

# Kirklees, UK

An area-based approach  
to energy efficiency,  
housing affordability,  
and jobs

By Mike Lewis

I agree with Jeff Rubin and many other peak oil experts. No matter how much we might lament the inexorable increase in fuel prices, we have not seen anything yet. We can look forward to prices which peak and then take a wild and unstable ride down into a recessionary valley. Then the pattern will repeat. The difference will be that each time, both the valley bottom and the mountain peak will be higher than those previous.<sup>1</sup>

*Energy efficiency measures combined with decentralized generation of renewable power could contribute significantly to reductions in carbon emissions and in the process create health, job, and community economic benefits. How are such remarkable synergies to be achieved? Luckily, the U.K. has some clues to offer.*

The metropolitan borough of Kirklees, West Yorkshire encloses 13 settlements, the largest of which is Huddersfield. Photocredit: Darren Beaumont, myHuddersfield.com.



People who are already on the financial brink are going to feel it big time. Many already are – transport, heating fuel, food, and a huge swath of manufactured goods in which oil is intimately implicated are escalating in price. The price of that oil is a key factor.

Of the many ways that households use oil, heating fuel is paramount. As prices go up so will our awareness of a term coined in the U.K., “fuel poverty.”

Households are considered by the U.K. Government to be in fuel poverty if they have to spend more than 10% of their income on fuel to keep the home adequately warm.<sup>2</sup> A number of factors determine whether or not a household is in fuel poverty, but the four most obvious are:

- The cost of energy
- The size of the house
- Household income
- The energy efficiency of the house (and therefore, the energy required to heat and power it)

The interaction of these factors currently renders more than five million British households fuel poor.<sup>3</sup> If Rubin is right about oil prices, things are about to get a whole lot worse. It is estimated that for every 1% increase in the price of energy, 40,000 U.K. households join the ranks of the fuel poor. What then might the U.K. do in the next 15 years to hold back an avalanche of financially-strapped households from sliding into fuel poverty?

Forget about controlling the price of fossil fuels; few governments can afford to subsidize a global commodity. Besides, to do so would encourage waste and emit a whole lot of carbon. Nor can we change the profile of the existing housing stock, though if more of us could shake our obsession with privacy and dominion, we would get a lot more out of the stock that we have, at far less cost in terms of energy and carbon. Unfortunately, that cultural revolution may be a long time coming. (See the *i4* article, “Stepping Off the Housing Treadmill.”)

How about raising income levels? Lobbying for a living wage makes perfect sense but is hugely difficult to achieve. Even in good times the value of the minimum wage has fallen in real terms.

That leaves option four, increasing the energy efficiency of houses. Although it is no more a “silver bullet” than the others, it does offer some additional benefits. Retrofitting apartments, townhouses and housing can save costs, reduce carbon, and create jobs. It can also be financed through

low-cost debt. Nevertheless, it could have a huge impact. In 2008 approximately 27% of all carbon dioxide emissions in the U.K. came from the residential housing sector.<sup>4</sup> Energy efficiency measures combined with decentralized generation of renewable power could contribute significantly to reductions in carbon emissions and in the process create health, jobs, and community economic benefits.

How are such remarkable synergies to be achieved? Luckily the U.K. has some clues to offer us on that score too. Key is a community-based strategy that blends the capacities of the public and private sectors and civil society to create an integrated service package. It seems we need a pretty sophisticated system, located where we live, if we are to get results!

### Kirklees: Conserving Energy to Generate Community Wealth

Kirklees in the 1980s and 1990s was typical of many medium-sized cities in the U.K. and elsewhere. A large stock of poorly insulated housing drained cash from fuel-poor households while emitting vast amounts of carbon.

True, a complex of assistance programs was available, created over the years by a plethora of national government departments. Good intentions, however, were not enough. Designed and implemented in silos, and without reliance on any local capacity to mobilize and co-ordinate resources, these programs had little impact.

In 2000 the Kirklees Metropolitan Council made a decision to transform their relationship to energy. An energy efficiency program launched by the European Union (EU) in 1998 became the vehicle of change. One plank in this program is to pilot energy management agencies at the local level.<sup>5</sup> In light of its carbon reduction targets under Kyoto, the EU considers local capacity for action to be vital. Indeed, the decisions of private citizens are directly responsible for over half of all final energy consumption in the EU. So it is critical to have local energy agencies that disseminate to consumers good practices in demand-side management.

Kirklees Energy Services (KES) was established in 2000 by the Metropolitan Council as a separate legal entity, a not-for-profit social enterprise. Within three years, KES programming enabled a total of 2,080 energy-saving measures to be taken in 1,455 households: energy-efficient heating and insulation; floor, cavity wall, and loft insulation; draught

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proofing of doors and windows; gas heating controls; hot-water tank jackets; and condensing boilers. Permanent carbon reductions across Kirklees were significant, even at this early stage – 34,304 tons.<sup>6</sup>

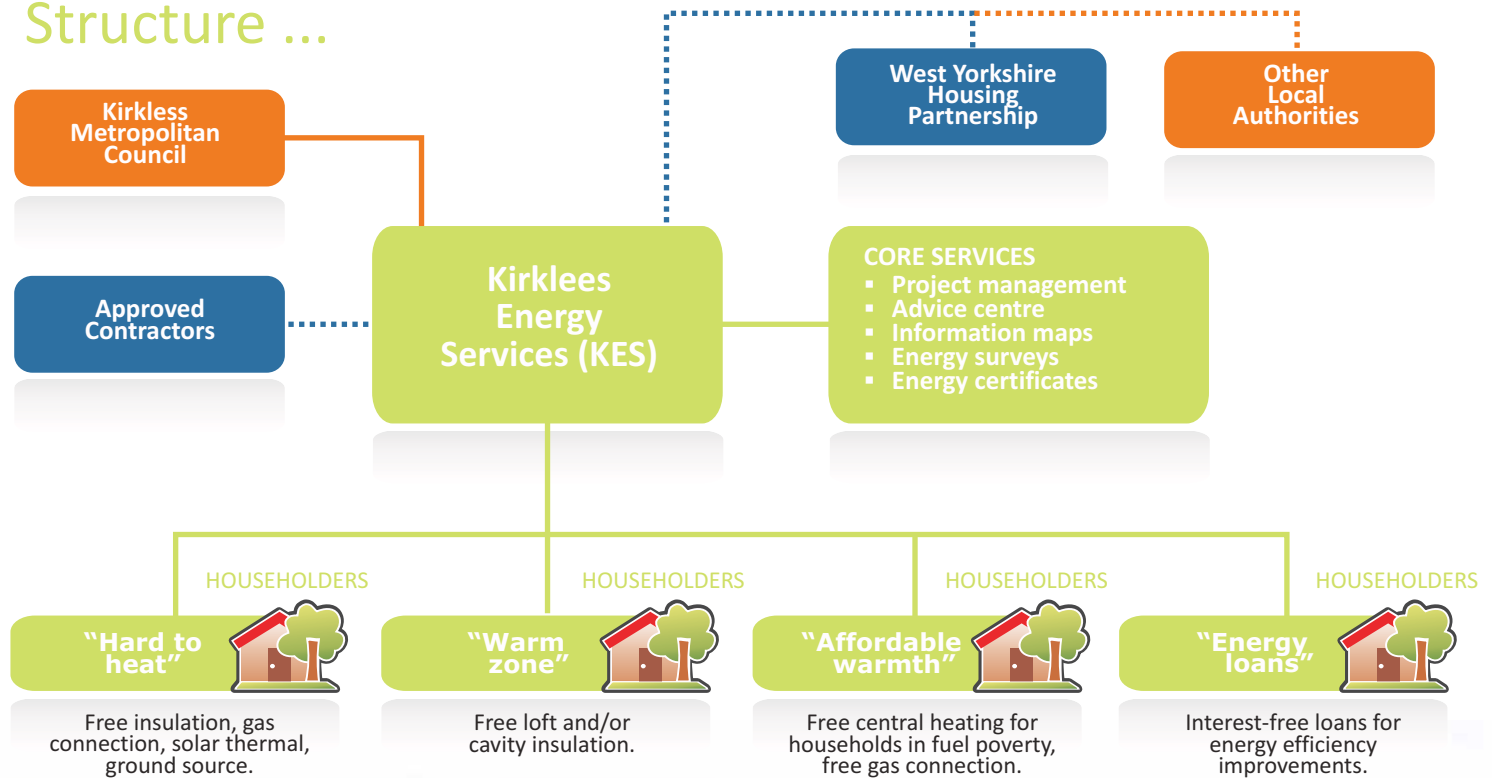
The targeting of households living in fuel poverty added social value to these early efforts. For example, KES was able to organize partnerships that offered free insulation and heat-recovery ventilation units to householders whose respiratory illnesses would be mitigated by a warmer home. In another example, KES worked with Scottish Power to convert poor households that were still relying mainly on coal to gas and full central heating.

Apart from some initial setbacks due to unprofessional installers, KES maintained a steady record of success. Advice, pre-qualified and registered installers, fixed discount pricing, preferred credit, and up to 25% rebates enabled householders to realize significant energy savings conveniently and

affordably. In addition, by 2007, KES had informed 3,000 householders about the effect that their new-found energy efficiency was having on local carbon emissions. Diverse promotion and advertising schemes increased interest in KES programs still further.

The key to the utility’s success lay in its capacity to join together and co-ordinate partners from the public and private sectors and from civil society in order to provide services and programs tailored to the needs of a wide range of householders. Three credit unions offered preferential loans to householders. A combination of local authorities and power utilities funded the rebates. KES charged its slate of approved private contractors a 10% referral fee for insulation installations and a 5% referral fee for heating measures. These fees covered the administration costs of the scheme. (See Diagram.)

## Structure ...



*In Canada, the Eco-Energy Residential Retrofit Program, deemed our "best effort to date," has contributed to the energy efficiency of only 85,000 homes or less than 1% of Canada's 12.5 million households. Think about it.*

View from Castle Hill towards Newsome, Metropolitan Borough of Kirklees. Photocredit: Darren Beaumont, myHuddersfield.com.

*Household savings under the Warm Zones program total around C\$16 million per year, money that is available to spend in the region on other things. One hundred direct jobs were created and another 60 indirect jobs. At least 1,000 households have been removed from fuel poverty.*

(photos, left to right): In Kirklees, a door-step advisor offers home energy advice and determines a property's suitability for insulation upgrades; a certified contractor inserts wall cavity insulation; a YES Renewables contractor installs solar panels on a rooftop. All photos courtesy of Yorkshire Energy Services CIC (Community Interest Company) Newsletter.

By 2004 several lessons had been learned. A big one was that the design of the service as a one-stop-shop for promoting and managing household energy efficiency eliminated time, cost, and hassle for householders. It also reduced the risks involved in finding a quality installer. Here are some other early lessons:

1. Build a team of registered and reputable installers who offer superior customer service and have an interest in energy efficiency. This is crucial for customer satisfaction and thus to the ongoing success of the scheme.
2. Specify stringent standards of "customer care" in the tender to installers. This is essential to building the trust of community members to use the service.
3. The setting up of a loan scheme that offers flexible criteria is more accessible for householders and thus generates more implementation of measures.
4. Create substantial rebates to get householders engaged. That also means convincing organizations or companies that they should fund the rebates. In KES' case, rebates were an important way for local authorities to meet their commitments under the Home Energy Conservation Act and for utilities to achieve their prescribed energy efficiency targets.
5. Charge contractors referral fees in order to create a meaningful income stream. When the 5% referral fee for heating measures proved insufficient, KES raised it to 10%.

With seven years of experience and capacity under its belt, KES became a provider under the U.K. Warm Zones program in 2008. Warm Zones co-ordinates the delivery of information, advice, grants, and installation services to low-income and vulnerable households in designated urban and rural areas. Low-income households qualify for C\$2,850<sup>7</sup> in fuel efficiency measures. Those with senior members in receipt of income-related benefits are eligible for a grant of up to \$5,550. (\$9,510, if oil central heating is recommended because the home is not on the gas network.) Grants available under this scheme enlarge the range of measures still further. In 2009 the insulation work that KES co-ordinated in its early stages expanded to include support for micro-renewables, including solar thermal heating and air source heat pumps.<sup>8</sup>

KES shot to the forefront in piloting this new program and expanded its reach to the region surrounding Kirklees, for a total population of 500,000. Local authorities within this region committed \$20.3 million over the three years, matched by funds from the Warm Zone program. Its track record to that time had been to leverage \$4 for every \$1 of public investment. In short, KES was positioned to help channel and deliver services worth over \$160 million (4 x \$40.6 million) into energy conservation and reduction of carbon emissions. As the program was launched the funding structure changed – \$14.1 million from local governments and \$17.3 million from Scottish Power. However, further evaluation revealed that the leverage ratio had risen to 5:1.<sup>9</sup> Even with

## A 5th Option: Renewable Energy

A fifth way to reduce household energy costs (including the household's environmental footprint) is to rely less on fossil fuels and more on renewable energy sources: principally, electricity generated by solar, water, wind, and various types of biomass. The upfront costs put this option well beyond the means of low and many middle-income households. Over the long term, however, as fossil fuels rise in price, a growing market for renewables is bound to make these costs more bearable. Accelerating that trend will be the volume of renewables that householders or businesses themselves can generate.

Accordingly, early in 2010 YES launched YES Renewables to specialize in the installation of solar photovoltaic (PV) panel systems for residences, businesses, and communities. The launch was

timed to take advantage of the market's response to the Feed-In Tariff (FIT) instituted that year by the U.K. Government. Under the FIT, electrical utility companies pay property owners a tariff for all the electricity they generate by renewable means (barring biomass) plus a fee for any electricity they export to the power grid. The tariffs and fees are adjusted to the retail price index, and payable for 20 years after installation (25 years in the case of PV systems).

The YES Renewables calculator estimates that a house with six PV panels on its roof, generating 925 kilowatt hours per annum, could expect to earn \$658 a year in tariffs and export fees, and \$27,766 over the next 25 years (given 4.1% inflation and 4% rise in electricity rates). It would also save the household \$89 annually on its

electricity bills, and \$3,668 in 25 years, if half the generated electricity is used in the home. Installation, using only accredited installers and equipment, would run the household about \$11,500, an investment that would be paid down in 13 years. The total of carbon the environment would be spared annually: half a tonne.

To help build the renewable market still faster, YES has also gone into partnership with Good Energy, a dedicated renewable electricity supplier. Its network currently comprises close to 2,000 independent generators across the U.K. By designing generation systems that comply with FIT standards, and working with installers like YES Renewables, Good Energy enables would-be generators to get the exchange of electricity for tariffs and export fees happening swiftly and smoothly. ■





the reduced funding the program would still stimulate a total investment of about \$157 million. Carbon reduction is estimated to have reached 55,000 tonnes per year by the end of 2010.

Under the new program, every household across the district was visited, ward by ward, street by street. Households initially learned by direct mail that representatives would soon be in their area. At the same time, district wide marketing reinforced the program's brand recognition and affirmed its backing from the local council. Local community and voluntary groups helped to spread key messages and local events raised awareness. Trained assessors carried out door-to-door visits to check insulation status. If required, a contractor installed mineral-fibre insulation in lofts and cavity walls, at no cost to the homeowner. This area-based approach saved significantly on the surveyors' and installers' travel time, and contractor productivity went up 50%.

By July 2010 all 171,000 households had been visited and 127,007 energy assessments had been carried out. 40,238 properties had loft insulation and 20,324 had cavity wall insulation installed (over 51,000 separate residences in total<sup>10</sup>). Savings to each household from insulation measures alone have averaged \$317 per year.

Household savings are calculated to total around \$16 million per year, money that is available to spend in the region on other things. One hundred direct jobs were created and another 60 indirect jobs – insulation specialists, furnace installers, energy auditors; the list goes on. At least 1,000 households have been removed from fuel poverty. As oil

prices climb, however, some of these households are likely to slide back under the wire.<sup>11</sup>

As a social enterprise with a regional market, KES is now known as Yorkshire Energy Services (YES). It runs the Energy Saving Trust advice centre for south and west Yorkshire, part of the national network of advisory organizations. YES also manages a wide range of award-winning projects for public sector organizations across northern England. In 2010, YES established a subsidiary to install such renewable technologies as Solar PV and solar thermal. It is now diversifying into the development of low-carbon transport especially electric vehicles and modal shift. (See p. 4, "A 5th Option: Renewable Energy.")

### And What of Us Languishing Canadians?

Go to the website of the federal government's Eco-Energy Residential Retrofit Program and you are greeted with a bold yellow message that says if you are not already in the queue you are out of luck, though in preparation for the recent national election, the Conservative Party extended it for one year. If you are in the queue, you may be eligible after an audit - but the money does not flow to you until the work on your house also has been subject to an evaluation audit. You get a list of potentially complementary programs in each province and some utilities. It is up to individual householders to apply, assuming they even know about the programs. There is no indication that low-income people are being targeted. There is a list of companies that do installation but it is not clear why you would not be better served by looking in the yellow pages.

## Résumé : Kirklees, RU

À mesure que les prix des combustibles fossiles augmentent, des millions de ménages sont menacés par la « pauvreté du combustible ». Nous pourrions traiter de ceci en contrôlant les coûts énergétiques, en augmentant le revenu par ménage ou en mettant au défi les notions des personnes par rapport à l'accession à la propriété. À Kirklees, Angleterre, une initiative centrée sur l'efficacité énergétique des ménages a eu un impact significatif sur la pauvreté du combustible ainsi que sur l'emploi et les émissions de gaz à effet de serre.

En 2000, l'OSBL Kirklees Energy Services (KES) a été créé pour gérer l'énergie dans la région métropolitaine. La moitié de ses coûts ont été couverts par SAVE, un programme de l'Union

européenne qui vise la création de capacité locale pour réduire les émissions de carbone. KES s'est rapidement développé en un guichet unique pour les propriétaires intéressés par l'isolation, la réduction de courants d'air, la mise à niveau de fournaies, et d'autres mesures de conservation d'énergie. Les coopératives financières offraient des prêts à taux préférentiels aux propriétaires. Les autorités locales et les services publics ont financé de généreux programmes de rabais. Un groupe d'entrepreneurs qualifiés ont réalisé les installations et ont payé à KES des frais de référence.

En 2008, KES a pu utiliser tout ce qu'elle avait appris au travail à travers plusieurs quartiers à

faible revenu. En trois ans, la stratégie intégrée et globale de KES a fourni aux ménages 9 à 10 £ millions (16 \$ CA millions) par année en économies d'énergie. Plus de 160 emplois ont été créés. Les émissions de carbone ont diminué d'environ 55 000 tonnes par année. Chaque livre que les autorités locales et le programme national Warm Zones ont investi dans le travail de KES a eu un effet de levier de 5 livres en services d'efficacité énergétique. De nouveaux partenariats créent actuellement le marché local pour des sortes d'énergies renouvelables.

Ces résultats éclipsent ceux du programme canadien vanté écoÉNERGIE Rénovation – Maisons. Pouvons-nous apprendre d'eux? ■


Alas, you come away from this visit weary of contemplating a centralized, short-term program administered by a distant bureaucracy which has neither the concern nor the mandate to do much for you.

Contrast this with the EU's Energy Efficiency Program. Extensive research satisfied its architects that community-based approaches were essential to penetrate deeply into the residential sectors. This is why they made their pilot projects funding conditional on it being an integrated, community-based approach. It was through this window of opportunity that the progressive Kirklees Metropolitan Council launched its bold initiative. Eleven years later we can see the progress being made.

*Extensive research satisfied the architects of the EU's Energy Efficiency Program that community-based approaches were essential to penetrate residential sectors. It was to this window of opportunity that Kirklees stepped in order to launch its bold initiative.*

Imagine. In three years, partnering with policy that drove utilities and municipalities alike to put human and financial resources on the table, and rewarded local initiative with additional resources, Kirklees made a big difference to the energy efficiency of 51,000 households (30% of the total). As for the 30,000 plus that did not take up the opportunity for so much as an energy assessment on the first round, YES is knocking on their doors again.

In Canada, the Eco-Energy Residential Retrofit Program, deemed our "best effort to date," has contributed to the energy efficiency of only 85,000 homes or less than 1% of Canada's 12.5 million households. Think about it: in a 3-year period, 30 times the rate of participation among Kirklees households as in the entire country of Canada.<sup>12</sup>

Hmmm ... the federal energy conservation file looks pallid, almost embarrassing, especially when one thinks we are among the biggest per capita carbon emitters on the planet. The huge contribution that community-based energy efficiency measures could make to reduce fuel poverty, improve the health of low income people, reduce carbon emissions, and generate local economic activity is not on the Canadian government's radar. And even if by some chance we get federal leaders who step up to the plate, will they have the foresight to look elsewhere, perhaps to the motherland herself, for a little vision and practical guidance? If they do, there may be a chance we can build some Kirkleesian synergies on this side of the pond. 

## References

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- <sup>7</sup> £1,800. All currencies in this article are converted to Canadian dollars at the rate current on December 1, 2010 (C\$1.5851 to the Pound Sterling, C\$1.3359 to the Euro). Totals less than \$10,000 are rounded to the nearest ten dollars.
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<sup>14</sup> *i4* is an ejournal about Inspiring, Innovating, Inciting, and Inventing ways of life and work that permit humanity and the planet to thrive in this century of unprecedented challenges. *i4* is a publication of the Canadian Centre for Community Renewal.