Report to	Sustainable development panel	**Item**
	27 February 2013	8
Report of	Executive head of strategy, people and democracy	
Subject	Home Energy Conservation Act (HECA) Report 2013-2015	

Purpose

To consider the early draft of the HECA report setting out the energy conservation measures that the authority considers practicable, cost-effective and likely to result in significant improvement in the energy efficiency of residential accommodation in its area in line with government requirements.

Recommendation

To consider the early draft of the HECA report and comment prior to its formal consideration by cabinet on the 20 March.

Corporate and service priorities

The report helps to meet the corporate priorities – Safe and clean city, Prosperous city and Value for money services

Financial implications

None in addition to those already budgeted for.

Ward/s: All wards
Cabinet member: Councillor Bremner – Environment and development

Contact officers

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Background documents

None

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Norwich City Council

HECA Report

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1 Foreword by Councillor Bert Bremner and Councillor Victoria McDonald

1.1 Reducing energy use has important environmental, social and economic benefits and therefore clearly contributes to Norwich City Council's corporate priorities.

1.2 It will help meet national and international targets to reduce emissions of carbon dioxide, one of the main contributors to climate change. Recent increases in fuel prices have resulted in a rise in fuel poverty nationally, and so emphasised the importance of reducing the impact of this locally.

1.3 This is also vital to improve the health of the local community, enhance prosperity and improve the housing stock. Our programme of activities will, we hope, be assisted by a number of national Governmental incentives as well as some of our own funding.

1.4 Since the introduction of the Home Energy Conservation Act we have run a wide range of programmes and projects to promote energy efficiency to our residents. This report outlines how we will continue to develop this work over the next two years.

Councillor Bert Bremner
Portfolio Holder for Environment and Development

Councillor Victoria McDonald
Portfolio Holder for Housing

2 Contents (to be added in)

3.0 Introduction

3.1 Norwich City Council provides services to the city of Norwich along with Broadland District Council, South Norfolk Council and Norfolk County Council. The city council is responsible for approximately 60 per cent of the urban area of the city, including the historic city centre, covering a population of circa 143,000 people. Norwich is an innovative, creative city with big ambition for both the place and the people who live here. The fastest - growing population in the east of England, it is home to the headquarters of many global companies, in the top nine shopping destinations in the country and is the regional cultural capital. Its economic, social, cultural and environmental influence is out of all proportion to its size, and extends far beyond its boundary.

3.2 But Norwich is also a tale of two cities. While the city has many positive aspects, it also has many of the tough challenges that urban centres can experience. Many city residents experience deprivation, poor educational attainment and poor health. Norwich is also a growing city (the fourth - fastest growing in the UK), which will put additional demands on the council's services and resources in the future.

3.3 One of the council's key corporate priorities within our corporate plan is 'to make Norwich a prosperous city' and within that we have said we will "support people on low incomes through advocacy and financial inclusion activities" and "reduce fuel poverty through affordable warmth activities". The HECA provides a framework for a number of housing improvement activities which can help to reduce fuel poverty, increase wealth and improve health.

3.4 On average resident earnings are low in Norwich compared to the rest of the region. Partly due to low incomes and financial capability, as well as limited access to products and services that enable people to manage their money more effectively. It is likely the recession and changes such as welfare reform will only make these issues worse.

3.5 We also have a number of citizens on fixed incomes, who maybe suffering from fuel poverty and its associated health issues due to the rise in fuel costs. Low incomes and rising cost generally result in some difficult financial choices.

3.6 In Norwich we believe that 17% of households, or nearly 1 in every 5, are experiencing fuel poverty. That equates to a staggering 10,000 households. This winter our utility providers announced that they were going to increase prices by around 8%, adding between £80-100 to an average duel fuel bill. In addition in the last three years we have seen a credit crunch, a double dip recession and a period of limited economic growth. National policy changes such as welfare reform will also affect some of the most vulnerable residents in the city.

3.7 The Secretary of State for Energy and Climate Change requires all English authorities to prepare further reports by 31 March 2013 setting out the energy conservation measures that the authority considers practicable, cost-effective and likely to result in significant improvement in the energy efficiency of residential accommodation in its area. This HECA report will, therefore, set out Norwich City Council's approach to energy conservation measures to improve the energy efficiency of residential accommodation in the City.

3.8 This report will be a living document and will be updated as we continue our work to improve the energy efficiency of residential accommodation in Norwich over the coming months and years.

4.0 Strategic framework

The diagram below sets out how the HECA reports fits in with other key strategies, polices and plans.

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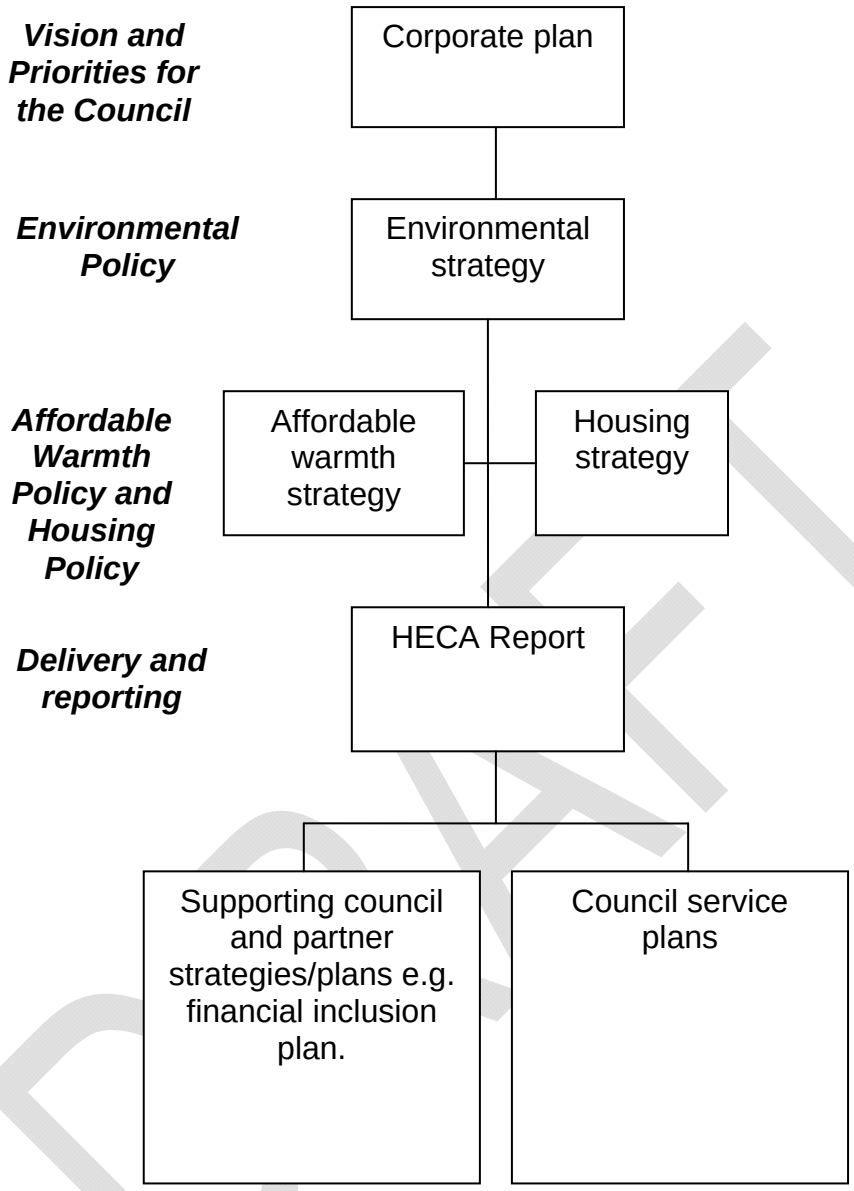
Strategic framework for HECA report (to be updated).



5.0 Current position in Norwich

Properties and condition of the housing stock

5.1 The tables below set out the current numbers of council and privately owned properties in Norwich and information on when they were built.

Table- Number of properties - council and private

Property Type	Council Properties	Private Properties
Leasehold Properties	2,612	n/k
Listed Properties	54	n/k
Detached Properties	65	6,000 est
Semi Detached Properties	6,435	6,100 est
Terraces	1,049	20,500 est
Flats	7,639	18,900 est
Maisonettes	422	11,300 est
Total	15,664	62,800 est

Tables- When the properties were built - council and private

Council Stock	Total
Pre 1918	48
1918 - 1929	519
1930 - 1949	4,703
1950 - 1963	3,969
1964 - 1974	4,017
1975 - 1982	1,607
1983 - 1990	774
1991 - 1997	27

Private Stock	Total
Pre 1919	14,867
1919 - 1939	7,740
1940 - 1963	5,371
1964 - 2001	10,426

5.2 The most recent private sector stock condition survey was published in 2006 so is now out of date. We are currently looking at options to refresh this. The 2006 survey d highlight the following key facts shown in the table below:

Table - Condition of stock – private

Existence of Category 1 excess cold hazard	Estimate: 2688 dwellings (4,200 properties predicted to have a category 1 hazard, of which 64% expected to be due to excess cold.)
Average private sector SAP	47

5.3 In regards to the condition of the council's housing stock, following achievement of the decent homes standard in December 2010 we wanted to continue the good work so we developed the Norwich Standard this is a commitment to ensure that no individual component goes beyond its expectancy, for example no kitchen will be older than 20 years, no bathroom older than 30 years and no boiler older than 15 years.

5.4 In terms of Category 1 hazards identified through the Housing Health and Safety Rating System (HHSRS), we do not have any within our current housing stock.

CO_2 emissions from across the city

6.1 UK primary energy consumption increased by 17 per cent between 1980 and 2005 but since 2005 the combined impact of energy efficiency and the recession have reduced consumption back just 2 per cent above the 1980 level[1].

6.2 Heating is the major energy requirement of UK homes. In 2011, 78 per cent of energy use in homes was used for space and water heating. Gas accounted for 80 per cent of the heat demand, oil for another 9 per cent, electricity for another 5 per cent, and other sources the remaining 6 per cent[2]. Gas is the dominant fuel used in the domestic sector, however there is a large amount of variation in the level of gas use by individual households.

6.3 The national picture is reflected in the figures for the city of Norwich. Between 2005 and 2009 emissions steadily drop year on year from all sources, rising slightly in 2010, which we believe is due to the severe winter that year where UK mean temperatures were 1.6 °C, which is 2.0 °C below average for that time of year, and resulting in the coldest winter since 1978/9.

[1] DECC – Energy Efficiency Statistical Summary (Nov 2012) pg 5
[2] DECC – Energy Efficiency Statistical Summary (Nov 2012) pg 16

6.4 Between 2005 and 2010 the population of the city increases each year, in total by an additional 16,900 residents over the 6 year period. The per capita emissions drop consistently and then level out in 2010.

6.5 The domestic gas and electricity consumption mirrors that of the wider country decreasing year on year over the period, with a slight increase in 2010, possibly due to the severe winter.

6.6 At the same time as domestic gas and electricity consumption decreasing loft and cavity wall insulation installations are increasing. CERT/CESP funding was introduced in 2008/9 and there has been an increase in take up of insulations of between 3 and 4 times between since then. The tables later in the report show how loft and cavity wall insulation have been increasing significantly over the period in Norwich.

6.7 In April 2010 the Feed-in-tariff (FIT) scheme was introduced by the Government and the results in Norwich show an increase of over 100 times the number of photovoltaic schemes installed since June 2010, from 3 in the city to 387 in June 2012. It remains to be seen whether this level of interest in maintained following the reduction in FIT levels since April 2012.

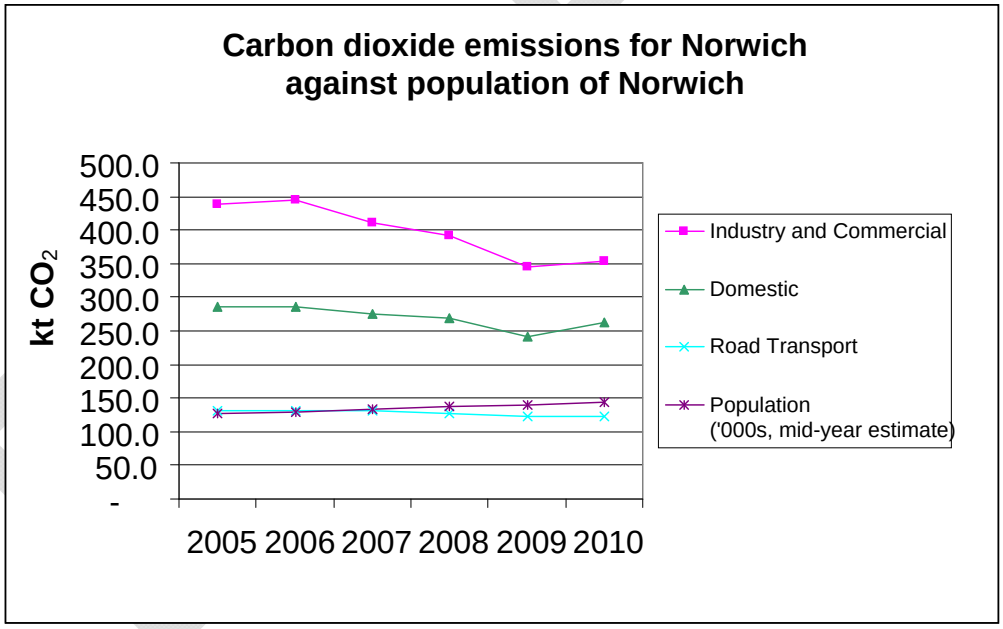
6.8 Energy consumption, and consequently CO_2 emissions, has reduced across the city in the domestic sector during 2012, but this may not be entirely due to the increase in measures such as loft insulation, cavity wall insulation and renewable technologies. As, in line with the rest of the country, there is also a problem with fuel poverty driven by continually increasing fuel prices.. A house in fuel poverty is one where the household needs to spend more than 10 per cent of their income on fuel to maintain a satisfactory heating regime, as well as meeting theirother fuel needs (lighting and appliances, cooking and water heating).

6.9 Over the same period that energy use decreased in the domestic sector in Norwich, DECC figures show that levels of fuel poverty increased. In 2006 9.3% of households in Norwich were deemed to be in fuel poverty. This figure has risen steadily to 13.7% of households in 2008 and again to 17.5% in 2010[3]. Norwich City Council continues to work hard with householders across all tenures to help ensure that they can afford to keep warm. We were one of the first authorities in the country to launch a collective energy switching scheme and our work to improve the energy efficiency of private households has meant that we exceeded our original 3 year target within the corporate plan in the first 3 quarters of year 1. While our extensive improvement programme to council housing has resulted in considerable energy efficiency improvements including the eco-retrofit of 2,500 homes.

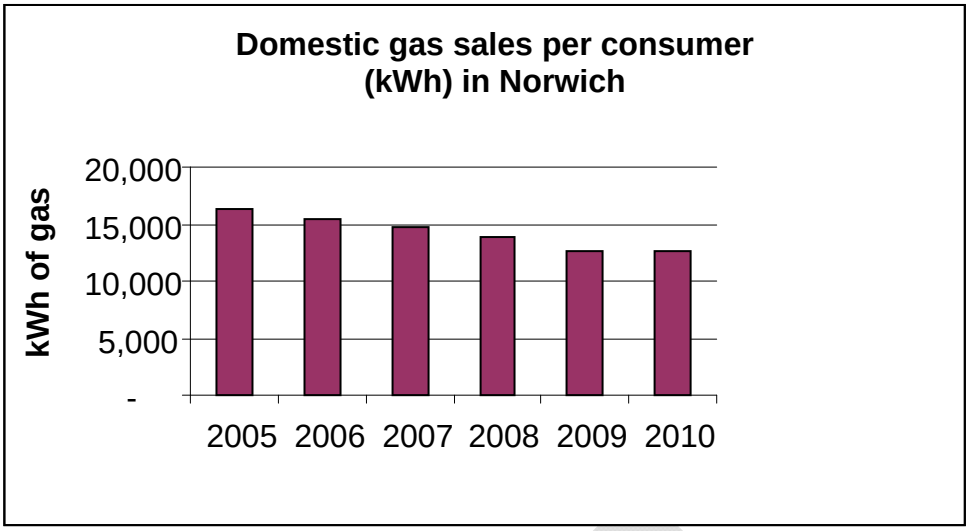
[3] DECC – Sub regional fuel poverty 2010 – Sub regional data

LA Region Name	Year	Industry and Commercial	Domestic	Road Transport	Grand Total	Population ('000s, mid-year estimate)	Per Capita Emissions (t)
Norwich	2005	439.4	285.3	131.4	856.1	126.6	6.8
	2006	445.3	285.3	130.5	861.1	129.2	6.7
	2007	410.2	275.6	131.2	817.0	132.6	6.2
	2008	391.9	269.5	126.5	787.8	137.3	5.7
	2009	345.4	242.4	122.7	710.5	140.1	5.1
	2010	353.6	261.9	122.1	737.7	143.5	5.1

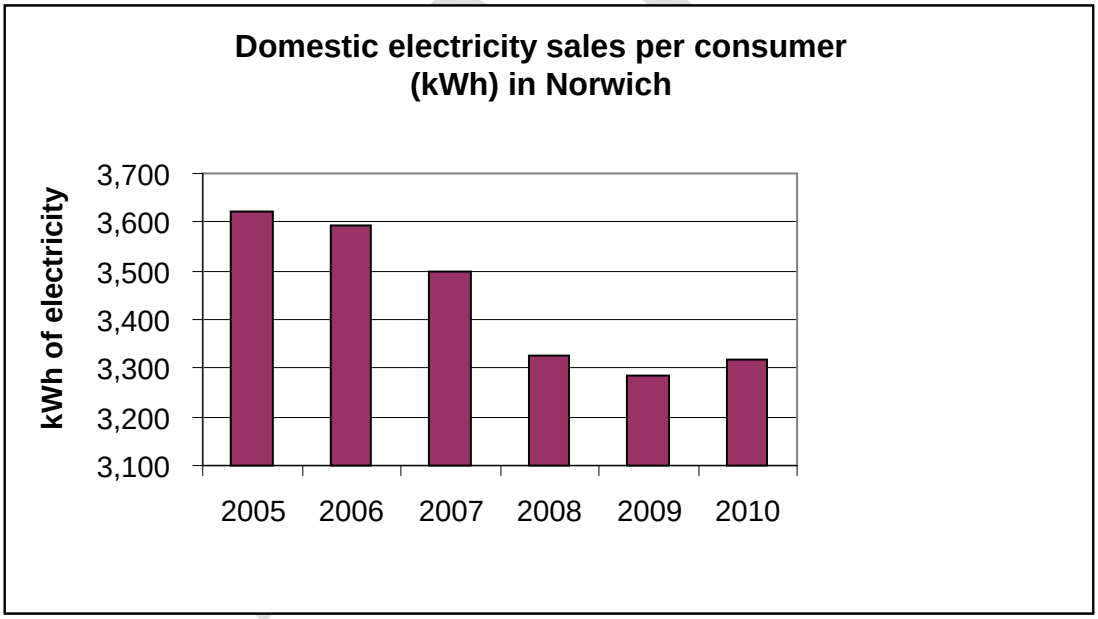
Table 1 shows the CO_2 emissions for the Norwich Area 2005 to 2010



6.10 The chart above shows that since 2005 the population of Norwich has steadily increased, whilst at the same time the general trend for CO_2 emissions has been to decrease. This could be due to an increase in methods to improve energy efficiency and also as the fuel poverty figures suggest, due to an increase in fuel poverty, meaning that demand for fuel has dropped as more households struggle to afford to heat their homes because of the increasing prices.

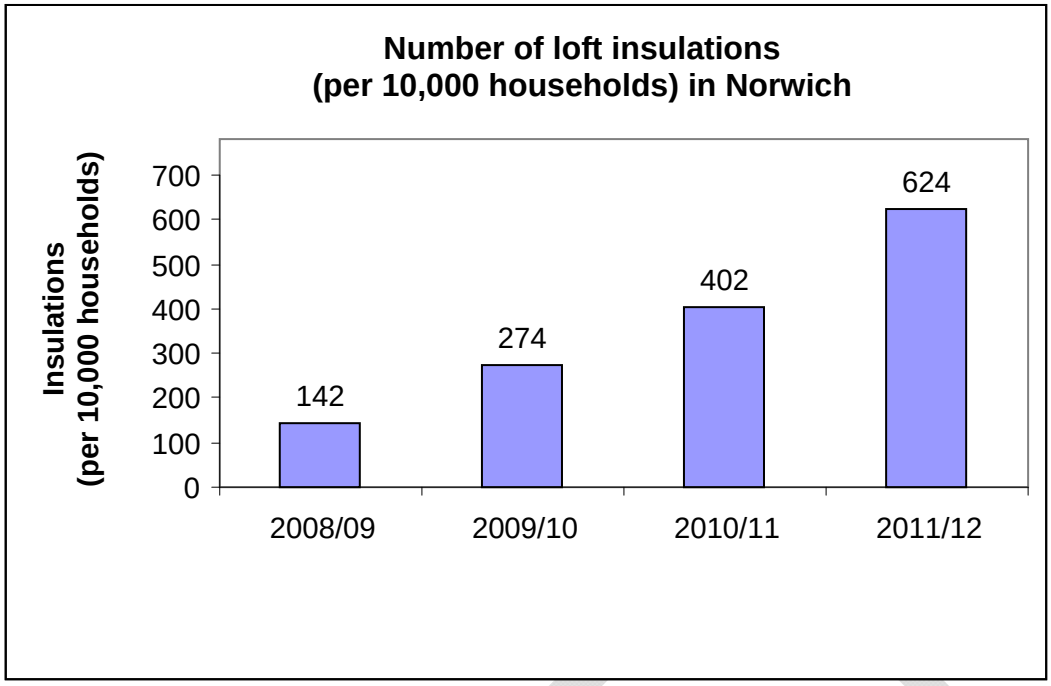


6.11 The above chart shows the decrease in gas consumption by Norwich residents between 2005 and 2010. This is likely to be due to a combination of the increase in energy efficiency measures installed, and the increase in fuel prices driving more households into fuel poverty.

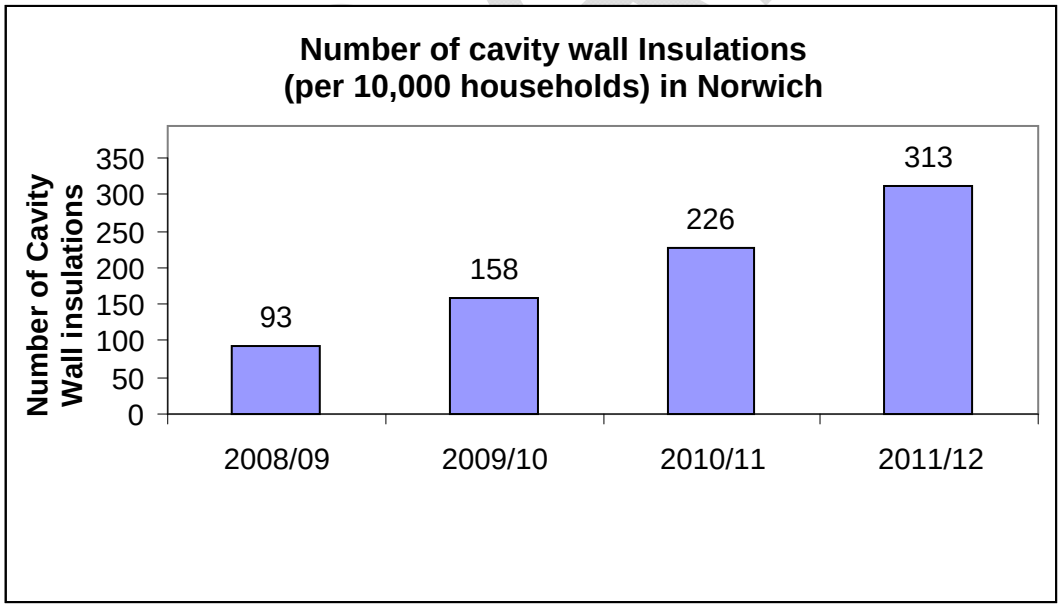


6.12 The above chart details the domestic electricity consumption in Norwich between 2005 and 2010. The trends shown are similar to those of domestic gas sales shown.

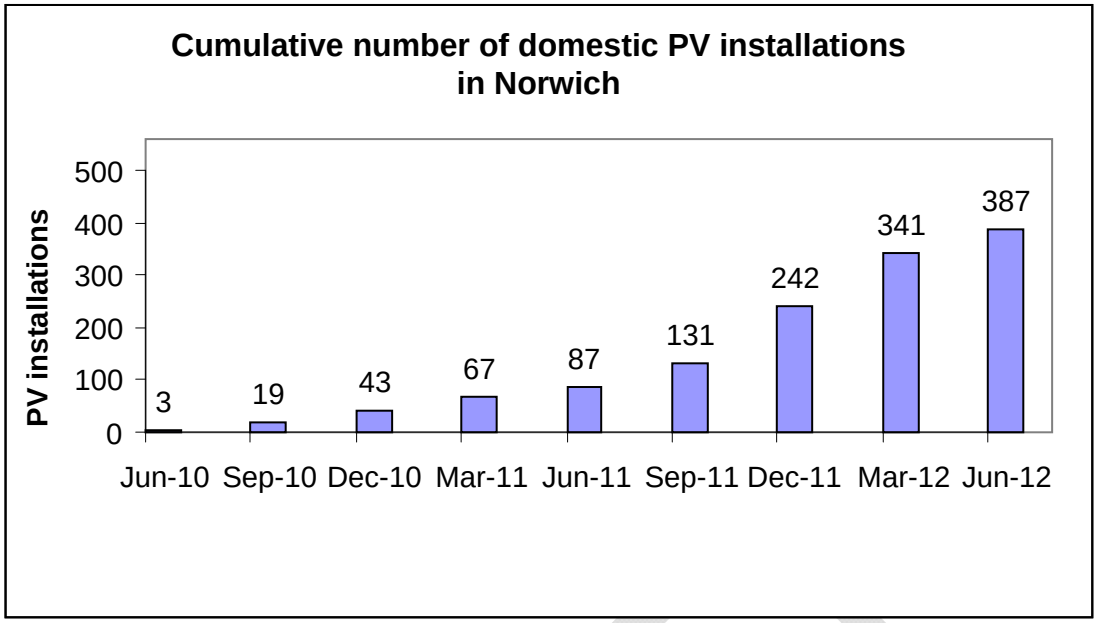
6.13 Alongside the fuel consumption data we must consider the energy efficiency measures installed in Norwich households which serve to both decrease CO_2 emissions and mitigate against rising fuel prices.



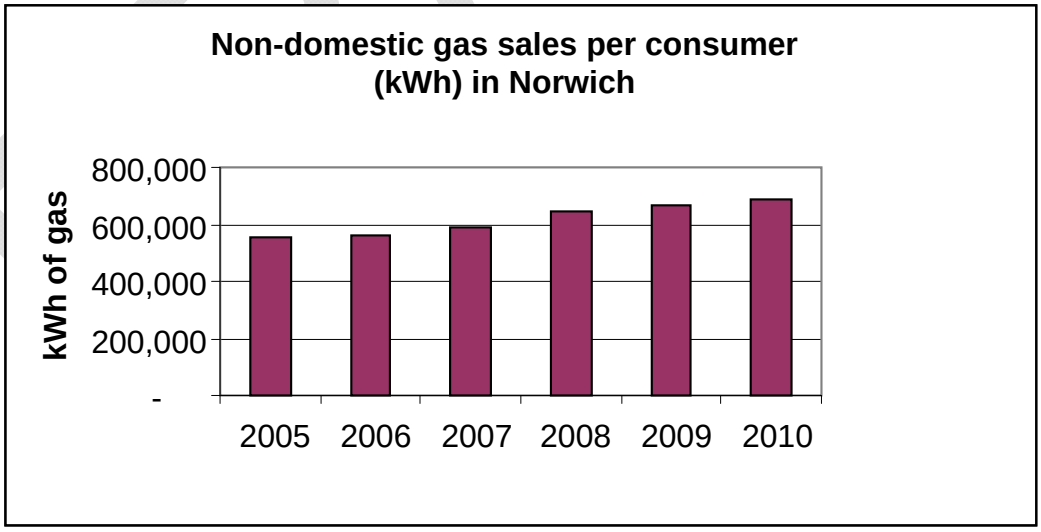
6.14 The above chart shows that since 2008/9 the number of loft insulations in the city has increased by nearly 4 times from 142 every 10,000 households to 624 every 10,000 households.



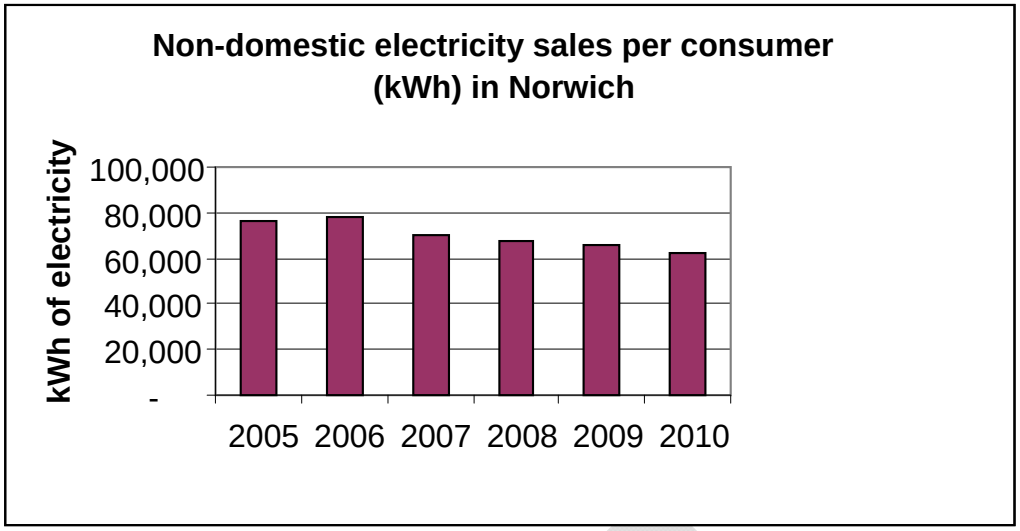
6.15 The above chart shows that the number of cavity wall insulations in city homes has increased by over 3 times between 2008/9 and 2001/12. Norwich City Council has worked with local insulation providers to promote the uptake of free and subsidised insulation through CERT and CESP funding to thousands of city homes.



6.16 The above chart shows the increase in the number of domestic photo-voltaic (PV) installations in Norwich between June 2010 to June 2012. During this time the government Feed in Tariff (FiT), a kind of subsidy for installing PV technology was made available at 43 pence / kWh. We await to see what the impact of the reduction of the FiT to 21 pence/kWh on the 1st April 2012 will have on these figures.



6.17 Between 2005 and 2010 the number of kWh of gas sold to non-domestic consumers in Norwich has increased steadily year on year.



6.20 However, the sales of non-domestic electricity, other than a slight peak in 2006, seem to have decreased year on year over the 6 year period.

6.21 During this period there has been some outward migration of staff from Norwich's large employers with the result that several large building are now no longer in use e.g. Aviva's two Surrey Street towers, this may have contributed to the decrease in electricity use over this time.

6.22 There has also been further reduction in the few remaining manufacturing businesses which may use large amounts of electricity e.g. the closure of Zenith Windows and Jarrold printing. The number of manufacturing jobs in Norwich has reduced by almost 50% during the period 2005 to 2010.

6.23 Alongside this most businesses have been engaged in cutting costs and have implemented energy saving measures as part of this. More efficient heating systems have been installed and as gas is much cheaper than electricity per kWh this may explain the increase in gas consumption over this period.

CO_2 emissions from our own estate (NI185)

7.1 Norwich City Council has been reducing it's carbon dioxide emissions year on ear for the past 4 years through its carbon management programme, and in total has reduced these by 20%. This has been achieved through a variety of methods including;

- Voltage Optimisation
- T8 to T5 light replacement
- LED lighting scheme in our flagship long-stay car park
- Motorised pool covers – local leisure centre
- More efficient transport as a result of new contracts
- Staff behavioural change scheme

CO_2 emissions from our housing stock (section being updated)

8.1 The council has carried out arrange of work to improve the energy efficiency of its housing stock. The table below sets out some of the measures used;

Applied Renewable Technologies	Total Installations
Photovoltaic's	31
Solar thermal	1
Voltage optimisation	26
Air source heat pump	1
Loft insulation (300mm)	1,396
External wall insulation (EWI)	92
Condensing boilers	2,245

8.2 The photographs below provide examples of some of the work carried out:

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Photograph - Property before external wall insulation was installed, SAP rating Band D

Photograph - Property after external wall insulation was installed, SAP rating Band C

APPENDIX

Photograph - Photovoltaic panels installed at a sheltered housing scheme where 19 bungalows benefitted from Photovoltaic's following funding from CESP.

8.3 Following the introduction of CESP and CERT in 2008 & 2009 Norwich City Council secured funding and delivered the following installations working alongside Carillion (EAGA) & British Gas;

Renewable Technology – Delivered by CESP & CERT	Total
Loft insulation	269
Cavity wall insulation	6
Boilers & controls	202
PV	31
EWI	46

8.4 39 BISF (British Iron & Steel Federation) properties benefitted from external wall insulation (EWI) being carried out. These properties were under insulated. We did a whole street approach and even one private house benefitted from the scheme. Since the EWI has been installed these properties not have only benefited from a warmer home, better air quality and less likely to be in fuel poverty but also the external appearance of their home has changed dramatically. This now has improved the whole street scene which empowers tenants and makes them proud of where they live.. We will be able to have completed another whole street of EWI via the ECO funding stream.

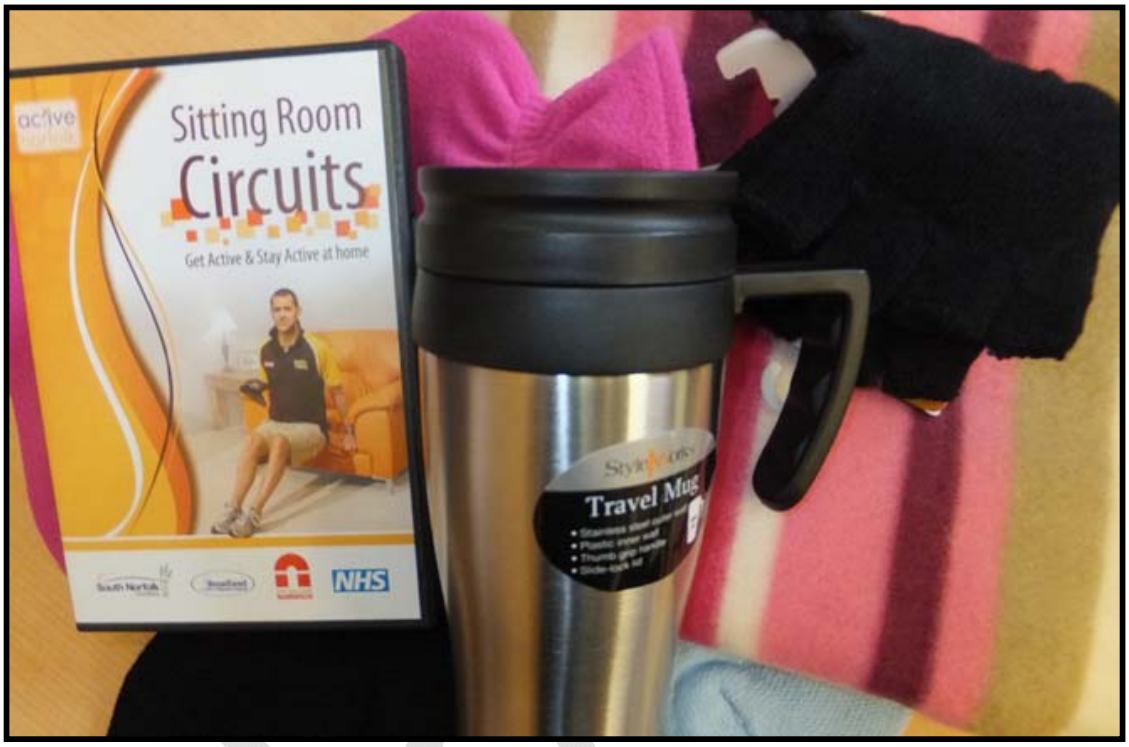
Photograph - BISF properties after EWI

Photograph – showing installed to council property alongside private property

APPENDIX

8.5 We have also been working in partnership with Gasway delivering 'Warm & Well packs' for those tenants who are vulnerable during the colder months. This includes tenants who have had there heating condemned or tenants who have been identified as vulnerable following a gas safety check or repair.

Photograph - 'Warm & Well pack'



CO_2 emissions from Private Sector Housing

Enforcement activity

8.6 We already tackle excess cold in privately rented accommodation through enforcement. This is currently mostly in response to complaints. However, the address-level information from our stock condition survey will enable us to target this enforcement activity more effectively and pro-actively. The council is also considering an extension of the existing house in multiple occupation licensing scheme to an estimated 2000 properties (a 10-fold increase over the statutory scheme.) The landlords of these properties would be required by a licence condition to remove any excess cold hazard.

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Photograph– Property before enforcement action showing no heating system

Photograph - Property before enforcement action showing defective single glazing

APPENDIX

Photograph– Property with works in default –heating installation.

APPENDIX

Photograph– After works in default – New double glazing

Affordable warmth action programme

8.8 As part of our affordable warmth work we have recently carried out a very successful programme to improve energy efficiency in private households through the use of insulation supported by government grants. This has helped over 300 households in the first three quarters of 2012/13 to improve their energy efficiency.

Energy performance calculation / SAP rating

8.9 The current Norwich average SAP is 70.45% for our current tenanted housing stock. We report on our average SAP quarterly, this allows us to capture all the renewable technologies that have been installed. Current SAP analysis is generated from 2005 Energy module from Codeman system. The tables below provide more information on rating of our properties.

Energy Efficiency Rating	Total
Band A	159
Band B	2,567
Band C	6,267
Band D	5,622
Band E	1,003
Band F	36
Band G	10
	15,664

Tonnes of CO_2 per year	Total
Under 5 tonnes	14,204
Over 5 tonnes	1,453
Over 10 tonnes	7

8.10 The average SAP in the private stock is 47 (2006 stock condition survey) which is below the national average and compares with 54 in Broadland District which comprises a significant part of the Norwich urban area. This is probably due to a large proportion of hard-to-treat solid-wall pre 1919 terraced housing. Norwich also has a larger than average privately-rented sector (at 20%) which increases the likelihood of sub-standard heating and insulation.

8.11 We currently take enforcement action for excess cold in an average of 55 homes per year. Enforcement, whilst necessary, is resource intensive and will only be effective if used alongside promotional work. However, it does lead to significant improvements in the lives of some of the most vulnerable private sector tenants in the city. An example of our recent work is with a large block of flats with SAP ratings of below

20 which involved the service of over 60 statutory notices. The flats that have been upgraded to date are returning new SAP ratings of over 70.

9 What are we going to do next?

The Green Deal

9.1 We are interested in how the Green Deal will work for social landlords including ourselves. We have been investigating and liaising with the energy saving trust expressing our concerns over how the Green Deal will work for our tenants and for ourselves. We are concerned that debts attached to our property become our responsibility once void. We understand that debt on the Green Deal finance is paid off via the energy bill. When a tenant moves out the energy supply will be capped until the next tenant moves in. We will continue to deliver our energy efficient improvements via our own funds and ECO funding while we further investigate and explore what role the green deal may have to play for our housing stock.

9.2 We believe that there is considerable scope for the green deal to be taken up by private landlords and we are already beginning to promote it in individual cases. We expect the next update of our private sector stock condition survey to include predicted tenure and green deal variables to individual address level which will enable us to target our energy efficiency work, and the green deal in particular, effectively.

9.3 We are in the process of developing our overall approach to the green deal, including what role the council may wish to play in the application of the green deal in Norwich. Over the early part of 2013/14 we intend to develop our strategy for the council's response to the green deal.

Energy Company Obligation (ECO)

9.4 We are networking with providers who have access to the ECO funding stream. We have a property list in place in which we are using to see what percentage of funding we could secure. ECO measures include;

- Boilers
- EWI
- IWI
- loft insulation
- Cavity wall insulation
- Draught proofing
- Solar heating

9.5 The more measures that are applied to a property the more funding we would acquire. Also if the property falls within a LSOA (lower super output area) this will attract more funding.

Feed in tariff and renewable heat incentive (RHI)

10.1 We currently have 31 PV installations across our housing stock which would be eligible. These were installed by Carillion to a variety of properties. A sheltered housing complex was our biggest single installation to - date. These PV panels were fitted for free, this will allow the tenant to benefit from free electricity and Carillion shall claim the FiT payment.

10.2 Phase 2 of the RHI is expected to be introduced summer 2013 after a consultation that ended in December 2012, this consultation was to expand the existing scheme to include additional technologies. DECC are currently considering all the responses.

New Council Homes

11.3 The council has embarked on a programme of building up to 250 new council houses over the next five to ten years. It is intended to explore cost-effective technologies, including passivhaus techniques, to maximise the energy efficiency of these new homes. We will be working closely with a local housing association which will be building a large passivhaus development of 250 homes in central Norwich, to benefit from their experience and supply chain.

Site Waste Management Plans (SWMP)

11.4 All contractors working on a contract over £300k will need to have SWMP. This is a legal document and the company can incur a hefty fine if there is not an SWMP in place on a contract. The contractor is also responsible for keeping an audit trial of what percentage of waste is disposed and recycled. There are also Green Travel plans which enforce the need to use minimal numbers of vans when on site and the contractors also make sure there are enough materials within the van to complete the jobs for the day also minimising the need to continue to go back to a depot for more supplies. All our current contractors have SWMP's in place.

10 How are we going to achieve this? (Section to be added in)

Draft Action Plan (to be updated)

Priority	Proposal	Timescale
Building Relationships	Networking with the Big 6 Energy Providers.	On - going
	Working alongside Income Assistants to find tenants who may be in fuel poverty.	On – going
	Assisting with reports and supplying data to the Environmental Strategy Team.	On – going
	Tenant involvement by producing documentation on energy saving, tenant fun days & liaising with tenants regarding their energy bills.	On –going
New Equipment	Replacement of our asset database and upgrade. Our current asset database runs RdSAP 2005. Upgrading will allow us to use RdSAP 9.91.	2013/2014
	Purchasing of additional thermal imaging camera & data loggers.	2013/2014

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Priority	Proposal	Timescale
Trial Projects	**IWI** -, 8 properties to be involved in a trial,	2013/2014
	Damp Trial – 6 month trial to reduce spend and investigate alternative methods alleviate damp within our homes. The trailing out of new products such as single, whole house ventilation and continuous running extractor fans working with the market leaders.	2013/2014
	Air Source Heat pumps – to carry out a trial	2013/2014
	Thermodynamic hot water – potential trial of this technology that can provide hot water 365 days of the year. This would be using a local company.	2013/2014
Priority	**Proposal**	**Timescale**
Projects	95 homes on district oil heating. Exploring and investigating renewable options.	On – going
		2013/2014

	Upgrading of old pipe work, underground pipes from district boiler to be super insulated.	
	PVT (photovoltaic thermal) – to install circa 10 properties	2013/2014
	Voltage Optimisation – to install circa 500 units into our housing stock, units procured at a discounted rate.	2013/2014
	EWI – installation of EWI to circa 82 properties and with potential to deliver up to 200 properties by accessing ECO funding.	2013 - 2018
	IWI – following the trial, investigate opportunities to complete the block using ECO funding.	2013 - 2018
Priority	**Proposal**	**Timescale**
Funding Streams - Green Deal / ECO	**ECO -** Investigating ECO funding opportunities to deliver EWI, IWI, new boilers, loft insulation and cavity wall insulation.	2013 - 2018
	Green Deal – Investige a wider whole city approach to Green Deal and the role the	2013

	council should play.	
Collective Switching	Working to promote Norwich Big Switch and Save. Leaflets and advice given when carrying out stock surveys, visits, etc. Also assisting with those who are off online by registering them in paper format.	2013 - 2018
Tackling Excess Cold	To identify privately-owned homes where an excess cold hazard exists and to take appropriate action to remove the hazard. This may include the use of improvement notices in the case of privately-rented accommodation and financial assistance for vulnerable owner-occupiers.	(affordable warmth strategy action) Ongoing.
Priority	**Proposal**	**Timescale**
Private sector housing energy efficiency information	To commission private sector stock condition research to identify the extent and distribution of excess cold hazards, poor thermal efficiency and fuel poverty.	2013-14
New council homes to achieve high energy efficiency standards	To research and adopt an energy-efficiency design standard for all new council homes.	2013-14
Private sector housing		

renewals strategy	To introduce a new strategy, based on the information provided by the stock condition research, which will address the problem of excess cold and poor thermal performance in owner-occupied and privately rented homes in the city.	2013-2015