Consumers International

Policy position on climate change and housing

1. Background

Globally, buildings account for more than a third of total energy use and its associated greenhouse gas (GHG) emissions.[1] Estimated at 8.6 billion tonnes in 2004, building-related GHG emissions could almost double by 2030 to reach 15.6 billion tonnes under the high-growth scenario, according to the Intergovernmental Panel on Climate Change (IPCC).

Energy consumption in housing is a problem often presented as consumer-driven. The more complex reality is that governments, industry, regulators and others, all have a central role to play in a move to sustainable energy consumption in housing. Many consumers feel unable to identify the areas where they can have an impact in the absence of guidance or that in the context of government inaction their contribution is insignificant.

But energy consumption in both new and old buildings could be cut by up to 50% without significantly increasing investment costs using technologies that are already on the market.[2] However, this potential is not being realized due to, amongst other factors, the fragmented nature of the sector, lax climate change policy in many countries and a lack of awareness of baseline performance requirements.[3]

At the same time, a global framework for climate change must be considered through a development lens. Two billion consumers worldwide need increased access to energy. The joint solution to these problems is for many to consume less energy and in a different manner, in other words, energy efficiency. Consumers in developing countries need increased access to energy, but in a sustainable manner.

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[1] UNE P/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production *A key solution to climate change: Sustainable consumption and production making the link*, The SWITCH-Asia Network Facility, p.5

[2] UNEP Climate Neutral Network website, http://www.unep.org/climateneutral/Topics/Buildingandconstruction/tabid/141/Default.aspx

[3] UNEP Climate Neutral Network website, http://www.unep.org/climateneutral/Topics/Buildingandconstruction/tabid/141/Default.aspx

Reduced energy consumption will improve security of energy supply, encourage technological development, stimulate employment and economic development, and reduce energy poverty. To tap into this huge potential of energy savings, great efforts are needed by governments, industry and consumers alike.

Equally, the effects of climate change (and of policies designed to mitigate it) on housing and access to energy in housing are being felt by consumers globally and particularly in developing countries.

2. Energy provision

There is a clear and urgent need to shift to sustainable (renewable and low-carbon) sources of energy and for energy intensive consumption in the developed world to change. For this to happen, consumers will need the right incentives as well as affordable, accessible and sustainable options. Above all, sustainable access to sustainable energy should be the universal goal and should be primarily the responsibility of governments to ensure. Coverage, continuity and affordability of service should all be seen as integral components of such access. At present the balance of these factors varies between countries but also within them.

In general, developed countries have good coverage of electricity systems and operate on a 24/7 basis. But they have pockets of poverty that make issues of affordability ever present and consumption patterns are unsustainable. For many transitional economies, there is a fairly high network coverage for electricity, gas and district heating. There are, however, serious problems of continuity, due to poor maintenance of networks and revenue starvation due to low levels of payment. Yet improvements in revenue are limited by constraints of affordability. Many developing countries have poor coverage and poor continuity of supply. That is, many people have no network connection and many of those that are connected face frequent interruptions of supply.

In developing countries the issue of affordability is complicated by the fact that many non-connected consumers use alternative more costly sources such as candles, batteries or collected wood. Network tariffs are usually below cost but consumers struggle to pay more. If to reduce the drain on public resources the system moves towards cost recovery, meaning that network tariffs reflect the true cost of production, then many poor consumers switch to alternatives such as charcoal for cooking.[4] This is a significant contributor to CO_2 emissions.

Better energy efficiency in homes, for example through improved insulation, can help with this dilemma. Another partial solution is to improve the way that subsidies are used and targeted to

[4] CI/ROAF correspondence 2006

ensure that it is poor households who benefit and release resources to invest in energy saving measures.

Energy sources in housing vary both between and within countries. Electricity accounts for only 8% of African energy consumption.[5] The role of non-electric sources of energy is significant in both developed and developing countries. Biomass (such as wood, straw and dung) is, by default, the prime fuel for 2.4 billion people and this will increase to 2.6 billion by 2030.[6] It is inevitable therefore that biomass will continue to form part of the picture in years to come. However, biomass often comes with great cost to the environment, as well as to human health due to for example the soot produced, a factor that has often been overlooked.

Solar and wind power, and mini-hydro plants do not so much replace electricity as evolve sustainable ways of fuelling its production. A common problem that renewable and low carbon sources of energy such as solar and wind power generally have is the high initial capital costs. Although saying that, it must be noted that the cost of solar panels is falling. A possible solution is for governments to provide the appropriate form of market incentive that stimulates investment and innovation and means that consumers can benefit from cost savings, which might be longterm loans. Municipal bonds are also making a comeback in some regions. Another possibility is the development of consumer support through for example, micro-credit facilities.

3. Construction

The construction and demolition of buildings, and the manufacturing of materials accounts for roughly 10-20% of energy used in the building sector on a global basis.[7] Eco-design at the construction phase is therefore a critical part of tackling energy efficiency in the housing sector. Given the differing purposes of energy consumption within homes around the world (eg heating or cooling), factors such as geography and climate must be considered at this phase to determine building materials and design both in terms of local availability and fitness for purpose.

Infrastructure questions should also be addressed with the local context in mind to ensure sustainable access to sustainable energy for all consumers. Consideration should be given to off-grid or decentralized energy systems where appropriate. In other cases, connecting people to an electricity grid could lead to a reduction in carbon emissions in cases where non-grid consumption is carbon intensive.

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[5] M. Ejigu *Rethinking the energy paradigm in an African perspective,* WTO symposium, 2005

[6] International Energy Agency, *World Energy Outlook,* 2002, p.365

[7] UNEP Climate Neutral Network website, http://www.unep.org/climateneutral/Topics/Buildingandconstruction/tabid/141/Default.aspx

During the construction phase, consideration should also be given to adaptation requirements for dealing with the effects of climate change. Relative to cause, the challenge of dealing with the effects of climate change is much less well understood, both in terms of needs and solutions. A high priority area in the short term is strengthening the knowledge base with improvements on existing data and modelling to refine projections of future impacts, with early insight from the field on the most effective responses. Research funding must be allocated and region appropriate legislation introduced to ensure that the effects of climate change such as flooding and other extreme weather patterns are accounted for.

4. Retrofit

Most of the homes that will be standing in 2050 are already built. The sustainability potential of renovations is tremendous. It is therefore essential that the energy requirements of today's homes are reduced significantly through retrofitting energy efficiency measures, the installation of renewable systems and other low carbon generation and connection to heating and cooling networks. This will require governments to instigate major energy efficiency improvement programmes, with national, regional and local targets, for improving the performance of homes.

The OECD[8] has identified the following drivers of behaviour change:

- environmental taxes
- access to capital
- information provision.

Intervention is often most feasible at change of ownership or tenancy, using tools such as energy performance information or appropriate taxation policy to influence consumer choice and the market value of the property, which may in turn drive improvements by the seller or landlord. The responsibility also lies with governments to take action to allocate a budget to improve homes and to adopt and enforce regulations to raise energy performance standards.

Cost will remain an important factor for consumers. This must be addressed through the provision of accurate information on sustainable construction costs, as well as by bringing prices down. Ongoing incentives are possible through the provision of co-ordinated energy efficiency policies including proactive area-based improvement programmes, feed-in tariffs to encourage micro-generation, reformed property taxes that reflect energy performance and the development of

[8] Organisation for Economic Co-operation and Development*, Household behaviour and the environment: Reviewing the evidence*, OECD, 2008, p.11

energy service companies that offer 'packages' of integrated energy supply and demand reduction measures.

Existing homes will also need to adapt to changes in the climate. Again, further work is required to understand projected climate changes and to identify cost and carbon effective responses.

5. Energy use through appliances

Home appliances are the world's fastest growing energy consuming products after automobiles, representing 30% of electricity use in industrial countries and 12% of their greenhouse gas emissions.[9] As countries make the shift from developing to developed, the contribution of appliance use to GHG emissions grows sharply, making energy efficiency of products an important factor globally in housing energy consumption.

Consumer use may be influenced by energy price rises, but their initial choice at point of purchase is key. Governments and businesses should not expect consumers to grapple with complex information. In addition to key consumer drivers of price and performance, products should be clearly labelled according to their energy performance and energy performance measures subjected to continuous improvement. Governments should employ choice-editing through removing the most damaging products from the market, using taxation to make sustainable options affordable, and improving the sustainability standards of all products and services on the market.

6. Recommendations

We are calling on governments, businesses and intergovernmental organisations to step up their efforts to work together with consumers to develop comprehensive sustainable energy plans, which remain within the limits of consumer affordability, in other words to meet the requirements of sustainable access.

Consumer organisations should

- Conduct and disseminate research into environmental behaviour in households to assist the construction of models of different consumer groups and share understanding of drivers of behavioural change.

[9] UNEP 2005 *Advancing Sustainable consumption in Asia: a guidance manual,* p. 51

- Monitor compliance by relevant authorities with standards and regulation, to ensure the quality, safety and prices of housing, appliances and energy provision. Coverage, continuity, and affordability of service should all be seen as integral components of such provision.

- Monitor climate change projections and define the impact on current consumers (such as homes, investments and affordability) and the needs of future consumers.

- Promote the use of clear, credible and comparable labelling, including in appliances and construction materials, and promote the use of labelling as an information tool rather than as an end in itself.

Industry should

- Support and participate in the development of robust, assurable and accountable standards and certification schemes for energy in housing and home appliances.

- Promote and assist the development of effective, consumer-led standards and certification schemes and refrain from using its lobbying power to slow down, stall or restrict this process.

- Consider local needs and climatic conditions carefully and in consultation with consumers and consumer groups in preparing construction projects and before carrying out retrofit programmes.

- Provide energy from sustainable sources, and incentives towards energy efficiency.

Governments should

- Ensure that cost is fairly spread across the population in relation to disposable income and where appropriate by polluting behaviour.

- Promote consumer action by identifying and promoting on a national level those areas within the home where high potential savings depend on consumer action.

- Change formal national curricula in order to include sustainable consumption and production education on environmental impact of housing.

- Promote the provision of loan facilities and micro-credit schemes to enable investment in sustainable energy technology.

- Initiate mechanisms to reach the goal of universal access to energy services, following the principles of affordability and sustainability.

- Develop choice editing policies, wherever feasible and legislation to reduce the use of high impact appliances, using the ‘polluter-pays’ principle whereby less sustainable products become the more expensive. These policies can be effectively incorporated into broader incentive schemes to energy-efficiency at the ‘whole house’ level.
- Put in place home improvement programmes to bring all existing homes up to the best achievable energy performance level. Programmes should provide incentives and support for consumers and businesses to reach the targets for improved energy efficiency standards.
- Ensure that building regulations are properly implemented and enforced and monitor compliance.
- Ensure an equitable distribution of costs between domestic and industrial consumers and special measures to protect the energy-poor.
- Promote and publicly display certified energy management systems for governmental buildings.
- Develop common methodologies and standards across member states for measuring the annual energy performance of buildings.
- Work towards tightening internationally agreed standards for the energy efficiency performance of electrical goods, appliances and lighting and introduce common labelling.
- Ensure their actions in regard to providing consumer access to energy services are subject to public review and redress.