The feasibility study

The aim of the OSI was to carry out a feasibility study to lay the foundations for the establishment of a Solar Street and a Solar Suburb in Oxford. As part of the feasibility study, a survey of 700 householders was carried out to investigate attitudes towards the installation of PV, solar hot water and/or passive solar features in combination with energy efficiency measures on houses in North Oxford. The results of the survey are shown in Table 18.1.

Table 18.1
Results from the questionnaire survey. (*Source*: Roaf *et al.*, 2003.)

External wall construction		**Loft insulation**	
Cavity wall/not insulated	4.0%	25 mm (1″)	2.0%
Cavity wall/insulated	3.0%	50 mm (2″)	11.9%
Solid brick/stone (mainly pre-war)	67.4%	75 mm (3″)	10.9%
Do not know	8.9%	100 mm (4″)	15.8%
Other	16.8%	150 mm (6″)	5.9%
		200 mm (8″)	2.0%
		None	4.0%
		Do not know	47.5%
Draught proofing		**Hot water cylinder insulation**	
All	12.9%	Jacket	34.7%
Most	11.9%	Rigid foam	36.6%
None	25.7%	None	28.7%
Some	49.5%		
Low-energy lighting		**Secondary/double glazing**	
All	1.0%	All	25.7%
Half	2.0%	Half	3.0%
Most	9.9%	Most	11.9%
Some	66.3%	Some	40.6%
None	20.8%	None	18.8%
Types of heating		**If standard boiler or combi, year installed**	
Condensing boiler	9.9%	Before 1980	37.0%
Standard boiler	65.4%	1980–1990	29.6%
Standard combi	14.9%	1990–2000	21.0%
Other	9.9%	After 2000	12.4%
Consider applying energy efficiency		**Consider using solar energy**	
Agree	26.7%	No	2.0%
Agree strongly	64.4%	Yes	64.4%
Do not know	8.9%	Do not know	33.7%
Of yes responses, price prepared to pay for solar hot water		**Of yes responses, price prepared to pay for solar PV**	
£1000	37.0%	£1500	44.6%
£1500	26.2%	£2500	18.5%
£2000	9.2%	£5000	6.2%
£3000	3.1%	Do not know	30.8%
Do not know	24.6%		

It appears from the survey that a large percentage of the respondents (68%) have solid brick/stone walls without insulation. 26% do not have any draught proofing on their doors and windows while 50% have some draught proofing. Only 2% of the respondents have 200-mm thick loft insulation while 29% have no hot water cylinder insulation. The results showed that there is a considerable scope for improvement in terms of fabric insulation. And since only 10% of the respondents had condensing boilers, there was potential for improving heating systems also. Importantly, 91% of the respondents agree or agree strongly that they would consider applying energy efficiency measures. 65% of them also agree to consider using solar energy. And among these, 41% agree to pay £1000–1500 for solar hot water systems and £1500–2500 for solar PV systems (Roaf *et al.*, 2003). A Geographical Information System (GIS) map of the local area of North Oxford was developed to identify location of survey areas and to map the information gathered in the residents' surveys. This is shown in Figure 18.5.

The survey has demonstrated that there is a high demand for energy efficiency measures and solar advice; properties were typically in poor condition and therefore offered a high potential for improvement; the buildings services offer an additional opportunity for emission reductions. The older boilers are now ready for replacement and could be replaced

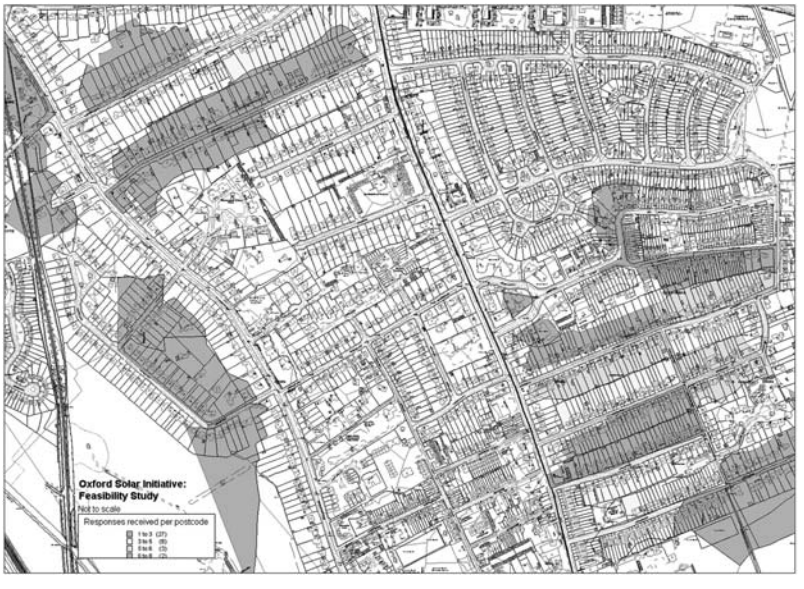

Figure 18.5
GIS map of the local area of North Oxford showing location of survey areas based on number of responses.