Identification of housing requirements across NI
Invest in homes & neighbourhoods
Improve people’s homes
Transform people’s lives
Enable sustainable neighbourhoods & regeneration
Contents

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NIHE journey of energy efficiency

- Home Energy Conservation Authority
- Practical, cost effective, significant improvement
- Improved energy efficiency/SAP
- Fuel Poverty – 42%
- The future – fabric first
Strategic Context

Hierarchy of Energy Efficiency

- On-site low carbon & renewables (Final)
- Improve Efficiency (Secondary)
- Reduce Energy Demand (Priority)
Analysis across all tenures

Analysis of SAP09 ratings relative to EPC Bandings A-G

Fuel Poverty as % across tenures:

- Owner Occupier: SAP 59.93
- Private Rented: SAP 67.79
- Social Housing: SAP 41.66

- Owner Occupied
- Private Rented
- Social Housing

- Not in Fuel Poverty
- In Fuel Poverty
Envelope First & Efficient Heating

Typical Heat Loss

Roof 25% of total heat lost
Walls 35% of total heat lost
Draughts 15% of total heat lost
Through the floor 15% of total heat lost
Windows 10% of total heat lost
What’s Different

1. Decent Homes Standard Plus for thermal comfort
2. Envelope first & Efficient Heating
3. VFM options
4. Promote air tightness and ventilation
5. Consider renewables AFTER envelope – use grants!
6. Finance – Priority of Refurbishment
7. Householder – Behaviour Change
### Case Study – Worst Case

<table>
<thead>
<tr>
<th>Replacement Element</th>
<th>Typical Existing Spec £</th>
<th>Revised Spec £</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>Cavity Wall extraction &amp; installation, if required</td>
<td>NA</td>
<td>2000</td>
<td>e/o spec</td>
</tr>
<tr>
<td>Loft Insulation up to 300mm (under completed heating scheme) Top up from 100mm existing</td>
<td>500</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Replace Windows &amp; Doors</td>
<td>3000 (Double G)</td>
<td>4000 (Triple G)</td>
<td>e/o spec</td>
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<tr>
<td>Airtightness Measures</td>
<td>NA</td>
<td>1500</td>
<td>e/o spec</td>
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<tr>
<td>Positive Ventilation System</td>
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<td>500</td>
<td></td>
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<tr>
<td>Upgrade heating system for zoning</td>
<td>1000</td>
<td>1000</td>
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<tr>
<td><strong>Sub Total</strong></td>
<td><strong>5000</strong></td>
<td><strong>9500</strong></td>
<td></td>
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</tbody>
</table>
Case Study: Before, After & PV

Not energy efficient - higher running costs

RdSAP = 75
Annual household energy costs = £1007
(in cooking/appliance costs of £400)
Energy use = 185 kWh/m² per year,
46% Reduction
CO₂ emissions = 2.5 tonne.
46% Reduction

The use of Solar PV will allow the landlord to use the incentives for future fuel poverty works.
Case Study

Based on a low rise mid terrace townhouse...

Existing

SAP 57

Energy efficiency with no change

£0 as existing

£1424 annual household energy costs

Envelope 1st & heating

SAP 75

Energy efficiency with refurbishment works

£5,500 average cost of works

£1007 annual household energy costs

Renewables

SAP 85

Energy efficiency with refurbishment works & solar PV panel

£11,000 average cost of works

£828 annual household energy costs
Concluding Recommendations

1. Policy follow hierarchy of energy efficiency
2. Envelope First & Efficient Heating
3. Funding – Priority of Refurbishment
4. Householder Behaviour Change
5. Industry Training
6. Green loans
& finally... Questions

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