Sustainability First
New-Energy and Water Public Interest Network - New-Pin briefing paper
Long-term affordability in the energy and water sectors

This briefing paper is focused on *long-term* affordability in the energy and water sectors. It aims to look beyond price control periods and explore who should pay for future costs and how these should be best managed. It examines some of the similarities & differences between the two sectors in this area & proposes some possible principles by which some of these judgements could be made for the future.

The energy and water sectors provide essential services that are key to both public and environmental health. Affordability is therefore always likely to be an area of public interest. Given the fact that energy and water services are also essential to the functioning of the economy, their affordability is also a sub-set of wider public concerns around whether these costs are generally 'reasonable', fair and acceptable. It is therefore of interest to GB as a whole that these services are well managed and deliver value for money.

Affordability of energy and water is currently an issue for a significant minority of people and, for energy, there is a national dimension to this. 10% of households in England, 30% in Wales and 39% in Scotland are estimated to currently be in fuel poverty and 11% of households in England and Wales are at risk of affordability problems in water. Affordability is clearly currently more of a pressing issue in the energy sector. Average water bills are currently a third the size of average energy bills, with energy prices having increased sharply in recent years and not been stable.

Since privatisation, consumers have paid for the vast majority of the costs of energy and water services through their bills (except in Scotland where householders pay for their water through their council tax bills). Costs are currently kept affordable primarily through a combination of regulation driving out increased efficiency and, in energy, competition.

Looking to the long-term, affordability is likely to be more of an issue in energy than in water in terms of the scale of the problem, the pace of change needed and the degree of uncertainty. In energy, there is likely to be a step change in costs as the sector has to mitigate, and adapt to, the impacts of climate change. There is significant uncertainty around future wholesale energy costs, and the associated price of carbon, along with question marks around the effectiveness of EU and UK energy efficiency measures which are designed to offset these. The next 15 years will be important in the move to low-carbon if the impacts of climate change are to be managed. Delaying investments in the energy sector may increase risks and costs that could have a significant impact on the affordability of these sectors to future generations.

In water, costs are likely to change incrementally as organisations adapt to climate change. Key uncertainties are around the scale of future sewerage costs and the quantity and quality of water resources (although company based Water Resource Management Plans that look 25 years ahead provide a good indication of where the pressures are likely to be). As energy costs account for around 15% of operating costs in water companies, the water sector may also be indirectly influenced by changes in energy costs. Both sectors also face uncertainties around finance costs – particularly if interest rates rise.

This briefing paper is taken from the Executive Summary of Sustainability First's November 2015 New-Pin paper 'Long-term affordability: who should pay for our infrastructure resilience, renewal and the move to low-carbon.' The full paper can be down loaded from http://www.sustainabilityfirst.org.uk

In the coming decade, it is estimated that two thirds of the costs of the projected investments in the energy sector and nearly all of the projected investments in the water sector will continue to be met through consumer bills. At the same time, some are predicting that households in low-income groups may see their incomes decline – although this is clearly a political and hotly contested subject.

To fully understand future long-term affordability pressures, it is important to have a holistic view of costs. Each sector has a different way of analysing costs. Sustainability First has used the following framework to think about them:

- **Maintenance costs** – operational costs and the investments needed to renew and repair existing infrastructure to meet current demand. These costs will remain the most significant element of total costs into the future;
- **Capital enhancement costs** – to extend existing networks to meet known new service demands and the costs of incremental change. These may well include some environmental costs;
- **Natural capital 'repair' and maintenance costs** – many of the costs associated with the underlying natural resources on which both sectors rely, and are influenced by, are not always clear. If natural capital levels are to be maintained and repaired, in line with the 2012 White Paper 'The Natural Choice', there is likely to be an increasing interest in how these natural capital costs are valued and recovered; and
- **Strategic investment costs** – investments ahead of need before there is a full and immediate demand, thus representing a step change in service delivery.

In the energy sector, there is potentially a case to be make for a further category of costs to be recognised and funded if long-term affordability is to be maximised **– 'institutional and organisational transition costs.'** Such costs could help ensure that evolution in the sector towards low-carbon, particularly in terms of institutional arrangements, happens at the 'right' pace. This may require moving beyond a project by project to a wider, less atomised and more strategic approach to managing the challenges of affordability. Existing institutional structures (both in terms of market structures and regulatory arrangements) should not 'lock in' existing solutions, technologies and actors. It seems important to recognise explicitly that there are institutional costs of a major transition: costs which are at present not in the 'vires' of any current actors to recover; and the costs of re-shaping and / or integrating new markets (eg local approaches and the demand side) which at present cannot readily be recovered from customers or from tax-payers on a simple ad-hoc basis.

When thinking about who should pay for what costs in the future, it would seem a fair and acceptable proposition that at a high 'macro' level costs should be met by those that benefit from the services delivered and / or cause any associated pollution *and* those best able to control them and their associated risks. The following 'straw man' suggests a way of thinking about how costs could be paid for and recovered in the future. It is worth noting that the majority of the costs in both sectors will continue to be in the on-going maintenance of existing systems and that the costs towards the bottom of the table may not, at least in the short to medium term, be relevant to the water sector. The straw-man raises several questions.

Sustainability First 'straw man' for thinking about how costs could be paid for and recovered in the future

Type of costs	Degree of uncertainty	Who pays?		Recovery mechanism	
Maintenance costs	Low	Current consumers. Risk and reward sharing mechanisms can help balance who pays between companies / investors and consumers	Current consumers	Current consumer bills (and future consumer bills through depreciation)	Bill payers
Capital enhancement costs		Generality & specific groups of current consumers & developers		Current consumer bills & specific bill payer / developer charges – eg connection charges (and future consumer bills through depreciation)	
Natural capital repair costs		Specific current consumers, citizens, asset owners or developers- if known. If not, possibly taxpayers		Polluter based fines, levies and compensation arrangements (polluter pays principle)	
Natural capital maintenance costs		Mix of current asset owners, consumers , developers & citizens		Mix of current consumer bills (through internalised environmental costs), innovative funding (eg Payments for Ecosystem Services) & tax - in exceptional circumstances & if basis of cost allocation is unclear	
Strategic investment costs		If required by legislation, either current generations as consumers or citizens &/or future generations		Either through levies on bills or, for projects of national importance, tax or through government underwriting key risks	
***In energy* - institutional / organisation transition costs**	High	If to support legislative change, current generations as consumers or citizens &/or future generations	Current and future citizens?	Either through levies on bills, tax or government borrowing	Tax-payers?

Source: Sustainability First

Firstly, who should pay for long-term investments that primarily benefit future generations? There could be a logical argument that these should be met through taxation, to ensure

'progressive' cost recovery and to pool risks & costs. However, in the current fiscal and political environment this may not be credible, except in the case of strategic investments of national importance or if projects are paid for by Mayoral Authorities investing business rates in local infrastructure funds. If this position is accepted, and the vast majority of long-term investment costs continue to be paid for by consumers, it is important to recognise this has distributional impacts.

The existing problems faced by energy and water consumers in vulnerable circumstances are unlikely to diminish in the future, and may actually increase. Energy and water companies will therefore continue to have a key role to play in addressing this issue, including through: proactively developing strategies and intelligently using data to identify groups that are likely to struggle to pay before they get into difficulty; working in partnership with NGOs, community groups and trusted intermediaries to better understand problems and develop and deliver targeted information, advice and support; and ensuring well trained staff treat customers fairly, ensuring such services are visible and easily accessible.

Secondly, if consumers continue to pay for most long-term investments, the extent to which they as individuals are able to manage future costs and risks needs to be assessed. Consumers through their every day actions can help to reduce costs by using resources more efficiently. However, the wider ranging and systemic risks and challenges that the energy and water sectors face may require a more coherent and joined-up approach to policy, regulation and service delivery in the future if long-term efficiency and affordability are to be maximised. The newly created National Infrastructure Commission could potentially provide a useful contribution here. Clear, predictable policy frameworks, both on the supply and demand sides, will be needed if future costs are to be kept as low as possible. These will need to: clearly set out in advance trigger points for policy reviews; take into account the future role that will need to be played by building and appliance standards and in-home communications infrastructures; and consider how key actors such as developers can be incentivised to help facilitate efficiency. Although there is clearly an important role for competition in and for the market (eg auctions) to reduce long-term costs, to release the potential of the demand side & facilitate technological & commercial innovation, it may also be helpful to take a fresh look at the respective contributions of competitive compared to co-operative approaches to managing long-term costs.

Finally, if future costs are going to be primarily met by bill payers, it will be important to ensure that: future costs and profits are transparent; consumers are engaged in decisions about prices and investments in a timely fashion so that change takes place in an acceptable, stable and predictable way; and it is clear who is making and accountable for decisions as to what should be paid for - along with who is bearing the long-term risks and accruing the long-term benefits. To maintain confidence that the combined future bill impacts on consumers are understood and that long-term affordability is being maximised in the round, it may be sensible to review the current fragmented nature of consumer and public engagement in this area to ensure that a co-ordinated public voice is heard in these debates. Without this, discussions around inter-generational equity are likely to remain opaque.

About Sustainability First and New-Pin Sustainability First is a small environmental think-tank. The charity's New-Energy and Water Public Interest Network (New-Pin) project brings together public interest advocates, companies, regulators and government departments with an interest in energy and water to: develop clearer alignment between different stakeholders as to what the long-term public interest looks like in these sectors; increase understanding of any differences in views between stakeholders; develop capacity and expertise amongst public interest advocates to ensure a more level playing field in long-term company and regulatory decisions; and, improve understanding amongst company and regulatory boards of the value of public engagement in these sectors and what successful engagement looks like.