PV with solar diverter | Mixergy cylinder as above + 3.63kWp solar Note that the majority of the benefit comes from the solar PV. | 63D | | 8645 | 10283 | £2,179.67 | £2,524.05 | 14700 | 5.82 | 0.96 | 1.34 |
| Uninsulated + Mixergy cylinder | No fabric upgrades Mixergy cylinder – 210l | 21F | | 18667 | 261 | £4,644.68 | £59.04 | 1400 | 23.71 | 2.27 | 0.03 |
| Uninsulated + Mixergy cylinder + PV with solar diverter | Mixergy cylinder as above + 3.63kWp solar PV. | 31F | | 16162 | 2766 | £3,974.06 | £729.67 | 6900 | 9.46 | 1.89 | 0.41 |
| All fabric + Sunamp | There is no benefit from installing a Sunamp on its own, without the PV | | | | | | | | | | |
| All fabric + Sunamp + PV with solar diverter | 3.63kWp PV + Sunamp Thermino ePV | 66D | | 8614 | 10314 | £2,224.38 | £2,479.34 | 15800 | 6.37 | 0.95 | 1.35 |
| Uninsulated + Sunamp | There is no benefit from installing a Sunamp on its own, without the PV | | | | | | | | | | |
| Uninsulated + Sunamp + PV with solar diverter | 3.63kWp PV + Sunamp Thermino ePV | 33F | | 16127 | 2801 | £4,019.88 | £683.84 | 8000 | 11.70 | 1.89 | 0.41 |

All values are approx.

| Planned "Insulate" Works `23/`24 | Props | Measures | Est.Cost (`000) |
|---|--------------|-----------------|----------------------------|
| Part 1- Measures & Costs | | | |
| Voids - internal wall insulation (IWI) | 4 | 20 | 150 |
| SHDF - Year 1 - 40% - Swedish cottages | 8 | 48 | 800 |
| SHDF - Year 1 - 40% - loft insulation top-ups/ventilation | 140 | 140 | 280 |
| RR - Energy assessments | 800 | 0 | 160 |
| RR - Insulation top-up and/or ventilation | 150 | 150 | 300 |
| RR - Cavity wall suck-outs/refills | 150 | 150 | 300 |
| RR - Single glazed window replacements | 60 | 60 | 240 |
| RR - Single-glazed door replacements | 30 | 30 | 18 |
| Voids - houses, bungalows and top floor flats (loft insulation) | 160 | 160 | 320 |
| Voids - houses & bungalows (cavity insulation) | 140 | 140 | 280 |
| | | 898 | 2848 |
| No. of properties receiving energy improvements | 522 | | |
| SHDF Grant (50%*1065*40%) - Year 1 | | | 213 |
| Est. net cost to WCC | | | 2635 |



Planned "Insulate" Works `23`24

Part 2 - delivery programmes

| 2023 | | | | | | 2024 | | |
|------|-----|------|-----|-----|-----|------|-----|-----|
| July | Aug | Sept | Oct | Nov | Dec | Jan | Feb | Mar |

Voids - internal wall insulation (IWI) (closing programme for trials)



SHDF - Swedish cottages (already tendered/award pending)



SHDF - Loft insulation top-ups/ventilation (already tendered/award pending)



RR - Energy assessments (Phases 1 - 160 complete) (Phase 2 tendered/award pending)



RR - Insulation top-up and/or ventilation (subject to tenant uptake)



RR - Cavity wall suck-outs/refills (50% already tendered/award pending)



RR - Single glazed window replacements (conservation areas)



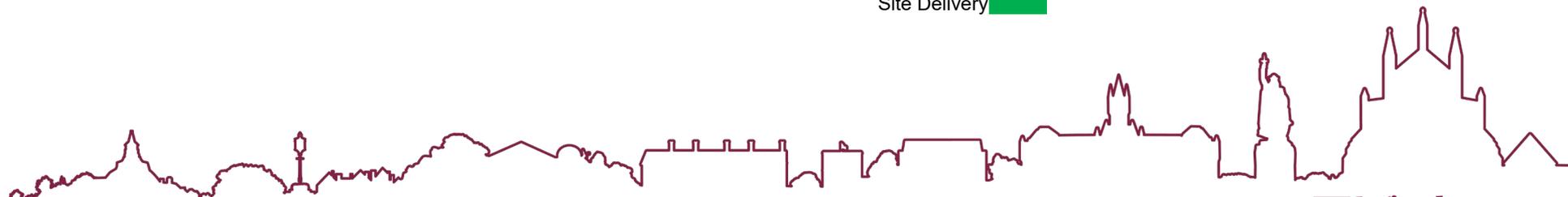
RR - Single-glazed door replacements (will be carried out concurrently with above if not before)



Voids - houses, bungalows and top floor flats (loft insulation) (already procured)

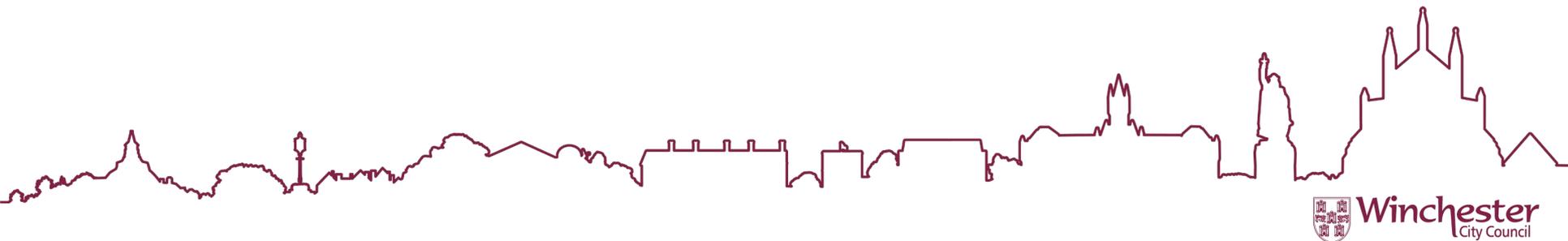


Voids - houses & bungalows (cavity insulation) (already procured)



EPC uplift after SHDF, R&R, Void Pilot, Airey Pilot:

| SAP BAND DISTRIBUTION IN WCC STOCK: | | | | Fabric Programme: SHDF + R&R + Void Pilot + Airey Pilot |
|-------------------------------------|--------------|---------------|------------|---|
| SAP: | No. of Homes | % of Homes | % Rounded | |
| A | 33 | 0.654632017 | 1 | 33 / (0.65%) |
| B | 235 | 4.661773458 | 5 | 238 / (4.7%) |
| C | 3042 | 60.34516961 | 60 | 3412 / (68%) |
| D | 1703 | 33.78297957 | 34 | 1341 / (26%) |
| E | 25 | 0.495933347 | 0 | 16 / (0.3%) |
| F | 2 | 0.039674668 | 0 | 0 |
| G | 1 | 0.019837334 | 0 | 1(0.019%) |
| Total stock in count | 5041 | 100.00 | 100 | 5041 |
| Average SAP : | 70.55 | | | 371 properties move to EPC C & 3 to EPC B |



Procurement Challenges

Significant amount of Wave 2 funding, but limited number of contractors

Frameworks for accredited contractors have “tied up” resource/closed to new members

Specialist PAS 2035 framework - all 8 invited - only 1 bid returned

Costs associated with this work have increased significantly (the single bid received was significantly higher than estimate)

WCC is a small authority, with relatively small packages of work to offer

Very high premiums being paid for accredited installers

WCC procurement rules frustrate and limit the speed of procurement (tender thresholds quickly exceeded)

CPRules have standing vfm requirement, but difficult to warrant in highly inflated/ premium market

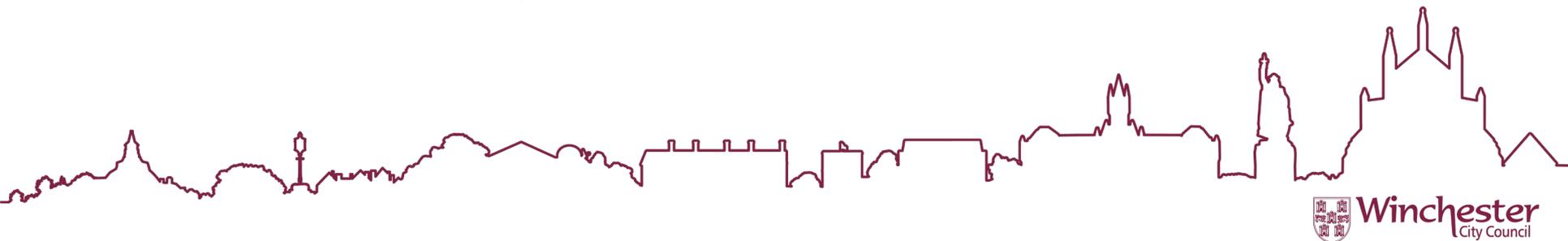
Procurement Solutions

For non-SHDF properties, not build to Trustmark standards (similar to passivhaus premium issues)

Investigate dedicated internal workforce option to service the demand (eg. trial loft insulation installations with Special Maintenance ?)

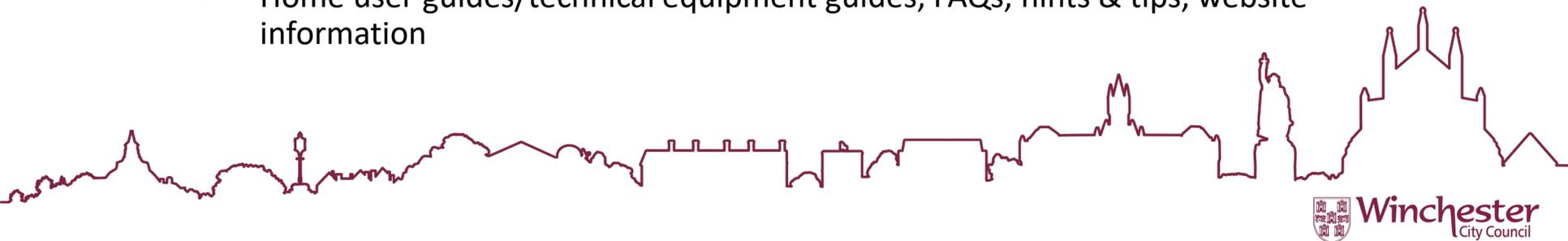
Investigate joint procurement options - review and report back

Plan to incorporate retrofit works into major term contract re-procurements



Engagement / advice / information

- Work to date
 - Resident survey (Dec 2022), focus group (Feb & March 2023) & ongoing information sharing with service delivery group
 - Initial branding discussion with service delivery group
 - Project plan and policy approach to strands to allow for effective tenant engagement/consultation
- Programmed work
 - Engagement & communications strategy – evidence value through engagement options
 - Resident liaison post – specialist officer leading on tenant engagement, providing advice & support for tenants
 - Further focus groups to give a customer focus to project strands
 - Recruit resident champions for project strands
 - Regular targeted communications - newsletters, podcasts, Facebook/tweets, competitions/activities, community events
 - Home user guides/technical equipment guides, FAQs, hints & tips, website information



Questions ?

