

**6.**

---

# **BUSINESS, INDUSTRY AND THE PUBLIC SECTOR**



## 6. Business, Industry and the Public Sector

### 6.1 Introduction

6.1.1 This chapter addresses emissions from business, industry and the public sector. This sector is sometimes referred to as the ‘non-domestic’ sector. It focuses on emissions from buildings and some industrial processes. Emissions from transport, waste, etc. are dealt with in other relevant chapters in this report.

### 6.2 Our ambitions for business, industry and the public sector

- Our Energy Efficiency Action Plan includes a Scotland-wide target to reduce energy consumption by at least 12%.<sup>163</sup> This establishes a minimum level of ambition for all sectors, including the public sector.
- By 2027, we will have witnessed a complete transformation in the way Scottish public bodies work and in how their estates are managed. This will be achieved through implementing and exceeding existing carbon management plans, adopting sustainable procurement processes and through supporting governance arrangements.
- By 2027, we will have made significant progress in transforming energy use in industry and business through resource efficiency measures and low carbon technologies such as CCS and fuel switching.
- By 2050, direct emissions from the sector will be almost zero through reducing the sector’s energy demand, the use of low carbon electricity sources, and our ambition for a largely decarbonised heat sector by 2050, with significant progress by 2030.

### 6.3 Where we are now

6.3.1 The ‘public sector’ includes the Scottish Government and its executive agencies (such as Transport Scotland and Scottish Enterprise), 32 local authorities, and bodies such as the National Health Service trusts. The Climate Change (Scotland) Act 2009 contains a list of bodies subject to Public Bodies Duties.<sup>164</sup>

---

<sup>163</sup> Conserve and Save: Energy Efficiency Action Plan: [www.scotland.gov.uk/Publications/2010/10/07142301/0](http://www.scotland.gov.uk/Publications/2010/10/07142301/0)

<sup>164</sup> Guidance to support public bodies in exercising their duties under the Climate Change (Scotland) Act 2009: [www.scotland.gov.uk/Publications/2012/01/05153413/1](http://www.scotland.gov.uk/Publications/2012/01/05153413/1)

6.3.2 Scotland has nearly **310,000 private sector enterprises** extending from construction and manufacturing companies to service providers and retail organisations.<sup>165</sup> 2,230 large enterprises account for two-thirds of turnover while SMEs account for 99.3% of enterprises and 53.6% of employment. Industry in Scotland is varied and complex, covering very different modes of production, material demands, ownership and products.

6.3.3 In 2011, greenhouse gas emissions from business and industrial processes totalled 9.2 MtCO<sub>2</sub>e, or 18% of the Scottish total. This includes some emissions that are covered by the EU ETS. Emissions from the public sector account for 0.8 MtCO<sub>2</sub>e, or 1.5% of the total.<sup>166</sup>

### **Sustainability and Utilities Procurement**

In 2009, Scottish Procurement launched a national electricity supply contract with Scottish Power and Scottish and Southern Energy. The contract, which ran until March 2013, was available to the whole of the public sector in Scotland and was almost universally adopted.

The contract provided enough green electricity to cover the entire requirement. Two terawatt hours (2 TWhrs) were provided by Whitelee onshore wind farm (Europe's largest). Green electricity provided by Scottish Power (the larger of the two contracts) does not attract any premium. Users of the contract had access to Automatic Meter Reading (AMR) technology at very competitive prices, which enabled them to manage their carbon footprints. AMRs, along with smart building programmes, significantly improve the quality of data available. This helps building managers baseline building performance and helps direct work to reduce energy costs, consumption and carbon footprints. Over 6000 AMRs were installed.

In April 2013, a replacement contract went live with EDF Energy. It builds on the success of the previous contract, incorporating more than 28,000 supply points using 2.8 TWhrs of electricity and facilitating improvements in environmental performance through access to energy reduction technologies and energy management advice from the appointed supplier. The new contract also gives access to 100% Levy Exemption Certificate backed electricity from renewable sources.

<sup>165</sup> Businesses in Scotland: [www.scotland.gov.uk/Topics/Statistics/Browse/Business/TrendBusinesses](http://www.scotland.gov.uk/Topics/Statistics/Browse/Business/TrendBusinesses)

<sup>166</sup> Scottish Greenhouse Gas Emissions 2011: [www.scotland.gov.uk/Publications/2013/06/1558](http://www.scotland.gov.uk/Publications/2013/06/1558)

## 6.4 Decarbonisation policies

6.4.1 A number of policies already contribute to the sector's decarbonisation. Some stem from the EU, some are UK Government policies while others are policies of the Scottish Government. Together, they incentivise energy efficiency through financing and or regulation, improve the quality of information to energy consumers, and support the decarbonisation of heat sources.

6.4.2 The EU ETS is implemented at the Member State level, using a cap and trade mechanism to put a price on carbon to promote reductions of greenhouse gas emissions in a cost effective or economically efficient manner.<sup>167</sup> With effect from January 2013, the scheme is focused on large, energy-intensive installations as well as European aviation operators. Industry participants include cement and glass manufacturing enterprises as well as some distilleries. Most operators receive a set number of free EU Allowances (EUA), with each EUA covering one tonne of CO<sub>2</sub>, and must trade or buy any additional EUAs they require at auction. As there is a set number of total EUAs within the market the overall environmental targets are maintained. The allocation of free allowances will be phased-out over time and more auctioning is being introduced.

6.4.3 The current EUA price is lower than expected, due mostly to the recession, and this has resulted in a smaller incentive to reduce emissions. As mentioned elsewhere in this document, officials of the Scottish Government are working closely with the UK Government to engage with the European Commission on potential structural reforms that could create a more effective EUA price.

6.4.4 At this point in time, it is unclear how the ETS will develop after the current phase III ends in 2020. Therefore, for the purposes of this report, we are not applying to projected abatement figures any emissions savings generated by the carbon price mechanism of the ETS beyond 2020 but only emission reductions from the complementary policies detailed in this section.

6.4.5 **The Carbon Reduction Commitment (CRC) Energy Efficiency Scheme**<sup>168</sup> is a UK-wide policy designed to incentivise investment in energy efficiency. In Scotland, there are 132 full participants in the scheme, which together emitted around 4.1 MtCO<sub>2</sub>e in 2011-12.

---

<sup>167</sup> EU Emissions Trading System: [http://ec.europa.eu/clima/policies/ets/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/index_en.htm)

<sup>168</sup> Carbon Reduction Commitment Energy Efficiency Scheme: [www.decc.gov.uk/en/content/cms/emissions/crc\\_efficiency/crc\\_efficiency.aspx](http://www.decc.gov.uk/en/content/cms/emissions/crc_efficiency/crc_efficiency.aspx)

## Energy Efficiency Policies

### EU Energy Efficiency Directive<sup>169</sup>

In 2012, the European Union passed a new Directive on Energy Efficiency on efficiency targets, efficiency in energy use (public bodies, obligation schemes, audits, billing), efficiency in energy supply (heating and cooling, transformation, transmission and distribution) and energy services. This Directive is due to be implemented by June 2014 and is expected to contribute approximately 17% to the energy efficiency target set for 2020 against a business-as-usual baseline.

A key article (Article 5) requires central government to lead by example by renovating 3% of its own estate each year, and to encourage the rest of the public sector to follow. As existing building stock is crucial to achieving energy efficiency and greenhouse gas emission reduction targets, and represents the biggest potential sector for energy savings, the rate of building renovation needs to be increased.

The Scottish Government aims to work closely with UK counterparts to ensure that the Directive is effectively implemented to the required timescales.

6.4.6 The CRC Scheme requires large non-energy intensive organisations to measure and report their carbon dioxide emissions and purchase allowances issued by the UK Administrator for each tonne of carbon dioxide they emit.<sup>170</sup> The Scheme targets the emissions of large businesses and public sector bodies that are not covered by the EU ETS or Climate Change Agreements. Following consultation during 2012, the Government published a number of simplifications to the scheme which will reduce the burden on participants. The scheme will be reviewed again by the UK and Scottish Governments in 2016.

6.4.7 Estimates of the contribution of carbon reduction commitments for 2020 have been revised down since publication of RPP1 and consistent with DECC's updated emissions projections.

---

<sup>169</sup> EU Energy Efficiency Directive 2012/27/EU: [http://ec.europa.eu/energy/efficiency/eed/eed\\_en.htm](http://ec.europa.eu/energy/efficiency/eed/eed_en.htm)

<sup>170</sup> With the agreement of Scottish Ministers, the Environment Agency operates as UK Administrator for the purpose of allowance sales.

6.4.8 Access to funding is a critical aspect of achieving energy efficiency. **The Non-Domestic Green Deal is a GB wide policy.**<sup>171</sup> From early 2013, non-domestic property owners and occupiers will be able to apply for energy efficiency measures funded through private finance with costs recouped from charges on energy bills. The amount of finance will be based around a 'golden rule' whereby the repayments on the meter will be equal to, or less than, the savings identified during the assessment. On that basis, the total amount available will vary from building to building and measure to measure. When properties are bought and sold or rented, the charge for finance will be transferred to the new bill payer. Current estimates are that Green Deal investment could amount to £14 billion across the UK over the next decade, and Scotland is well placed to secure a proportionate share of this investment.

#### **The Climate Change Levy**<sup>172</sup>

The **Climate Change Levy** is a UK Government tax on the use of electricity, gas and solid fuels in the non-domestic sector. Revenue raised through the levy is recycled back to organisations through a reduction in employers' national insurance contributions and support for energy efficiency and low carbon technologies. All non-domestic (public and private) organisations pay this in full unless they have entered into a Climate Change Agreement or have a renewable energy supply.

The voluntary **UK Climate Change Agreements** enable eligible energy-intensive businesses to receive up to 90% discounts from the Climate Change Levy in return for meeting energy efficiency or carbon saving targets.<sup>173</sup> Around 376 facilities in Scotland have Climate Change Agreements.

6.4.9 To support Green Deal implementation, we have worked on the development of a Green Deal assessor qualification in Scotland with Asset Skills, the employer-led skills body for facilities management, housing and property, and the Scottish Qualifications Authority (SQA), the national accreditation and awarding body. £1 million has been allocated by DECC for the training of up to 1,000 Green Deal assessors across Great Britain. We are also working with Skills Development Scotland to assess demand and determine what follow-up action we should take.

---

<sup>171</sup> DECC. Non-Domestic Green Deal:

[www.decc.gov.uk/en/content/cms/tackling/green\\_deal/gd\\_customer/gd\\_nondomcust/gd\\_nondomcust.aspx](http://www.decc.gov.uk/en/content/cms/tackling/green_deal/gd_customer/gd_nondomcust/gd_nondomcust.aspx)

<sup>172</sup> DECC. Climate Change Levy:

[www.decc.gov.uk/en/content/cms/emissions/ccas/cc\\_levy/cc\\_levy.aspx](http://www.decc.gov.uk/en/content/cms/emissions/ccas/cc_levy/cc_levy.aspx)

<sup>173</sup> DECC. Climate Change Agreements:

[www.decc.gov.uk/en/content/cms/emissions/ccas/ccas.aspx](http://www.decc.gov.uk/en/content/cms/emissions/ccas/ccas.aspx)

### **Energy Efficiency Small Business Loans Scheme: Kinloch Anderson**

Kinloch Anderson, an Edinburgh highland kilt manufacturer, was referred to its local Home Energy Scotland advice centre through the company's business manager at Scottish Enterprise.<sup>174</sup> An energy consultant visited the company's premises to outline ways in which the firm could improve its energy efficiency and how a loan could assist.

Consequently, the company installed a new steam press and ironing system. The ironing press is in constant use. Kinloch Anderson's Chief Executive, Nick Bannerman, said: "In terms of energy costs the move is saving us around £3,500 per annum. It has also increased our operating efficiency by allowing us to get more work done in a shorter space of time. The small business loans scheme has really been of great benefit to us."

6.4.10 A £1.5 million training fund for installers across the UK who wish to operate under the Green Deal was also made available. We are working with Construction Skills, the UK Sector Skills Council for the construction industry, to ensure that Scottish installers are offered a share of this.

### **National Health Service Scotland CEEF Projects**

NHS Greater Glasgow and Clyde is investing £200,000 to replace an inefficient refrigeration plant at Glasgow Royal Infirmary with the latest high efficiency plant. This resulted in a payback period of three years and an annual saving of £72,000 and 0.39 ktCO<sub>2</sub>e.

NHS Fife spent £11,000 to improve the management of its heating and air-conditioning plant at the Queen Margaret Hospital. This resulted in a payback period of 6 months, annual savings of £23,000 and an emissions reduction of 0.177 ktCO<sub>2</sub>e per year.

6.4.11 The UK has set up the Green Investment Bank, the world's first investment bank solely dedicated to greening the economy.<sup>175</sup> Large-scale non-domestic energy efficiency projects will form one of the three initial priorities of the bank. Other sources of finance include the Central Energy Efficiency Fund and the Energy Saving Small Business Loan Scheme, also detailed in Section 3.4 of this report.

<sup>174</sup> Home Energy Scotland Advice Centres: [www.changeorg.org.uk/householders/essacs-landing-page/408/#householder](http://www.changeorg.org.uk/householders/essacs-landing-page/408/#householder)

<sup>175</sup> BIS. Green Investment Bank: [www.bis.gov.uk/greeninvestmentbank](http://www.bis.gov.uk/greeninvestmentbank)

6.4.12 The policies above largely relate to the use of existing buildings. However, we need to take action with new buildings too. Most recently, **new-build energy standards for non-domestic buildings** were applied in **2010** as a Scottish policy. Non-domestic buildings built to these standards have emissions 30% lower than those built to 2007 standards. In practice this means that there is; less air-infiltration, improved fabric insulation (with less thermal-bridging), better heating and lighting controls, heating and cooling systems of greater efficiency and, for some buildings, limited use of low carbon technologies (such as micro-generation) to reach the emissions reduction standard.

### Decarbonising heat policies

6.4.13 As noted in Chapter 5, the RHI is a UK Government policy to encourage public sector bodies, businesses and communities to reduce emissions by using heat from renewable sources such as wood fuel or heat pumps. Under RHI, up-front costs for the installation of renewable heat generation are met by installation owners with the incentive scheme guaranteeing them a reasonable return on investment. Phase 1 focuses on the industrial and commercial sectors.

6.4.14 We recognise that Government has a role in supporting the construction of combined heat and power plants and heat networks. We have made a number of clear policy statements including through our 2020 Routemap for Renewable Energy in Scotland. We have introduced a range of funding support for heat networks, including the district heating loan scheme<sup>176</sup> and the Renewable Energy Investment Fund<sup>177</sup> and we also continue to make the case to the UK Government that the RHI should include an uplift for district heating.

6.4.15 Estimates of the contribution of non-domestic RHI to abatement have been revised downwards since RPP1 was published and are consistent with DECC updated emissions projections.

6.4.16 Our Expert Commission on District Heating<sup>178</sup> reported in 2012, and we have now published a District Heating Action Plan<sup>179</sup> setting out how we are taking forward these recommendations. We are already providing support through the **district heating loan scheme** to overcome the barriers

---

<sup>176</sup> The Scottish Government, District Heating loan scheme: [www.scotland.gov.uk/News/Releases/2012/10/districtheating1102012](http://www.scotland.gov.uk/News/Releases/2012/10/districtheating1102012)

<sup>177</sup> Renewable Energy Investment Fund: [www.scottish-enterprise.com/news/2012/10/renewable-energy-investment-fund-open-for-business.aspx](http://www.scottish-enterprise.com/news/2012/10/renewable-energy-investment-fund-open-for-business.aspx)

<sup>178</sup> Expert Commission on District Heating: [www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/Heat/ExpertCommission](http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/Heat/ExpertCommission)

<sup>179</sup> The Scottish Government, District Heating Action Plan: [www.scotland.gov.uk/Topics/Business-Industry/Energy/resources/Publications/DHAP](http://www.scotland.gov.uk/Topics/Business-Industry/Energy/resources/Publications/DHAP)



and challenges facing developers. The scheme is open to local authorities, registered social landlords, SMEs and energy service companies. We have allocated £5 million over the current spending review period.

6.4.17 The **Action Plan** sets out how a roadmap for accelerating the uptake of renewable heat. This will support implementation of Article 14 of the Energy Directive on the promotion of efficiency in heating and cooling, which will require electricity generators and industrial applications, above a certain scale, to consider the costs and benefits of supplying heat to district heating networks.

6.4.18 As noted in the previous Homes and Communities chapter, heat mapping<sup>180</sup> is critical to heat decarbonisation in this sector too, and we are rolling it out to all local authorities in Scotland, to support our Action Plan.

6.4.19 As the majority of industrial emissions arise from generating heat from fossil fuels for manufacturing processes, changing to lower carbon fuels such as sustainable biomass and biogas represent one of the most important means for transformation.

6.4.20 The type of fuel switching will differ between sectors. For lower temperature processes, for example those involved in the food and drink industry, a range of options may be available. These include using biomass boilers to generate steam or 'process integration' for exploiting heat already used in higher temperature processes. Higher temperature processes often present a greater challenge and may need innovative solutions such as sustainable biomass to replace coke, or a shift towards the electrification of processes. Fuel switching will develop gradually, depending on the needs of each sub sector of industry in Scotland, and in particular, the temperature of the heat required.

6.4.21 For some industrial processes, greenhouse gas emissions are an intrinsic part of the chemistry and can only be mitigated through innovative options such as carbon capture and storage. In the longer term, the deployment of sustainable biomass and further carbon, capture and storage should be able to address remaining combustion and the carbon dioxide component of process emissions.

6.4.22 Process emissions will also need to be tackled. Fluorinated gases (F-gases) are part of the Scottish Government's climate change targets. In 2011, the latest year for which Scottish figures are available, F-gases made up 2.5% (c1.3 MtCO<sub>2</sub>e) of total Scottish greenhouse gas emissions. This has

---

<sup>180</sup> The Highland Council, Heat Mapping in Highland Region:  
[www.highland.gov.uk/yourenvironment/planning/energyplanning/renewableenergy/HighlandHeatMappingProject](http://www.highland.gov.uk/yourenvironment/planning/energyplanning/renewableenergy/HighlandHeatMappingProject)

increased from 0.32% in the 1995 base year, primarily due to the take up of Hydrofluorocarbons to replace phased-out ozone-depleting substances. F-gases also make up 2.5% of UK greenhouse gas emissions (including international aviation and shipping).<sup>181</sup>

6.4.23 EU Regulations put in place offences and penalties covering infringements in relation to leakages; leakage checking and leak detection systems; placing on the market prohibitions; and qualifications for personnel working on equipment. Sectors affected by these regulations are stationary refrigeration, air-conditioning and heat pumps; stationary fire protection; and high voltage switchgear in electrical transmission networks. The Regulations also provided enforcement powers for SEPA. The EU Regulations were implemented in the UK by the Fluorinated Greenhouse Gases Regulations 2009.<sup>182</sup>

6.4.24 We have been working with SEPA and the UK Government to develop a regulatory framework for F-Gases in Scotland and have recently finished a comprehensive review of industry to provide a framework for this regulation. At the end of 2012, the EU Commission put forward a proposal to replace the existing regulation with the aim of significantly reducing emissions of these gases. The EU hopes to spur the development of more climate-friendly options and to stimulate new global action to reduce gas emissions. The Scottish Government is working with the UK Government on the proposal and a stakeholder meeting took place in early 2013 to discuss the way forward.

### Smart Meters and products policies

6.4.25 Understanding an organisation's energy use is critical to reducing it. The UK Government policy of introducing **smart electricity and gas meters** will provide organisations with more accurate information supporting efficient use of energy, and cost savings. Smart meters will be rolled out to over 200,000 non-domestic small users in Scotland by 2019. The cost is expected to fall principally on the non-domestic energy consumer through higher energy bills from their energy supplier.

6.4.26 Estimates of the contribution of smart metering to abatement in 2020 have been revised down slightly since RPP1 and are consistent with DECC updated emissions projections.

---

<sup>181</sup> The Fluorinated Greenhouse Gases Regulations 2009:

[www.legislation.gov.uk/uksi/2009/261/pdfs/uksi\\_20090261\\_en.pdf](http://www.legislation.gov.uk/uksi/2009/261/pdfs/uksi_20090261_en.pdf)

<sup>182</sup> [www.legislation.gov.uk/uksi/2009/261/pdfs/uksi\\_20090261\\_en.pdf](http://www.legislation.gov.uk/uksi/2009/261/pdfs/uksi_20090261_en.pdf)

6.4.27 An important way of reducing the energy we use is through the design of more energy efficient products. **EU Products policy** is addressed through the Eco-design Framework Directive which allows minimum environmental performance standards for products to be set across the EU.<sup>183</sup> The standards are set through regulation or voluntary agreements. The regulations aim to improve the environmental performance of products by reducing the impact of a product's life-cycle on the environment.

#### **BT's Energy Saving Campaign**

BT ran a staff engagement pilot in its London headquarters of around 3,000 employees to reduce energy use by 10%. BT engaged staff by: recruiting energy champions from across all levels of the business to raise awareness of the campaign to reduce energy waste by reporting faults, conducting energy audits and encouraging networking to share ideas; and Identifying areas of the business where significant savings could be made. Importantly it engaged with staff members who had the influence to implement changes within these areas.

In the three months of the pilot, energy consumption was reduced by 17%, equating to cost savings of around £200,000. BT has now rolled out the initiative to 25 of its other buildings, four of which are in Scotland. This has led to annual savings of over £800,000 for the company. As one manager put it:

*"It's our corporate social responsibility; companies should be leading by example. People can be involved by just being energy efficient. In that sense, everyone can be an energy champion".*

6.4.28 One of the effects of this kind of regulation is to reduce the electricity consumption of many products. This also tends to reduce the amount of heat emitted from these products because much of the electricity that inefficient products consume is wasted through heat production. As lighting and appliances become more energy efficient, heating and cooling systems compensate for this reduction in heat.

6.4.29 The effect in terms of emissions accounting is to increase emissions from heat very slightly but to reduce emissions from electricity generation by a greater amount. The heat element of these emissions is shown directly in the breakdown of abatement provided in this report. The savings from reduced electricity consumption are incorporated into the modelling used to estimate emissions from the traded sector.

---

<sup>183</sup> European Commission: <http://ec.europa.eu/enterprise/policies/sustainable-business/documents/eco-design/legislation/framework-directive/>

6.4.30 Likewise, the **Energy Labelling Framework Directive**<sup>184</sup> sets energy labelling requirements for products across the EU. It requires that a standard label showing energy efficiency, and other sustainability aspects, such as water consumption, is displayed on products where they are sold. The UK Government leads on compliance with both Directives.

## 6.5 Decarbonisation proposals

The following Scottish proposals are being developed or are under consideration by Scottish Ministers.

**6.5.1 Non-domestic buildings new-build energy standards 2014 – Scottish Proposal.** Our review of standards in response to the Sullivan Report considered the potential to cut new-build non-domestic building emissions by up to 75% compared to 2007 standards. We have now reached the consultation stage. The supporting costing research (as recommended by Sullivan) indicates that costs of a 75% improvement will not generally payback through reduced energy bills. We have now consulted on a proposed 60% improvement that will often payback within the projected lifespan of the buildings and offers a cost benefit at a national level. A consultation report will be issued later in 2013.

6.5.2 The proposals for a 60% reduction in emissions involves moving to aggregate emissions based approach. This means that whilst not all buildings will deliver the same level of reduction, the overall reduction in emissions will be 60%. In practice there will generally be less air-infiltration; improved fabric insulation (unless this causes overheating issues); better heating and lighting controls; heating and cooling systems of greater efficiency; and for some building types, greater use of low carbon technologies (such as micro-generation) to reach the emissions reduction standard. In support of the review of energy standards, work is also underway to improve compliance and as-built performance both within building regulations and in the wider industry process of procurement, design and construction.

**6.5.3 Non-domestic buildings: assessment of energy performance and emissions regulations – Scottish proposal.** Buildings account for over 40% of greenhouse gas emissions in the UK and less than 1% of the existing stock is replaced by new buildings each year. Therefore, we are currently developing regulations under Section 63 of the Climate Change (Scotland) Act for the assessment of the energy performance and emissions of existing non-domestic buildings, and for owners to improve the energy performance of their buildings and to reduce emissions.

---

<sup>184</sup> Ibid.

6.5.4 Under the regulations being developed, owners (and occupiers) of large buildings will need to physically improving their buildings. If they are not in a position to carry out such work, they must make arrangement for measuring and reporting the operational energy use on a year on year basis.

6.5.5 Initially, the proposal would be implemented broadly in line with our consultation, covering buildings over 1000 square metres.<sup>185</sup> The proposal would be reviewed within 10 years and the scope could be widened by possibly requiring the building improvements be carried out, without recourse to operational ratings. Alternatively, they could go further by including all buildings over 250 square metres and increasing the assessment frequency. However, no investigation into the practicalities of widening the scope of the proposal has been developed at this stage.

6.5.6 We recognise the important role of the public sector in Scottish civic life as a provider of services, as a major employer and procurer of goods and services and through the influence it exerts on our lives in carrying out its functions. There is a clear expectation that our public bodies should lead by example and we therefore propose to **ramp up emission reductions in the public sector**.

6.5.7 We know, through research undertaken on our behalf by the Carbon Trust that public bodies in Scotland could do more to reduce emissions from their own estates.<sup>186</sup> Initially this would involve accelerating actions in existing Carbon Management Plans, and later move to more ambitious activity. The Carbon Trust research was designed to identify what additional abatement in the public sector might be feasibly delivered between now and 2027-30. The report estimates that with an accelerated programme of implementation, there is the potential to reduce emissions across the public sector by 29% or 291 ktCO<sub>2</sub>e by 2020. The report identified that over 30% of this abatement would be delivered by measures already identified, and it is estimated that there is additional potential to reduce emissions by 285 ktCO<sub>2</sub>e by 2027.

6.5.8 These are non-traded building emissions and are significantly greater than current activity in public bodies' Carbon Management Plans (CMPs). Achieving the full abatement potential will require a significant uplift of activity in the existing carbon management plans across the entire public sector. Actions are likely to include: behavioural change at organisational and individual levels; making our estate more energy efficient; and using renewable energy sources.

---

<sup>185</sup>The Scottish Government, Building Standards Consultation:[www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/publications/pubconsult/S63SGR](http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/publications/pubconsult/S63SGR)

<sup>186</sup> Potential Carbon Abatement from the Scottish Public Sector: [www.scotland.gov.uk/Publications/2012/12/3885](http://www.scotland.gov.uk/Publications/2012/12/3885)

### **The National Library of Scotland**

The National Library of Scotland (NLS) has implemented a Carbon Management Plan which has reduced emissions and produced significant savings in running costs. The plan comprised 15 individual projects covering a range of actions from investment in building services equipment, to awareness raising and changes to operating procedures. Carbon management at the NLS has reduced carbon emissions by 0.62 KtCO<sub>2</sub>e and saved £75,000 on energy bills per year.

6.5.9 To develop this **proposal into a clear plan of action** we will, by October 2013, consider, review and conclude the following:

- Our governance and leadership arrangements, including consulting key stakeholders over summer 2013 on our proposals for revised structures;
- Whether to set a target or set of targets for Scottish public bodies linked to mandatory reporting of emissions in the context of the Public Bodies Duty set out in the Climate Change (Scotland) Act;
- What more might be done through our procurement activities;
- Funding and financing options, working with the Scottish Futures Trust; and
- The skills and expertise within our public bodies for both accelerating emission reductions and carbon accounting.

## Decarbonising heat

### Decarbonising heat proposal

Heat makes up around half of our energy demand, and is a significant source of carbon emissions across households, industry and the public sector. Therefore, heat has a key role to play in a low carbon economy for Scotland. RPP1 set out our ambition that by 2050, Scotland will have a largely decarbonised heat sector with significant progress made by 2030. For 2027, this means total estimated abatement of **3 MtCO<sub>2e</sub>** from the domestic and non-domestic sectors.

A number of policies are helping to deliver this aim including: the Renewable Heat Action Plan; Energy Efficiency Action Plan; Micro-generation Strategy, Sustainable Housing Strategy; and decarbonising heat policies for business and industry. We published the District Heating Action Plan in May 2013.

In RPP2, we recognise the need to take a holistic approach to our policy and proposals to decarbonise heat. We therefore published an **Outline Heat Vision**, alongside RPP2, to bring together policy and a renewed focus to heat, both low carbon and renewable, stretching across all sectors - domestic, non-domestic, industrial and commercial - to put us on course to fully realise the potential for decarbonising heat in Scotland.

The heat vision looks at heat in the wider context of available energy resources. It sets out our statutory and regulatory responsibilities and highlights policy drivers. It also provides clarity on our overarching principles of keeping demand to a minimum, most efficient use of energy and recovering as much “waste” heat as practically possible, at least cost to consumers, for future heat deployment.

To provide further clarity on the Scottish Government’s views on the generation of heat within Scotland we will publish a **Draft Heat Generation Policy Statement (HGPS)** for consultation in 2013. The HGPS will look in more detail at possible generation scenarios, including their impact on the renewable heat target and associated greenhouse gas emissions. We will also set out a stakeholder engagement plan to inform development of the scenarios. When published, this document and our Electricity Generation Policy Statement will provide a comprehensive energy policy view and, along with our developed Heat Vision, set out the framework for the transition to decarbonising heat in Scotland.

6.5.10 Our ambition for heat is that by 2050, Scotland will have a largely decarbonised heat sector with significant progress by 2030. For 2027, this means total estimated abatement of 3 MtCO<sub>2</sub>e from the domestic and non-domestic sectors. Although this heat proposal is in the business, industry and public sector chapter, it includes domestic heating too.

### Heat Deployment

6.5.11 The **Heat Vision** sets out a draft deployment options matrix which takes a pragmatic approach to deployment of low carbon heat technologies. For example, we expect that to 2020 dense urban areas will be more suited to district heating, with the initial infrastructure likely to be non-renewable in areas on the gas grid. However, the ultimate aim is to encourage the most low carbon solution for all buildings in the area and in the medium to long term, we would expect a shift to renewables and a significant reduction in heat demand in buildings.

6.5.12 Factors such as building density, available fuel sources and heat demand profiles will provide the context for optimising the deployment of low carbon heat technologies. These include energy efficiency, district heating with different energy sources, electricity and site specific solutions including micro-generation across domestic, industrial, commercial and public sectors.

### Renewable Heat

6.5.13 The promotion of renewable heat is a devolved matter. Scottish Ministers' additional devolved powers, over matters such as energy efficiency, consumer information and heat mapping at a local authority level, will complement and add weight to measures being introduced across the UK. These measures include the RHI, Green Deal, ECO and other measures set out in the UK Government's heat policy document, *Meeting the Challenge: The Future of Heating*, published in March 2013.<sup>187</sup>

6.5.14 Our 11% renewable heat target as it is currently defined requires approximately 6,400 GWh of energy to be sourced from renewables by 2020. Assuming conservatively that this could be achieved by displacing gas, the target could reduce emissions in Scotland by over 1 MtCO<sub>2</sub>e in 2020. We are currently reviewing our target, and have set out proposals in the

---

<sup>187</sup> DECC, Meeting the Challenge: The Future of Heating:

[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/190149/16\\_04-DECC-The\\_Future\\_of\\_Heating\\_Accessible-10.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/190149/16_04-DECC-The_Future_of_Heating_Accessible-10.pdf)



**Renewable Heat Report**<sup>188</sup> which will significantly increase our ambitions for renewable heat.

## District Heating

6.5.15 Increasing the deployment of district heating will play a key role in decarbonising the heat sector, particularly in major urban areas. As mentioned in the previous chapter, in 2012, the **Expert Commission on District Heating** made recommendations to the Scottish Government on accelerating the uptake of district heating.<sup>189</sup> We have now published a **District Heating Action Plan** setting out how we are taking forward these recommendations.<sup>190</sup>

6.5.16 Large-scale heat networks create an integrated heat supply, across homes and communities, business and industry and the public sector. Key actions in the District Heating Action Plan include setting up the Heat Network Partnership for Scotland, to bring together the Scottish Government support across these sectors to create a coordinated programme to scale up the delivery of district heating. We are supporting local authorities to roll out the Heat Mapping Programme for Scotland. This will assist strategic planning for heat and identify opportunities for the development of heat networks. The development of the Heat Generation Policy Statement will allow the Scottish Government to consider targets for district heating, particularly for public sector buildings.

## 6.6 Supporting and enabling measures

6.6.1 Clear accessible information is critical for organisations wanting to improve their energy efficiency and reduce waste. We have integrated our non-domestic energy and material resource efficiency services and in April 2013 launched the new **Resource Efficient Scotland** advice and support programme.<sup>191</sup> It will provide valuable support to businesses, third sector and public sector organisations to reduce overheads through improved energy, material resource and water efficiency, and reducing waste.

---

<sup>188</sup> The Scottish Government, Heat: [www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/Heat](http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/Heat)

<sup>189</sup> The Scottish Government: [www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/Heat/ExpertCommission](http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/Heat/ExpertCommission)

<sup>190</sup> The Scottish Government, District Heating Action Plan: [www.scotland.gov.uk/Topics/Business-Industry/Energy/resources/Publications/DHAP](http://www.scotland.gov.uk/Topics/Business-Industry/Energy/resources/Publications/DHAP)

<sup>191</sup> The Scottish Government, Resource Efficient Scotland: [www.scotland.gov.uk/Topics/Business-Industry/Energy/Action/energy-efficiency-policy/ResourceEfficientScotland](http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Action/energy-efficiency-policy/ResourceEfficientScotland); [www.resourceefficientscotland.com](http://www.resourceefficientscotland.com)

6.6.2 The **Resource Efficient Scotland** programme is an integration of services previously delivered through the Carbon Trust, the Energy Saving Trust and Zero Waste Scotland into one streamlined and holistic programme. Resource Efficient Scotland will help cut carbon across businesses, third sector and public sector organisations and reduce overheads through improved energy, material resource and water efficiency. Taking simple steps to use energy, water and raw materials more efficiently could save Scottish organisations up to £2.9 billion annually.

6.6.3 The programme has three components:

- A Scotland-wide integrated Advice and Support service. This ‘one-stop-shop’ single service delivers practical technical advice and support to all business and public sector organisations on waste/material resource use, energy and water efficiency. It focuses on the implementation of resource efficiency measures, including advice around finance and how to access it;
- a suite of sector-focused activities tailored to meet the specific needs of business and public sector across Scotland in order to deliver resource efficiency savings. Sectors where there is significant efficiency saving potential have been identified. Resource Efficient Scotland will focus its efforts in the first instance on Construction and the Built Environment, Food & Drink, Hospitality and the Public Sector. More sectors will be included as the programme evolves; and
- an Integrated Business and Public Sector Intelligence strand which supports the whole programme activity, including monitoring and evaluation, leading to the continual development and improvement of the programme.

6.6.4 As outlined in the Government Economic Strategy, we established the **Scottish Energy and Resource Efficiency Service (SERES)**.<sup>192</sup> This virtual **partnership** brings together existing business support and advice programmes delivered by a range of bodies. The service makes it easier for businesses to access energy and resource efficiency advice from any entry point, for example Business Gateway, through joint marketing, events and cross-referral. SMEs, in particular, benefit from this holistic advice and support.

---

<sup>192</sup> The Scottish Government, Scottish Energy and Resource Efficiency Service: [www.scotland.gov.uk/Topics/Economy/EconomicStrategy/SERES](http://www.scotland.gov.uk/Topics/Economy/EconomicStrategy/SERES)

6.6.5 For SMEs, the introduction of the GB-wide Green Deal programme is anticipated to offer a new source of funding for energy efficiency measures. In addition, Green Deal itself will be an important contribution in our transition to a low carbon Scotland and could present huge opportunities for Scottish industry, particularly SMEs. The Scottish Government will shortly be launching a scheme to support SMEs through the training and certification processes necessary to become Green Deal approved, including signposting to any financial assistance that may be available.

6.6.6 As noted previously in Chapter 5, **Energy Performance Certificates (EPCs)** are an important source of information. They provide existing and prospective building owners with energy efficiency information and allow comparisons to be made. They are also accompanied with advice on ways in which efficiency could be improved in a cost-effective manner.

### Scottish Water<sup>193</sup>

Scottish Water<sup>194</sup> is part of our critical infrastructure network and provides Scotland-wide water and sewerage services. In public ownership, it reports to Ministers and the Scottish Parliament on its performance. It is subject to the duties on public bodies under the Climate Change (Scotland) Act 2009. The provision of water and sewerage services is energy intensive, and this is a key area for Scottish Water to focus on: reducing its energy demand; making efficient use of that energy; and using its assets for the generation of renewable energy.

Scottish Water operates within a regulatory framework in which Scottish Ministers, set the objectives for the industry to be delivered at least cost to customers. Its activities are broadly separated into core and non-core activities. Core activities are the provision of water and sewerage services to customers in Scotland, and non-core activities are work that Scottish Water undertakes separately from this, such as developing its presence internationally and pursuing other commercial opportunities. Scottish Water submits Business Plans to Ministers for approval covering its core and non-core proposals.

Scottish Water has a considerable asset base which can be used for **renewables projects**, and has technological expertise which can provide a consultancy service to other countries. Its assets have the potential to generate considerably more renewable energy than it requires, and could be used to meet some of Scotland's electricity demand. Scottish Water can act as a landlord allowing other sectors to make use of its land and other assets to generate renewable energy.

<sup>193</sup> Further information about Scottish Water and its subsidiaries is available from: [www.scottishwater.co.uk](http://www.scottishwater.co.uk)

<sup>194</sup> Further information about the water industry in Scotland, including the regulatory framework, see: <http://www.scotland.gov.uk/Topics/Business-Industry/waterindustryscot>

The Scottish Parliament recently passed the **Water Resources (Scotland) Act 2013**, which places a duty on Ministers to take reasonable steps to develop the value of Scotland's water resources. The Scottish Government recognises the monetary and non-monetary value of Scotland's abundant water resources, and the importance of the water sector to Scotland. The Act also tasks Scottish Water with engaging in any activity that it considers will assist in the development of the value of Scotland's water resources. In particular, it sets out that Scottish Water must take reasonable steps to promote the use of its assets for the generation of renewable energy.

**Business Stream**, a subsidiary of Scottish Water, is a provider of water and sewerage services to the non-domestic market. It advises its customers on how to reduce their bills by being more **efficient** in their use of water. This includes: measuring water use; advising on water efficiency measures; benchmarking usage against other businesses in the same sector; and a leakage detection and repair service. So far, it has helped save Scottish businesses more than £35 million in water charges. Business Stream is one of a number of providers who serve the non-domestic market and compete for business.<sup>195</sup>

For Scottish Water, reducing the level of **leakage** from its network is a priority. It has a target to reduce leakage from its water distribution network to the Long Run Economic Level of Leakage as calculated using the current industry standard. Annual reduction milestones are agreed between Scottish Water, SEPA and the Water Industry Commission for Scotland.

## 6.7 Costs and benefits

6.7.1 While these policies, supporting measures, and proposals will drive emission reductions they will also bring a range of other benefits. A recent UK study estimated that around 2.3% of GDP could be saved from straightforward resource efficiency measures, using raw materials more efficiently and generating less waste.<sup>196</sup> In 2010, that would have meant £2.9 billion savings to the Scottish economy – over half of the savings can be made within businesses (£1.5 billion) raising profitability directly.

---

<sup>195</sup> Further information about the non-domestic market in Scotland and the benefits retail competition have brought for businesses is available from the Water Industry Commission for Scotland: [www.watercommission.co.uk/](http://www.watercommission.co.uk/)

<sup>196</sup> Meeting the UK climate change challenge: The contribution of resource efficiency: [www.wrap.org.uk/sites/files/wrap/Final%20Report%20EVA128\\_SEI%20\(1\)%20JB%20SC%20JB3.pdf](http://www.wrap.org.uk/sites/files/wrap/Final%20Report%20EVA128_SEI%20(1)%20JB%20SC%20JB3.pdf)

6.7.2 Taking up remaining opportunities for energy, material and process efficiency will reduce manufacturing costs and boost the competitiveness of industry in Scotland. Low carbon manufacturing, using inputs such as sustainable biomass and future supplies of decarbonised electricity may increasingly be demanded by both UK and export markets.

6.7.3 Moving to low carbon technologies in other sectors of the economy will also create new markets for the goods, such as niche low carbon vehicles, produced in Scotland. We also depend on industry to manufacture some components in Scotland – products which need to become ever more energy efficient and low carbon over the coming decades.

6.7.4 The proposals and policies described will require investment from the public sector, business and other sources. Annex A and the Technical Appendix provide further information about these costs.

**Table 6.1: Highlights of progress since publication of RPP1**

Business, Industry and Public Sector	Summary
<p><b>Policies</b></p> <p><b>Smart Metering and Better Billing</b></p>	<p>This initiative is led by the UK Government due to policies regarding the UK electricity market being reserved to Westminster. Latest estimates from DECC are that suppliers have installed approximately 1.25 million smart meters across Great Britain during the Foundation stage of the programme. Separate Scottish figures are not currently available. DECC announced in May 2013 that the planned mass roll-out of smart-meters had been delayed until autumn 2015 in order to allow time to finalise the technical specifications for the meters. In light of this, the main Scottish energy suppliers have delayed intensive installation activity. However, Scottish Power has installed 30,000 smart meters in a pilot programme, of which more than 50% were in Scotland. The Scottish Government bases its figures on the latest DECC projections and it is not believed that the delay to the main roll-out of the programme will significantly impact overall emissions abatement.</p>
<p><b><u>Energy Intensive Business Package</u></b></p> <p><b>Climate Change Levy and Climate Change Agreements</b></p> <p>The Climate Change Levy is a UK tax on energy use in industry, commerce and the public sector, used to support energy efficiency and renewables. The voluntary UK Climate Change Agreements enable eligible energy intensive businesses to receive a 90% discount on the Climate Change Levy for electricity use in return for meeting energy efficiency or carbon saving targets.</p>	<p>UK Government announced in the 2013 Budget that it will introduce exemptions from the Climate Change Levy for energy used in metallurgical and mineralogical processes from 1 April 2014.</p> <p>Alongside this, a new simplified Climate Change Agreements scheme launched 1 April 2013 and shall provide an extension to the Climate Change Levy rebate for energy intensive industries until 2023 in return for meeting energy efficiency improvement targets. The Environment Agency has taken over administration of the new scheme, providing a simplified and streamlined approach to administration for both Government and Industry. Around 376 facilities in Scotland now have Climate Change Agreements.</p> <p>On 1 April 2013, the rebate increased from 65% to 90%.</p>

**Carbon Trust and Energy Saving Trust Programmes and successor programmes to encourage businesses and the public sector to reduce energy consumption (including loans to SMEs)**

**Carbon Trust and Energy Saving Trust Programmes**

**Carbon Trust Programme** (grant funding ceased 31 March 2013 and activity was replaced by Resource Efficient Scotland.)

The Scottish Government invested over £23 million between 2007-08 to 2012-13 into the Carbon Trust for non-domestic advice and support. The Carbon Trust worked with Scottish businesses with an energy spend of over £30,000 p.a. and also with the public sector to reduce energy use, carbon emissions and to implement energy efficiency measures. Through the Carbon Trust 150 large public sector organisations have Carbon Management Plans in place.

It is estimated that the potential lifetime savings of the Carbon Trust programme could be up to £920 million and 10.2 MtCO<sub>2e</sub>.

**Energy Saving Trust Programme** (grant funding ceased 31 March 2013 and activity was replaced by Resource Efficient Scotland.)

Around £3 million was invested from 2007 into the Energy Saving Trust (EST) programme for non-domestic advice. Between 2007 and 2011, EST worked with over 2,500 organisations.

It is estimated that the potential lifetime savings of the EST programme could be up to £43.6 million and 219 KtCO<sub>2e</sub>.

**Resource Efficient Scotland**

On 1 April 2013, a new, single Resource Efficient Scotland programme integrating energy and resource efficiency services, delivered previously through Carbon Trust, Energy Saving Trust and Zero Waste Scotland, was launched. The Scottish Government is investing £7 million annually to establish the programme. The new programme provides support to businesses, third sector and public sector organisations to reduce overheads through improved energy, material resource and water efficiency, and in doing so it will help cut carbon across public and private sectors organisations.

### **Scottish Futures Trust (SFT) Low Carbon Workstream**

SFT's indicative analysis shows that an investment of c.£300 million in low carbon measures across the Scottish Public Sector estate could lead to potential cost reductions in the region of c.£1.1 billion before financing costs or £900 million after financing costs.

The Scottish Government is supporting the Scottish Futures Trust to establish a Low Carbon Workstream to develop commercial delivery structures; to aggregate projects and establish national programmes of energy efficiency projects; to realise investment potential, attract in private finance such as the Green Investment Bank, as well as reduce costs for all authorities and the wider public sector. Initial areas of focus are street lighting, non-domestic retrofit, micro generation and district heating.

### **Scottish Government funding and finance**

The Scottish Government supports a number of schemes that provide funding and finance to help private and public sector organisations to invest in measures to improve their energy and resource efficiency and reduce emissions. A breakdown is provided in Table 6.2 'Scottish Government funding and finance schemes' below.

### **Green Deal & Supporting Policy (UK policy)**

In January 2013, the UK Government launched its GB wide Green Deal initiative which intends to reduce carbon emissions cost effectively by revolutionising the energy efficiency of British properties. Within the initiative is a new innovative financial mechanism that eliminates the need to pay the upfront capital cost of energy efficiency measures and is repaid through savings made on fuel bills.

Green Deal itself could present huge opportunities for Scottish SMEs who can get involved in the provision and delivery of Green Deal.

The Scottish Government will shortly be launching a scheme to support SMEs through the training and certification processes necessary to become Green Deal approved including signposting to financial assistance.



<p><b>CRC Energy Efficiency Scheme</b></p>	<p>The Scottish Government has worked closely with the Devolved and UK governments to successfully implement the CRC simplification package. This will reduce the administrative burden of the scheme on Scottish participants with minimal reductions in emissions coverage. So far Scottish participants' emissions have dropped from 4.5 MtCO<sub>2</sub> in 2010-11 to 4.1 MtCO<sub>2</sub> in 2011-12, a change of 0.4 MtCO<sub>2</sub> or approximately 9%, although it is too early to say how much of this reduction can be attributed to the CRC.</p> <p>Based on the estimated energy savings set out in the DECC impact assessment, and consistent with the method used to attribute emissions reductions to Scotland, it is estimated that by the end of 2012 energy savings totalled 120 GWh (16 GWh Electricity and 104 GWh Gas). To put that in context, total Scottish final energy consumption in 2010 in the Industrial and Commercial Sector was 66,217 GWh. By 2020, energy savings in Scotland are estimated to be 779 GWh (135 GWh Electricity and 644 GWh Gas.)</p>
<p><b>New Build non-domestic energy standards for 2007 and 2010</b></p>	<p>Non-domestic buildings built to 2007 standards have emissions 23-28% lower than those built to 2002 standards. Non-domestic buildings built to 2010 standards have emissions 30% lower than those built to 2007 standards. An increasing proportion of new buildings being completed are now to these standards.</p> <p>The impact of this policy has been assessed in terms of emissions abatement. The abatement was identified as approximately 14-16 ktCO<sub>2</sub> annually. As abatement is cumulative from each year's build, this would give an annual abatement of 133 ktCO<sub>2</sub> in 2020 and 253 ktCO<sub>2</sub> in 2027.</p>
<p><b>Renewable Heat</b></p>	<p>The <b>Scottish Biomass Heat Scheme</b>, funded by the Scottish Government and Forestry Commission Scotland ran from 2009 to 2011. £2.7 million was paid to 44 projects including hotels, farms, and estates, a brewery and a timber processing plant. The funding also enabled the growth of woodfuel supply chains and Energy Services Companies (ESCOs) to design, build and supply small-scale biomass district heating schemes.</p> <p>The <b>Renewable Heat Incentive (RHI)</b> for non-domestic installations was launched by the UK Government in November 2011. Ofgem's RHI Register shows that to date 259 projects in Scotland, totalling 61 MW thermal, mainly biomass, have been registered to date.<sup>197</sup> These installations have generated 50 GW hours of heat, with payment made of £1.7 million, about 16% of the total paid to date under the RHI.</p>

<sup>197</sup> Ofgem Renewable Heat Incentive (RHI) Register: <https://rhi.ofgem.gov.uk/Default.aspx>

<p><b>Energy Performance of Buildings Directive 2010/31/EU</b></p>	<p>This EU Directive requires the production of Energy Performance Certificates on construction, sale or rental of buildings and that large buildings frequently visited by the public display their energy performance certificate. It also requires giving of advice on cost-effective energy efficiency measures and inspections of air conditioning systems. There is no abatement directly attributed to this Directive within RPP2.</p>
<p><b>Proposals</b></p>	
<p><b>New-build non domestic energy standards for 2013.</b></p>	<p>The review of energy standards in building regulations proposed in RPP1 is nearing completion. Between January and April 2013, the Scottish Government consulted on new standards for 2014, which propose a further 43% reduction in emissions over 2010 standards (60% reduction on 2007 standards) took place. An announcement on standards is anticipated before autumn 2013.</p> <p>In support of this review, work is also underway to improve compliance and as-built performance, both within building regulations and in the wider industry process of procurement, design and construction.</p>

**Table 6.2: Scottish Government funding and finance schemes**

Project	Description	Amount invested by SG (£m)	Estimated savings (lifetime)	
			(£m)	KtCO <sub>2</sub> e
Central Energy Efficiency Fund (CEEF)	<p>Launched in 2004, CEEF continues to provide a ring-fenced source of funding for public sector organisations for energy efficiency and renewable measures.</p> <p>CEEF has supported over 95 projects in Scotland's NHS with emissions reductions of around 167 KtCO<sub>2</sub>e and revenue savings of over £5.3 million. Scottish Water reported lifetime savings of over 770 ktCO<sub>2</sub>e and of over £90 million.</p>	20*	95.3	940
Salix Finance loans fund	<p>Since 2008, Salix Finance has managed a £4 million revolving loans fund on behalf of the Scottish Government to fund low carbon investment projects in Scottish Further and Higher Education establishments. In October 2012, the Scottish Government invested another £1 million to this scheme as part of the Green Investment Package bringing the total invested to £5 million.</p>	5	42	231
Green Investment Package	<p>We have committed £10.3 million between 2012-13 and 2013-14 to enhance public sector loans funds and energy efficiency projects.</p>	10.3	-	20.6**
Small Business Loans Scheme	<p>Administered by the Energy Saving Trust on our behalf, loans of £1,000 - £100,000 are available to SMEs to install renewable energy technologies or measures that reduce energy consumption.</p>	11.4	18.5	57

\* Money invested prior to 2007-08

\*\* Estimated cumulative annual savings over period 2012-2014

**Table 6.3: Summary of Business, Industry and Public Sector policies and proposals**

<b>Business, Industry &amp; Public Sector</b>	<b>EU, UK or Scottish</b>	<b>Annual Abatement (KtCO<sub>2</sub>e) in 2020</b>	<b>Annual Abatement (KtCO<sub>2</sub>e) in 2027</b>	<b>Earliest start date</b>
<b>Policies</b>				
<b>Smart Meters</b> Roll-out of "smart" meters to small and medium-size businesses to encourage better energy management.	UK	53	46	Preliminary installations have been undertaken by some suppliers during the Foundation Stage pending full roll-out
<b>CRC Energy Efficiency Scheme</b> UK-wide policy designed to incentivise investment in energy efficiency. The Scheme requires large non-energy intensive organisations to measure and report their carbon dioxide emissions and purchase allowances issued by the UK Administrator <sup>198</sup> for each tonne of carbon dioxide they emit.	UK/Scottish	130	154	2010
<b>Buildings Energy Standards (2010) - New Build Properties</b> Non-domestic buildings built to 2007 standards have emissions 23-28% lower than those built to 2002 standards. Non-domestic buildings built to 2010 standards have emissions 30% lower than those built to 2007 standards.	Scottish	57	101	2010

<sup>198</sup> With the agreement of Scottish Ministers, the Environment Agency operates as UK Administrator for the purpose of allowance sales.

<p><b>Green Deal &amp; Supporting Policy</b></p> <p>The Non-Domestic Green Deal is a GB wide policy. From early 2013 non-domestic property owners and occupiers can apply for energy efficiency measures funded through private finance with costs recouped from charges on energy bills.</p>	UK	92	24	2013
<p><b>EU Products Policy</b></p> <p>EU Products policy is addressed through the Eco-design Framework Directive. An important element of this is improving the energy efficiency of products. This reduces electricity consumption and heat output. The emissions savings from using less electricity are factored into the RPP2 calculations in the energy sector. The reduced heat output is shown here, reflected in a slight increase in emissions resulting from compensatory use of space heating. The overall effect, however, is to reduce total emissions.</p>	EU	-11	-8	On-going
<p><b>Renewable Heat Incentive (RHI - Non Domestic)</b></p> <p>This is a UK policy providing a tariff payment for heat generated by renewable technologies including biomass, heat pumps, geothermal, solar thermal, biogas and biomethane. Payments are made for the metered heat produced by an installation over 20 years.</p>	UK	896	914	2011
<b>Proposals</b>				
<p><b>Non-domestic buildings new-build energy standards for 2014</b></p> <p>Review of non-domestic building standards with the proposal to improve them further to achieve emissions reductions of 60% compared to 2007 standards.</p>	Scottish	25	60	2014

<p><b>Assessment of Energy Performance and Emissions Regulations (Non Domestic Buildings)</b></p> <p>Buildings account for over 40% of greenhouse gas emissions in the UK. However, as less than 1% of the existing stock is replaced by new buildings each year, regulations are to be introduced under Section 63 of the Climate Change (Scotland) Act for the assessment of the energy performance and emissions of existing non-domestic buildings and for owners to improve the energy performance of their buildings and to reduce emissions.</p>	<p>Scottish</p>	<p>42</p>	<p>142</p>	<p>2013</p>
<p><b>Public Sector (additional potential)</b></p> <p>Research by the Carbon Trust suggests potential to increase public sector emissions reductions. The Scottish Government is currently reviewing how this potential could be realised, with a view of publishing an action plan for delivering more in partnership with other public organisations. Working with the Scottish Futures Trust, Resource Efficient Scotland, COSLA and NHS Health Facilities Scotland we plan to bring forward a nationwide programme of energy efficiency projects across the public sector estate including; greener street lighting and non-domestic building retrofit with the potential to attract investment from the private sector such as the Green Investment Bank. Indicative analysis indicates that an investment of £300 million could lead to potential cost reductions in the region of £900 million. The Scottish Government has made up to £2 million available in 2013/14, to encourage local authorities to undertake street lighting condition surveys as an early action.</p>	<p>Scottish</p>	<p>239</p>	<p>285</p>	<p>2013</p>
<p><b>Low Carbon Heat (Non Domestic)</b></p> <p>The Scottish Government has published a “Draft Outline Heat Vision” and “Draft Heat Deployment Options Guidance”. They bring together policy on heat across government to show how they contribute to our Economic Strategy objective to make the transition to a low carbon economy. We will develop a new Heat Generation Policy Statement in 2013. This will set out future supply scenarios, building upon the success of the Electricity Generation Policy Statement.</p>	<p>Scottish</p>	<p>101</p>	<p>1,334</p>	<p>2013</p>