



Evaluating Whole House Retrofit for Future Projects

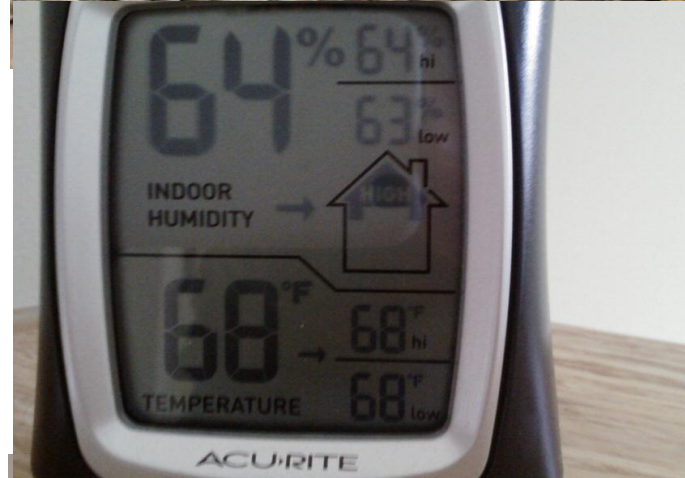
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What kind of monitoring is important?

- Technical
- Environmental
- Behavioural



What have we learned from our retrofit and research work?



- Retrofit for the Future
- Rampton Drift
- ETI Thermal Efficiency Project
- Byker Estate

Retrofit for the Future



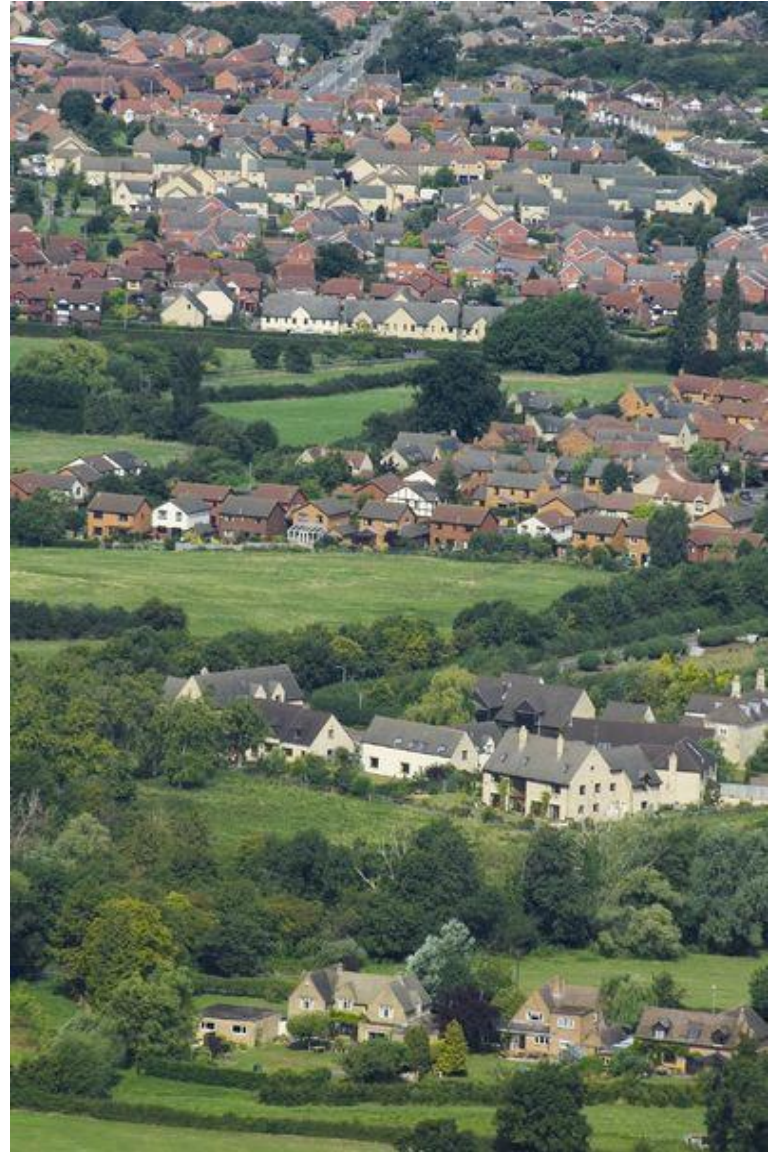
Rampton Drift



Rampton Drift



Optimising Thermal Efficiency in Existing Housing



- **Customer acceptance** is crucial to the success of a mass retrofit programme.
- Period up to 2020 should focus on stimulating the market and gaining householder confidence:
 - Demonstrator projects
 - Mass marketing
 - Service offerings
 - Retrofit open days



Byker Estate



Byker Estate: Potential Successes



- Comprehensive monitoring (temperature, CO₂, lighting and humidity) should take place *before* retrofit works- ideally for more than one heating season
- Monitoring equipment should be non-intrusive to the resident
- Acceptability by the resident should be improved through higher levels of customer engagement
- Move monitoring away from just early stage evaluation desktop and computer based models, which are not enough to inform design
- There are real opportunities to make monitoring easier, more extensive, flexible simple and comprehensive (user-friendly apps)

