A Short Guide to the **Department of Energy & Climate Change**

July 2015

National Audit Office

About this guide

Contact details

The National Audit Office scrutinises public spending for Parliament and is independent of government. The Comptroller and Auditor General (C&AG), Sir Amyas Morse KCB, is an Officer of the House of Commons and leads the NAO, which employs some 810 people. The C&AG certifies the accounts of all government departments and many other public sector bodies. He has statutory authority to examine and report to Parliament on whether departments and the bodies they fund have used their resources efficiently, effectively, and with economy. Our studies evaluate the value for money of public spending, nationally and locally. Our recommendations and reports on good practice help government improve public services, and our work led to audited savings of £1.15 billion in 2014.

This Short Guide summarises what the Department of Energy & Climate Change does, how much it costs, recent and planned changes and what to look out for across its main business areas and services.

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At least an
80%
reduction in greenhouse gas emissions by 2050 against a 1990 baseline – a legally binding target established for the UK to achieve by The Climate Change Act 2008

£16.6 billion
lifetime discounted costs for first 8 renewable energy projects given price support under new Contracts for Difference regime

£1.7 billion
payments committed to secure electricity supplies in 2018-19 and subsequent years under new Capacity Market regime

50%
of UK gas supply now imported

Around
4.5 million
UK households in fuel poverty in 2013, including 2.75 million households in England[1]

7%
of the average UK household energy bill relates to environmental and social policies

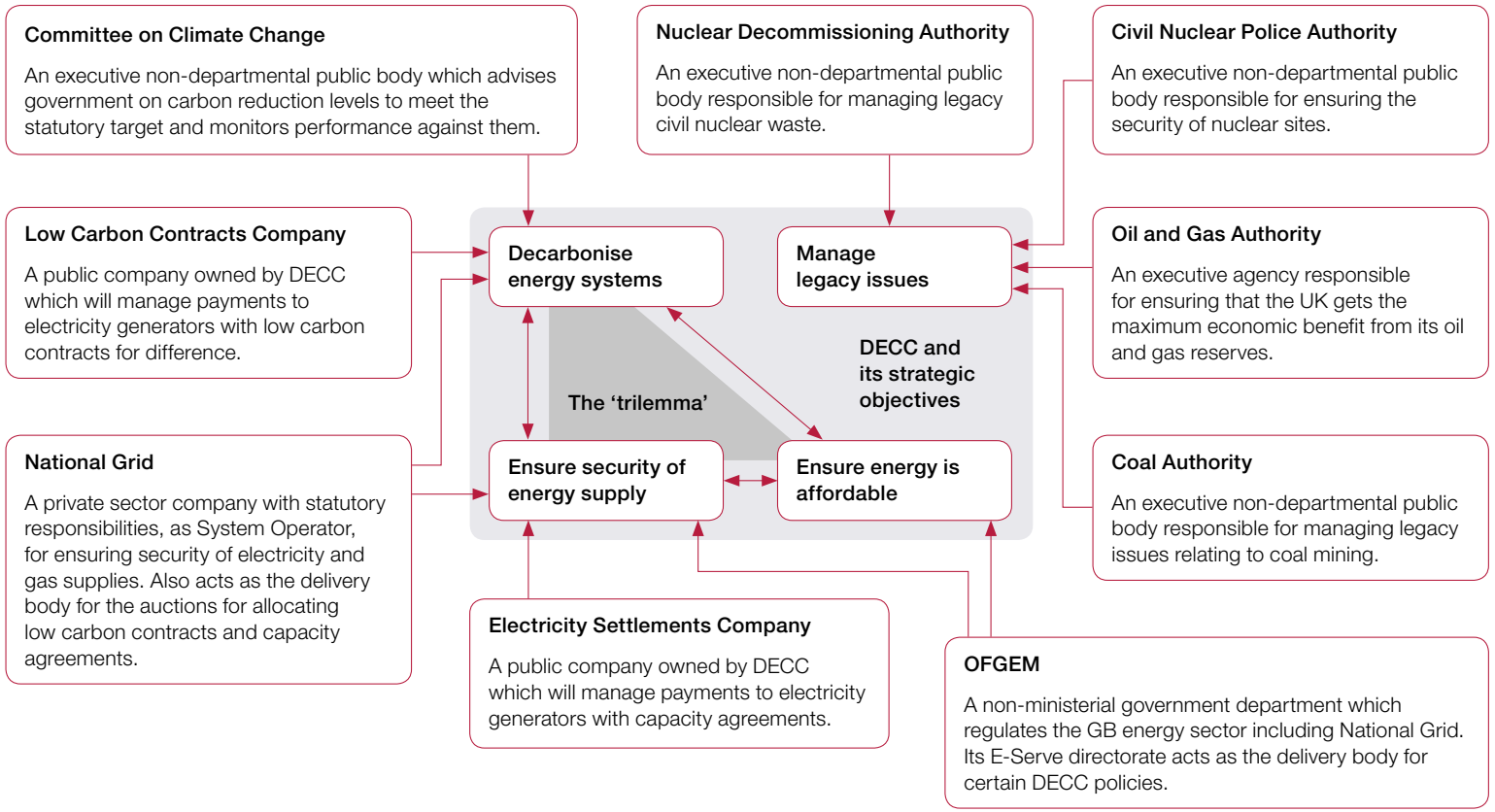
£65 billion
estimated discounted lifetime cost for decommissioning nuclear sites and storing the waste securely to 2120 (figure as at March 2014)

Note

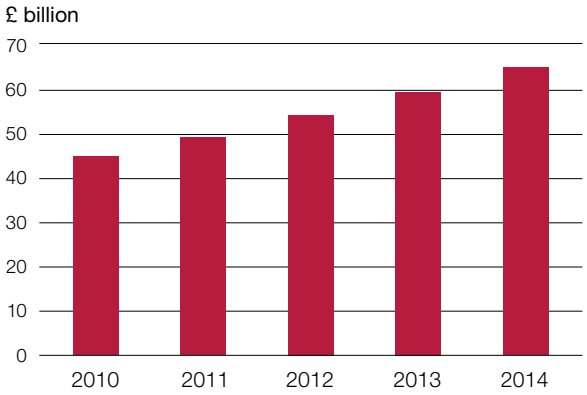
1 2.35 million in England under DECC's new definition of fuel poverty.

- DECC has a number of key delivery partners as shown in the figure below.
- DECC's energy objectives are often referred to as its 'trilemma', because the objectives can conflict and policies can contribute to, or impact upon, more than one of its objectives. It has a number of key delivery partners.
- Energy policy is largely 'reserved' and overseen by DECC for the UK or GB, but some areas are devolved to Scotland, Wales, and Northern Ireland.

DECC and its strategic objectives



DECC's provision for the costs of decommissioning the Nuclear Decommissioning Authority's estate has risen significantly

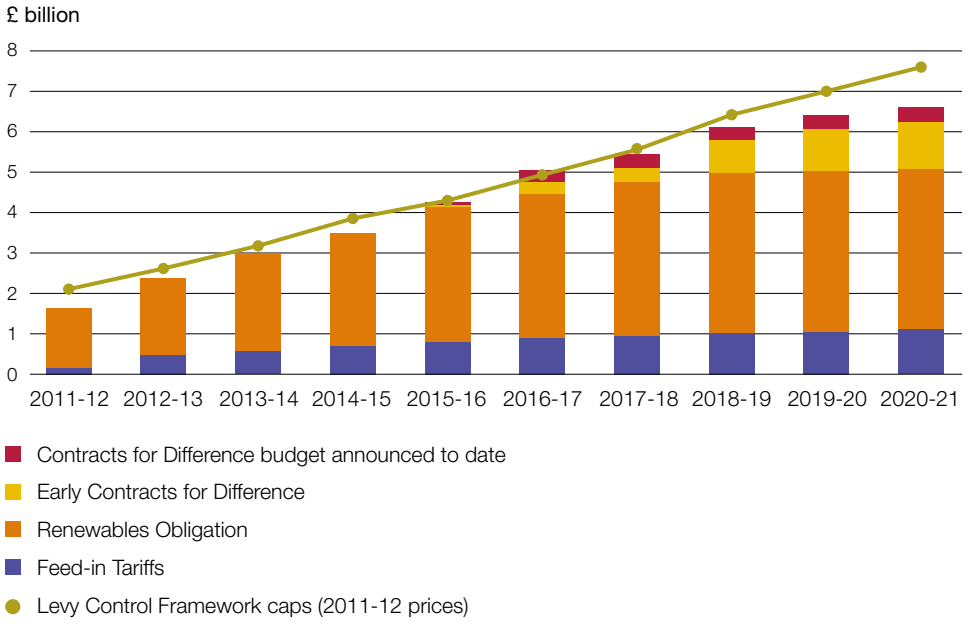


Source: National Audit Office

DECC's accounting provisions for future expenditure totalled £70 billion as at end March 2014. This includes £65 billion relating to nuclear waste (the 'nuclear provision'), and certain other historical liabilities. The nuclear provision has risen significantly, as estimates have increased for dealing with the complexity of the Sellafield estate.

DECC's liabilities may increase significantly if it has to account for the full future cost of signed Contracts for Difference. These contracts were introduced to incentivise investment in low-carbon generation and their costs are borne by consumers. The January 2015 Supplementary Estimates include sufficient budget to cover a £28 billion liability for CfDs in 2014-15.

The Levy Control Framework sets caps to limit consumer-funded expenditure on energy policies



Source: Department of Energy & Climate Change, Annual Energy Statement October 2014

Many DECC policies, including Contracts for Difference, the Renewables Obligation and the small-scale Feed-in Tariff scheme, are funded by electricity suppliers who recover their costs by increasing consumer bills.

The Levy Control Framework was introduced by HM Treasury and DECC in 2011 to set caps on consumer-funded expenditure on energy policies. It covers those policies which are currently classed as 'levies'.

Other consumer-funded policies, such as the Energy Company Obligation, are not in the Levy Control Framework, but are reported alongside it.

Gross expenditure (2013-14)

Income (2013-14)

NDA income: £1,085m

from fuel reprocessing and sales of electricity generated. This reduced NDA's net funding requirement to £2,229m

Mineworkers Pension Scheme: £700m

A one-off repayment of surplus following a revaluation of assets and commitments

Other licence fee and tax revenues collected and paid directly to the Consolidated Fund: £1,107m

- Sales of carbon allowances under the EU Emissions Trading Scheme £369m
- Sales of carbon allowances under the Carbon Reduction Commitment £671m
- Petroleum license fees £68m

Note

1 DECC is responsible for the collection and accounting for these revenues, through its Trust Statement, and for the expenses incurred in their collection.

Source: National Audit Office

DECC's expenditure fell sharply in 2011-12 and was below its spending limits, because of:

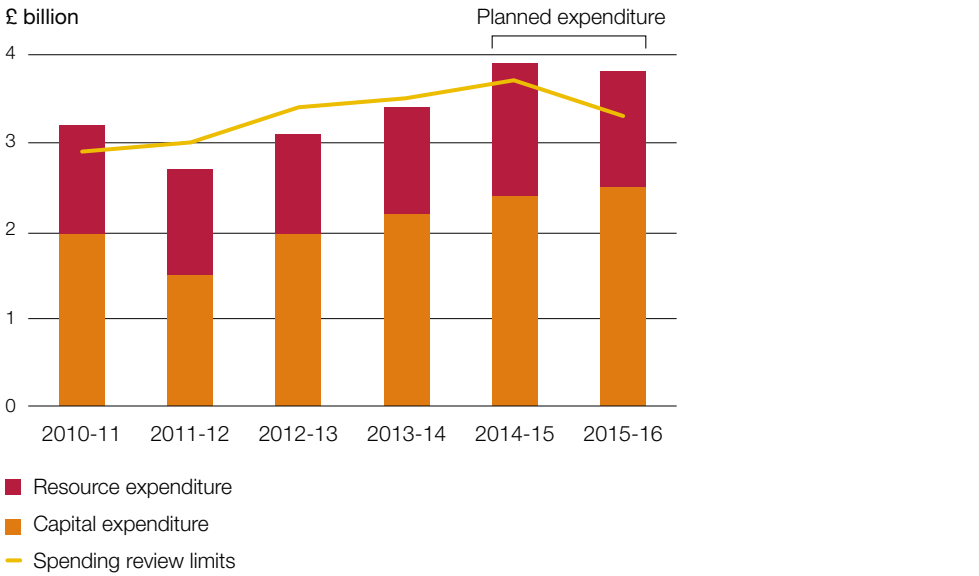
- a short-term reduction in funding for International Climate Finance followed by increased spending in the later years of the spending review period; and
- reduced spending on the Warm Front scheme, as it was replaced by the levy-funded Warm Homes discount.

Since then, DECC's expenditure has grown mainly due to additional expenditure on:

- nuclear decommissioning;
- Official Development Assistance to developing countries to help them address global warming challenges;
- the Green Deal, a scheme for promoting investment in domestic energy efficiency; and
- the Government Energy Discount scheme, which provided a £12 rebate to consumers in 2014-15.

As a result of these factors, spending limits for 2014-15 and 2015-16 are higher than the original spending review settlement.

Spending review limits and outturn and projected expenditure against them

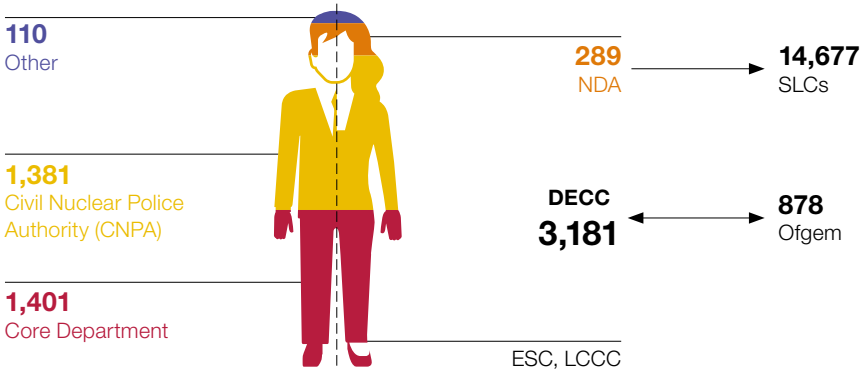


Source: National Audit Office/Department of Energy & Climate Change Departmental Accounts

In 2013-14 DECC employed 3,181 permanent whole-time equivalent civil servants in the core department and its non-departmental public bodies. In addition, the group had 326 non-permanent staff. The Low Carbon Contracts Company (LCCC) and the Electricity Settlements Company (ESC)were legally established in shadow form in 2013-14.

The Nuclear Decommissioning Authority (NDA) owns 17 legacy civil nuclear sites. The Site Licence Companies employ staff and contractors to manage and decommission those sites on behalf of the NDA. In 2013-14, the SLCs employed 14,677 permanent staff, and a further 1,767 non-permanent staff.

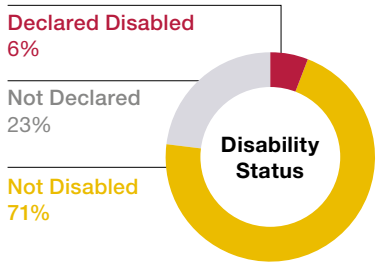
Staff numbers (whole-time equivalent figures for 2013-14)



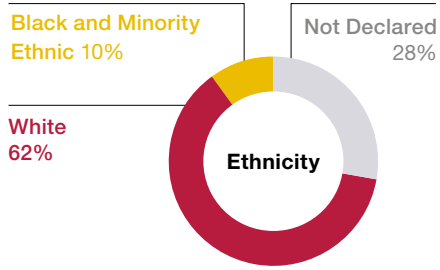
Diversity of DECC core staff

Gender

Disability status



Ethnicity



Pay median of directors

Highest remuneration	7.1	5.5	3.5	3.9	3.4
Median	£443,460	£212,500	£167,500	£146,070	£132,500
	£62,840 NDA	£38,330 Ofgem	£47,920 DECC	£37,090 Coal Authority	£38,650 CNPA

Source: Annual Report and Accounts (2013-14)

The government has conducted its Civil Service People Survey annually for the past 5 years. The most recent survey was carried out during October 2014.

DECC's scores have improved since 2012 and all but one are now greater or equal to the civil service benchmark.

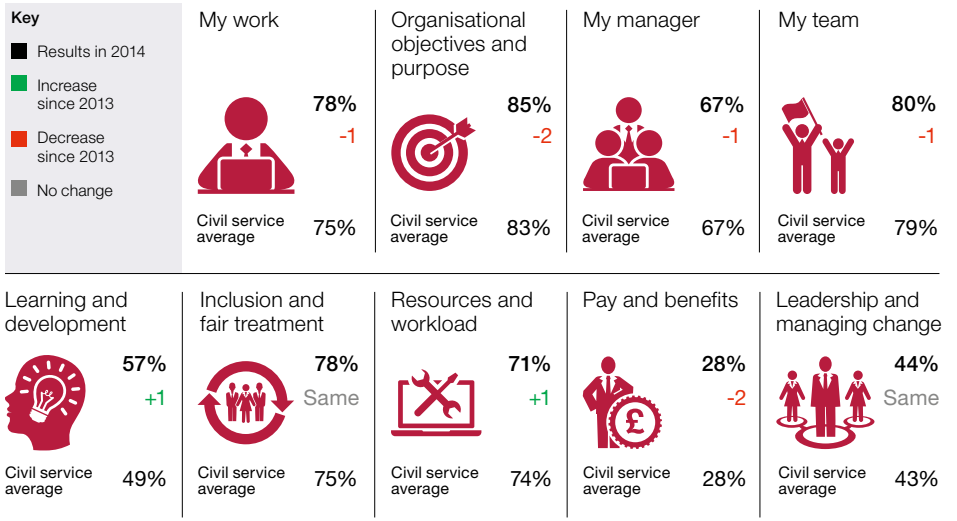
Staff are particularly positive about learning and development opportunities (8% above the benchmark).

The relatively low scores for resources and workload reflect concern about work–life balance (3% below the benchmark)

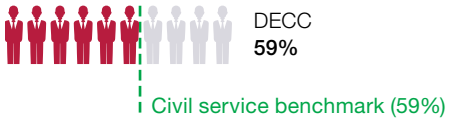
The main measure from the people survey is the employee engagement index, which measures an employee's emotional response to working for their organisation.

DECC's engagement score of 59% in 2014 was almost the same as in 2013 and equal to the civil service benchmark.

Attitudes of staff in 2014 compared with 2013



Engagement index 2014



Sources: Civil Service People Survey 2013 and 2014

Objectives and programmes	Developments
Decarbonise energy systems: • Coordination of cross-government action to tackle climate change and meet associated EU directives • Setting strategic framework for incentivising the energy market to invest in low carbon electricity generation • Support for reducing use of fossil fuels for heating	• 'Electricity Market Reform' (EMR) was launched in 2010 and refers to the introduction of four key policies – the Carbon Price Floor, Contracts for Difference, the Capacity Market, and the Emissions Performance Standard. EMR was intended to incentivise a step change in investment in low carbon electricity generation. • Renewable Heat Incentive introduced to increase the use of renewable energy for heating. • Implementation of EU Emissions Trading Scheme (Phase 3), and ongoing negotiations on further reforms to it.
Ensure security of energy supply: • Setting strategic framework for incentivising investment in sufficient electricity generating plant • Monitoring security of supply and emergency preparedness	• Formal adoption of a security of supply standard (Loss of Load Expectation) • New Balancing Services introduced for electricity generation and supply to reduce the risk of winter blackouts over the next few years. • Capacity Market introduced to pay existing fossil fuel and nuclear generators to maintain operational capability and to incentivise new investment in generating plant able to respond to peak electricity demand.
Ensure energy is affordable: • Managing and limiting policies which are consumer-funded • Direct support and market framework to incentivise investment in energy efficiency • Setting strategic framework for Ofgem to regulate investment and operation of GB electricity and gas markets	• Levy Control Framework introduced by HMT and DECC with caps to control costs and limit new commitments to consumer-funded policies. • Introduction of the Green Deal, Energy Company Obligation, and Smart Meters programme to improve energy efficiency in domestic properties and small businesses. • New approach by Ofgem to price regulation of GB energy networks to achieve greater levels of efficiency. This is known as RIIO, which stands for 'Revenue = Incentives + Innovation + Outputs'. • Ofgem referral of the energy sector to the Competition and Markets Authority to investigate whether the market restricts or distorts competition.
Manage legacy issues: • Funding for the Nuclear Decommissioning Authority to deal with UK legacy civil nuclear waste. • Legacy issues from coal mining.	• The NDA has 17 sites and has contracted with 4 'parent body' owners to manage their site licence companies. For the Sellafield site the NDA is to terminate its parent body agreement with Nuclear Management Partners on 1st April 2016, and implement a new delivery model.

The Levy Control Framework is a valuable tool to control consumer costs

The Levy Control Framework (November 2013): Some DECC policies are funded not by government but by energy suppliers who pass these costs on to consumers. The Levy Control Framework puts caps on consumer-funded expenditure, and provides greater certainty for investors on the future level of consumer funding available. But it does not cover all consumer-funded energy schemes and its future scope is not clearly defined.

DECC committed too much of the consumer funding available for Contracts for Difference through its early contracts, without price competition

Early contracts for renewable electricity (June 2014): The Department's decision to award up to £16.6 billion of early contracts to support investment in new low carbon generation plant in May 2014 limited the opportunity for DECC to secure better value for money through price competition under the full regime from December 2014.

The programme to install 53 million smart meters in homes and small businesses by 2020 offers the potential for significant economic benefits, but significant risks remain

Smart meters update briefing (June 2014): The economic case for the programme remains positive, but there are significant risks and challenges to its successful implementation. Total net estimated benefits from the programme have reduced from £8.3 billion to £6.2 billion, primarily as a result of a one year delay to the completion of mass roll-out. Additional benefits claimed by the Department are as yet unquantifiable, and the likely impacts on the bills of different household types and income groups have not been quantified.

Decommissioning work on the Sellafield site has cost more and taken longer than planned

Managing risk reduction at Sellafield (November 2012): The NDA faces a considerable challenge in taking forward decommissioning and cannot say with certainty how long it will take or how much it will cost. Twelve of the fourteen major decommissioning projects at Sellafield have achieved less than planned. In November 2012, it was too early to judge whether the NDA's appointment of Nuclear Management Partners Limited as the 'parent body' of Sellafield Ltd was delivering value for money.

Progress on the Sellafield site: an update (March 2015): The NDA's estimate of the lifetime cost of decommissioning Sellafield has increased further, as it has got a better understanding of the risks and challenges on the site and the efficiencies achievable. There has been slower progress than expected on decommissioning the high hazard legacy facilities. The NDA's estimates for completion of the two pond programmes have stabilised but it has put back estimated completion dates for the two silos programmes. The NDA decided to end its contract with Nuclear Management Partners and take back ownership of Sellafield Limited as its subsidiary, to achieve efficiency savings and benefits. The NDA acknowledges significant risks in the transition to this new management model.

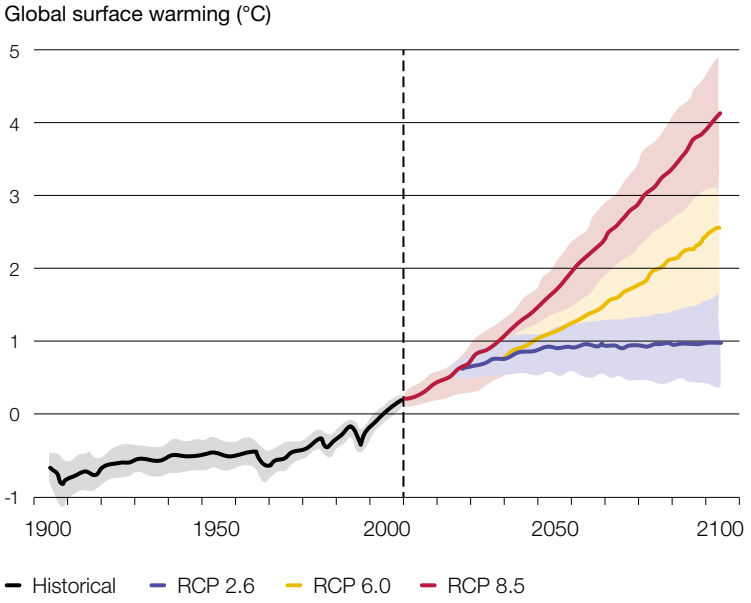
Our work on energy issues is available through our website: www.nao.org.uk

Decarbonisation

What is involved?

Why is there a problem?

The likely rise in average world temperature from global warming



Source: National Audit Office, based on IPCC AR5

The consensus of scientific opinion is that greenhouse gases from human activities contribute to global warming; and that, if emissions are not reduced, global temperatures may rise between 2–5°C this century. This would have potentially devastating consequences for ecological systems and human welfare.

UK response:

- UK to source 15% of all energy from renewables by 2020 to meet its EU statutory target. The EU aims to reduce carbon emissions across the EU by 40% by 2030, against a 1990 baseline.
- The UK Climate Change Act (2008) established a statutory target for the UK to achieve at least an 80% reduction in greenhouse gases by 2050 against a 1990 baseline. It requires government to set 5-year carbon budgets.
- The UK Carbon Plan (2011) confirmed measures to meet the first three carbon budgets (2008–12, 2013–17, 2018–22). The government has agreed the 4th carbon budget (2023–27) and must set the 5th carbon budget (2028–32) by June 2016.
- DECC concluded from its '2050 Pathways' analysis (2010) that electricity generation needed to be decarbonised by the 2030s, in order to provide a basis for decarbonising transport and heating.
- Energy is largely a reserved matter under the devolution settlements with Scotland, Wales, and Northern Ireland. However, environmental policy is devolved and the Scottish Executive has, for example, set its own targets for renewable energy.

How does DECC incentivise decarbonisation?

Electricity Market Reform (EMR)

- **Carbon Price Floor** (CPF) is a tax on fossil fuels used for generating electricity.
- **Contracts for Difference** (CfDs) fix the price low carbon generators receive for their output.
- The **Emissions Performance Standard** (EPS) sets an emissions limit for power plants, which new coal fired plants can only meet if they capture and store their carbon emissions.

Other policies

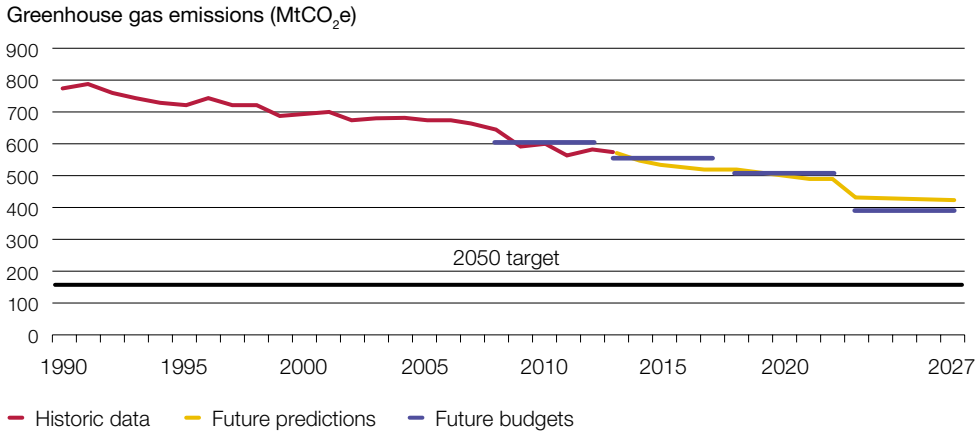
- The **Renewables Obligation** supports renewable generation technologies. It is being replaced by CfDs and will close to new applications in 2017.
- The **Renewable Heat Incentive** (RHI) supports renewable energy heating for domestic and non-domestic buildings.
- The **small-scale Feed-in Tariff scheme** supports renewable generation, such as solar panels and biomass.
- The **EU Emissions Trading Scheme** promotes decarbonisation.

Decarbonisation

Targets and pathways to deliver decarbonisation by 2050

Climate Change Act budgets and targets

UK greenhouse gas emissions (actual and predictions 1990–2027)



Source: National Audit Office

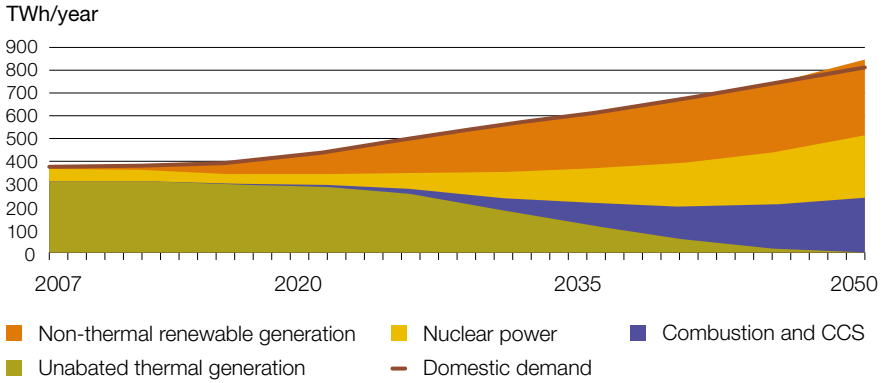
To date, the UK has met the first carbon budget set under the Climate Change Act 2008 and is on track to meet the next, as emissions have reduced due to:

- The building of gas power stations in the 1990s which displaced more carbon-intensive coal plants.
- The economic downturn from 2008 which had a significant dampening effect on energy demand.

The data takes no account of the embedded carbon emissions in imported goods and services. If these are included, UK emissions are significantly larger and increased up until 2007, but have since reduced.

DECC '2050 Pathways' analysis

Changes in electricity demand and generation to 2050



Source: Department of Energy & Climate Change

In 2010, DECC modelled a number of different scenarios that could achieve the 2050 target. Its 'pathway alpha' was based on a balanced spread of effort across all sectors, requiring that by 2050:

- electricity demand doubles as:
  - 30–60% of home heating is electric
  - 80% of car miles are in electric cars
- energy efficiency is improved by 33%;
- around 1.5GW of Carbon Capture and Storage generation is built each year from 2030 to 2050;
- one new nuclear power station (1.2GW) is built each year from 2018 until 2050;
- 3GW of offshore wind (around 500 turbines of 6MW) is built each year from 2020 to 2040; and
- bioenergy crops cover 10% of UK land.

How much does it cost?

Stern Review (2006): the Economics of Climate Change

The Stern Review estimated that the annual costs of achieving deep cuts in greenhouse gas emissions and stabilising atmospheric concentrations at 500-550ppm CO_2e would amount to 1% of global GDP by 2050. By contrast, if no action were taken, the overall costs of climate change would be equivalent to losing at least 5% of global GDP each year; and, if a wider range of risks and impacts were taken into account, the estimates of damage could rise to 20% of GDP or more.

The costs of Electricity Market Reform (EMR)

Cost or benefit of EMR	Compared to:
£10.7 billion net benefit to 2030	Using existing policies to achieve a similar generation mix by 2030
£9.2 billion net cost to 2030 but a net benefit of £2.7 billion to 2050	No decarbonisation ambition option

CfD contracts allocated to date

In 2014, DECC awarded 8 early contracts for difference (CfD) for renewable electricity generation projects with a total capacity of 4.5 GW, for which the estimated lifetime cost to consumers will be £16.6 billion, if they are all developed.

The first CfD auction in December 2014 resulted in 25 contracts worth £315 million per year being signed with a range of low carbon generators. These projects could deliver over 2GW of renewable energy capacity. The auction has driven down costs, resulting in the capacity delivered costing £105m a year less than it would have been in the absence of competition.

Other policies

As with EMR, DECC provide estimates in impact assessments of the net discounted cost of other policies over a period of 25 to 30 years. Central estimates for the costs of other key policies:

- Non-domestic Renewable Heat Incentive: £4.2 billion.
- Domestic Renewable Heat Incentive: £1.8 billion.
- Small scale Feed-in Tariff scheme: £8.2 billion (original 2010 impact assessment).

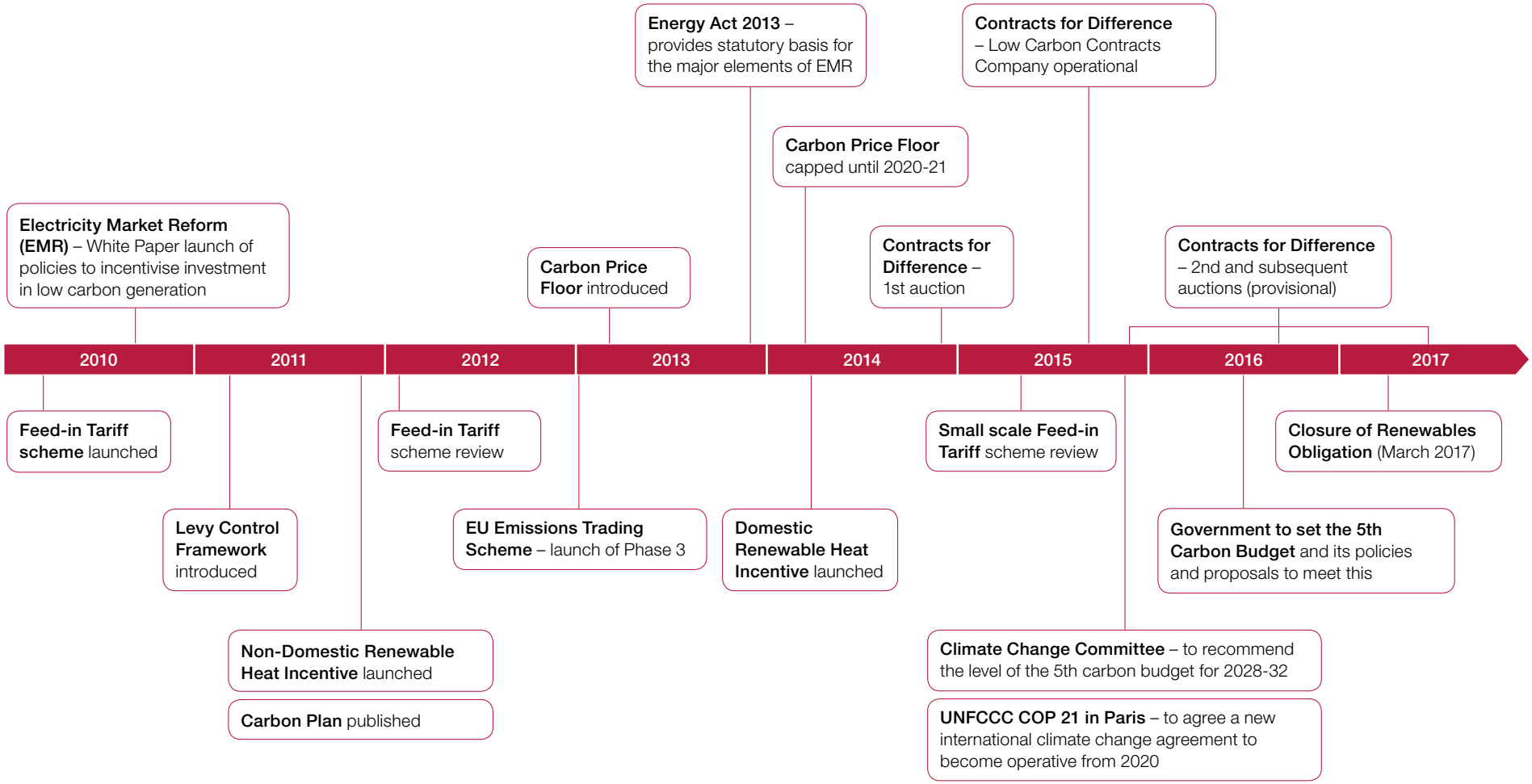
Revenues raised

Some decarbonisation policies are like taxes and increase the cost of emissions and generate income. In 2013-14, income included:

- £369 million from sale of EU ETS allowances.
- £671 million from sales of Carbon Reduction Commitment allowances.
- £1.3 billion from the Climate Change Levy.

Decarbonisation

Recent and future developments



Source: National Audit Office

Decarbonisation

What are the things to look out for?

Whether the UK is on track to meet the 2020 EU Renewable Energy Target and the Climate Change Act carbon budgets:

- In 2013, renewables accounted for 5.2% of energy consumed in the UK, up from 3.3% in 2010. The government will need to set out how it plans to meet the 4th and 5th Carbon Budgets.

Whether DECC is using CfDs to support an appropriate mix of technologies, given their different prices:

- The government will set out decisions on the allocation of further renewable contracts in due course, and is expected to hold another CfD auction in late 2015.
- The Department is progressing negotiations for future CfDs for nuclear and other low carbon technologies (such as carbon capture and storage and tidal lagoons).

Whether other developments in energy policy complement CfDs in incentivising investment in low carbon generation:

- The government may reconsider arrangements till closure of the Renewables Obligation, the existing Feed-in-Tariffs and the trajectory for the Carbon Price Floor, which was frozen in 2014 until 2020.
- Ongoing negotiations over future development of the EU Emissions Trading Scheme will determine the future price of carbon allowances.

How the outcome from the international negotiations on the next steps for the UN Framework Convention on Climate Change will support or cut across delivery to meet national commitments.

Ensuring security of supply

What is involved?

What is 'security of supply'?

Security of energy supplies means having enough gas and electricity available at all times to meet demand.

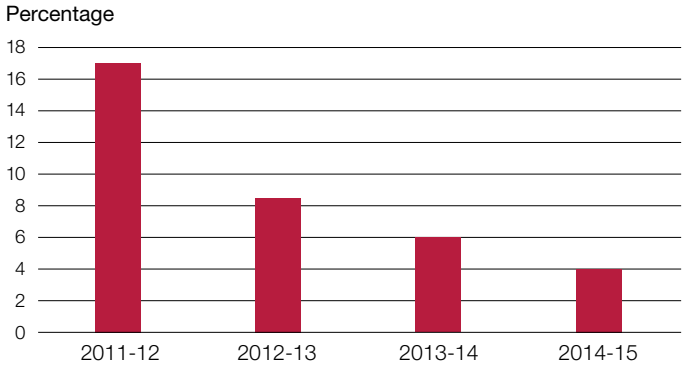
Gas and oil can be readily imported and stored, making it possible to balance supply and demand. The provision of gas and oil is largely a private-sector matter, though a regulated gas distribution network is operated and maintained by National Grid on behalf of DECC. The government also has procedures in place to deal with major emergencies causing disruptions to fuel supplies.

By contrast, electricity cannot be readily stored, and there is a complex regulatory framework in place to ensure that supply and demand are balanced on a second-by-second basis. DECC also plays a key role in influencing private sector decisions on investment in electricity generating plant through the policy framework it has put in place.

This section of the Short Guide therefore focusses mainly on electricity. It also deals largely with supply side issues: energy efficiency policies are considered in the section on Affordability.

Why is there a problem?

Capacity margin during winter



Source: National Grid

The fall in the electricity capacity margin is due to the closure of old coal, nuclear, and gas plants. Reduced excess capacity reduces consumer costs. However, further old plants are due to close and Ofgem forecasts indicate that risks to security of supply over the next few winters have increased significantly.

In 2013, the UK imported 50% of the gas used in the UK for electricity generation, heating and industry. This proportion is likely to increase as North Sea gas production continues to decline.

How does DECC ensure security of electricity supplies?

Balancing Services – National Grid manages a range of services to balance supply and demand in GB. In 2014, Ofgem launched two new services to provide extra reserve capacity.

Balancing Services penalties – Ofgem has increased the financial penalties for generators and suppliers who are out of balance.

The Capacity Market will, from 2018, provide statutory payments for reliable forms of capacity (both demand and supply side), in return for such capacity being available when the system is tight.

Interconnectors with Europe and increasing **harmonisation of the EU energy market** provide additional security through imports of electricity and gas.

Ensuring security of supply

How much does it cost?

Balancing Services

National Grid recover their costs of balancing electricity supply and demand through imposing a 'Balancing Services Use of System' (BSUoS) charge on electricity generators and suppliers. The total costs of balancing services in 2013-14 amounted to **£1 billion**. Further information on balancing services is contained in an NAO briefing.

In 2014-15, Ofgem approved two new reserve balancing services in response to concerns about falling capacity margins – one for reserve generating capacity and one for contracts to reduce demand for electricity when supply is tight. National Grid administers these additional services. They cost £30 million for 2014-15 and in the event, neither service was called upon to meet the winter peak demand.

Capacity Market

The Capacity Market is intended to ensure there will be sufficient capacity (either generation or demand reduction) which can be called upon to meet peak demand. DECC specifies the amount of capacity it requires four years in advance, based on advice from National Grid, and then holds auctions to procure that capacity. Successful bidders are awarded 'capacity agreements' which guarantee payments for providing capacity if needed. DECC expects the Capacity Market to stimulate investment in new capacity, as well as keeping existing capacity operational.

The Department estimates that the Capacity Market will add **£14** to the average domestic electricity bill by 2030, but bills will only increase by **£2** as the capacity market payments will also lead to a reduction in wholesale prices.

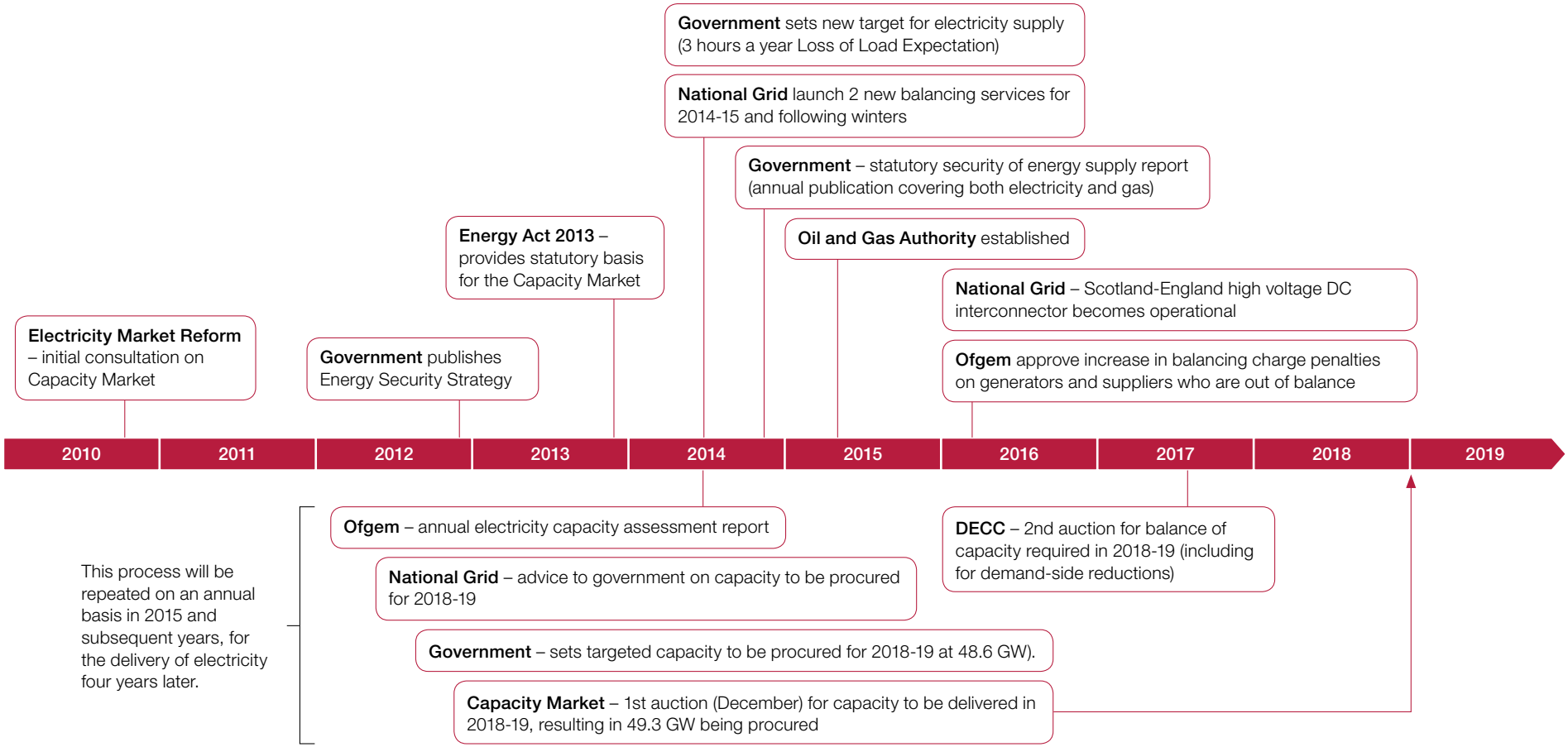
The first Capacity Market auction was held in late 2014, for 49.3 GW capacity to be provided in 2018-19. The clearing price (just under **£20/MW**) was far lower than anticipated. Relatively little new capacity was procured, some of which will be very small generating units, built solely to meet peaks in demand and using relatively carbon-intensive technology.

The total expenditure commitment resulting from the first auction amounts to **£1.7 billion**, of which £1 billion is likely to fall in 2018-19.

A second supplementary auction for capacity in 2018-19 will be held in 2017, and this is expected to include demand-side capacity reductions.

Ensuring security of supply

Recent and future developments



Note

1 The above timeline focuses mainly on electricity. Responsibility for supplies of gas and oil largely rests with the private sector. However, in response to a government request, Ofgem published a review of the security of gas supplies in November 2012. This concluded that serious consideration should be given to the case for further measures to reduce the risks from a gas supply shortfall, but that before pursuing further measures a much fuller and more rigorous assessment of the risks, costs and benefits would be needed. Ofgem have since implemented changes to penalties within the gas trading system. Following a study on further measures by Redpoint, the government decided in 2013 that there is no case for public subsidy of gas storage.

Source: National Audit Office

Ensuring security of supply

What are the things to look out for?

Whether there is any emerging evidence that security of electricity supplies is worsening:

- Reports from Ofgem and National Grid on security of supply and capacity should address the outcomes from the first Capacity Market auction and may indicate any knock-on impacts for the continuing commercial operation of coal and older gas plant which were unsuccessful in the first auction
- National Grid's tendering for, and use of, reserve generating capacity for 2015-16 and following years and its cost.

Whether the Capacity Market is incentivising appropriate levels of new generating capacity and demand reduction to ensure security of electricity supplies:

- The second Capacity Market auction, for 2019-20, is due to take place in late 2015, with decisions earlier regarding the amount of capacity to be auctioned. The first auction resulted in a price far lower than anticipated, and relatively little new capacity was procured.
- Progress on proposals to develop demand side participation in the Capacity Market.

Whether DECC considers any further measures are necessary to address the security of oil and gas supplies – following on from Ofgem's November 2012 'Gas security of supply' report and recent concerns about the security of European gas supplies.

Affordability

What is involved?

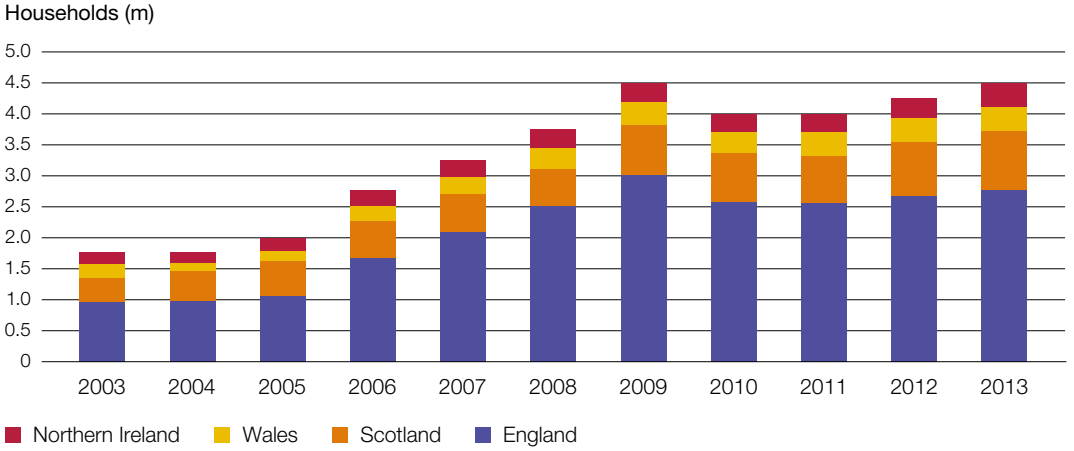
Why is there a problem?

Fuel poverty arises where households cannot afford to heat their homes adequately. It is a significant problem in the UK due to the poor quality of the housing stock, particularly for low income households. Fuel poverty contributes to excess winter deaths.

At UK level fuel poverty has been measured as a household being in fuel poverty if it needs to spend more than 10% of its income on fuel to maintain an adequate level of warmth. Under this definition, the number of fuel poor households in the UK in 2013 was estimated at around 4.5 million (17% of all UK households). Fuel poverty is a partially devolved matter and England has adopted a revised definition of fuel poverty, which it has applied to data since 2012. Under the revised definition, over 2.35 million households in England lived in fuel poverty in 2013.

There is concern that the retail energy market is not fully competitive, with prices not fully reflecting changes, particularly falls, in wholesale energy prices.

Fuel poverty and energy prices in the UK



Note

1 Fuel poverty figures have been estimated for Wales for 2009, 2010, 2011, 2012, and Northern Ireland for 2010, 2012 and 2013.

Source: Department of Energy & Climate Change, Annual Fuel Poverty Statistics Report, 2015

How does the government promote affordability and protect consumers?

DECC

Responsible for the regulatory framework and implementing EU directives.

Publishes analyses of the impact of energy policies on consumer and business costs.

Limits consumer and business costs from energy policies through the Levy Control Framework.

Helps consumers and businesses reduce their bills by promoting various energy efficiency schemes and the proposed roll-out of smart meters.

OFGEM

Determines price controls for energy transmission and distribution charges

Can impose requirements on companies through its licensing powers (eg to promote faster consumer switching and greater transparency in billing).

Has powers to review wholesale and retail markets.

In its E-Serve directorate acts as a delivery agent for various DECC schemes promoting energy efficiency.

Competition and Markets Authority

Is currently investigating the energy market, and will publicly report by the end of 2015.

The EU

Various EU directives promote domestic and business energy efficiency.

The 'Third Package' requires member states to harmonise energy networks and markets.

Affordability

How much does energy cost?

Domestic energy costs

The average UK domestic dual fuel bill is forecast to fall from around £1,260 to around £1,180 over the year to March 2016.

The costs relating to environmental and social policies typically amount to 7% of the energy bill.

In 2013, UK domestic electricity prices were equal to the International Energy Agency (IEA) median level (including taxes). UK domestic gas prices were 17% lower than the IEA median level (including taxes).

Business and industrial costs

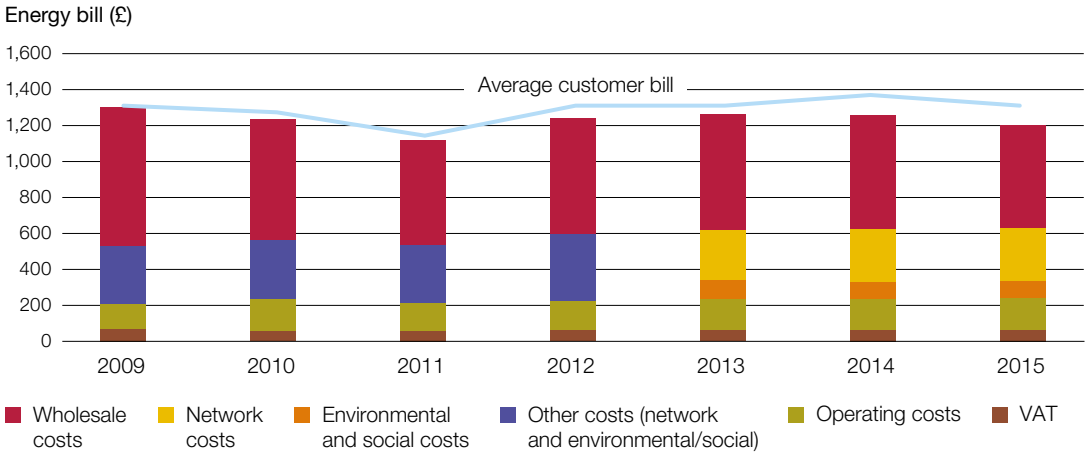
In 2013, average UK industrial electricity prices were 8.3% above the IEA median (including taxes).

In 2013, average UK industrial gas prices were 15% below the IEA median (including taxes).

In the UK, businesses are subject to a tax on electricity (the Climate Change Levy), but may receive a reduction of up to 90% if they sign Climate Change Agreements which include energy efficiency targets.

Business and industry are also subject to the costs of the EU ETS. Energy intensive sectors have been awarded around £250 million compensation a year through being exempted from the Climate Change Levy.

Domestic energy costs for an average dual fuel bill (GB)

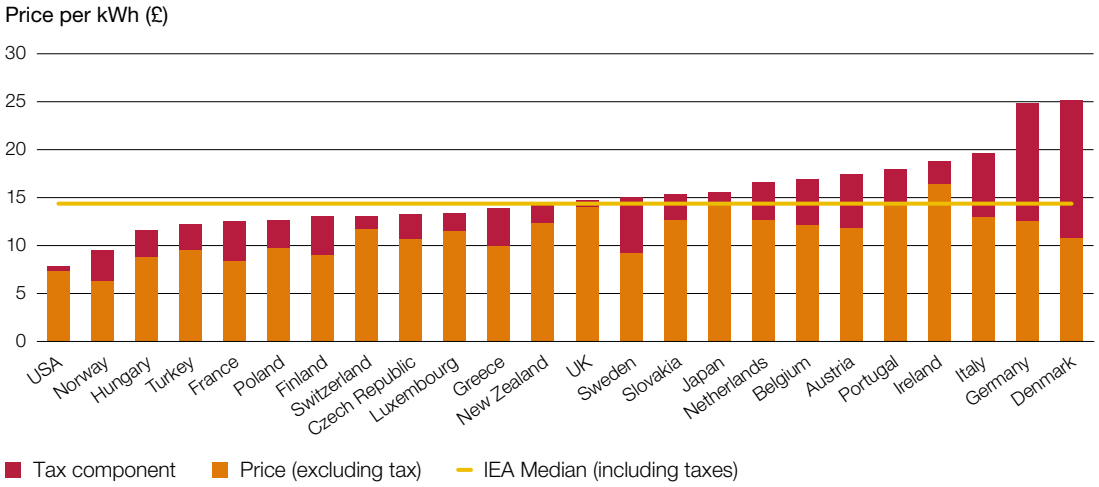


Note

1 The difference between the average customer bill line and the top of each bar below represents the supplier margin.

Source: Ofgem

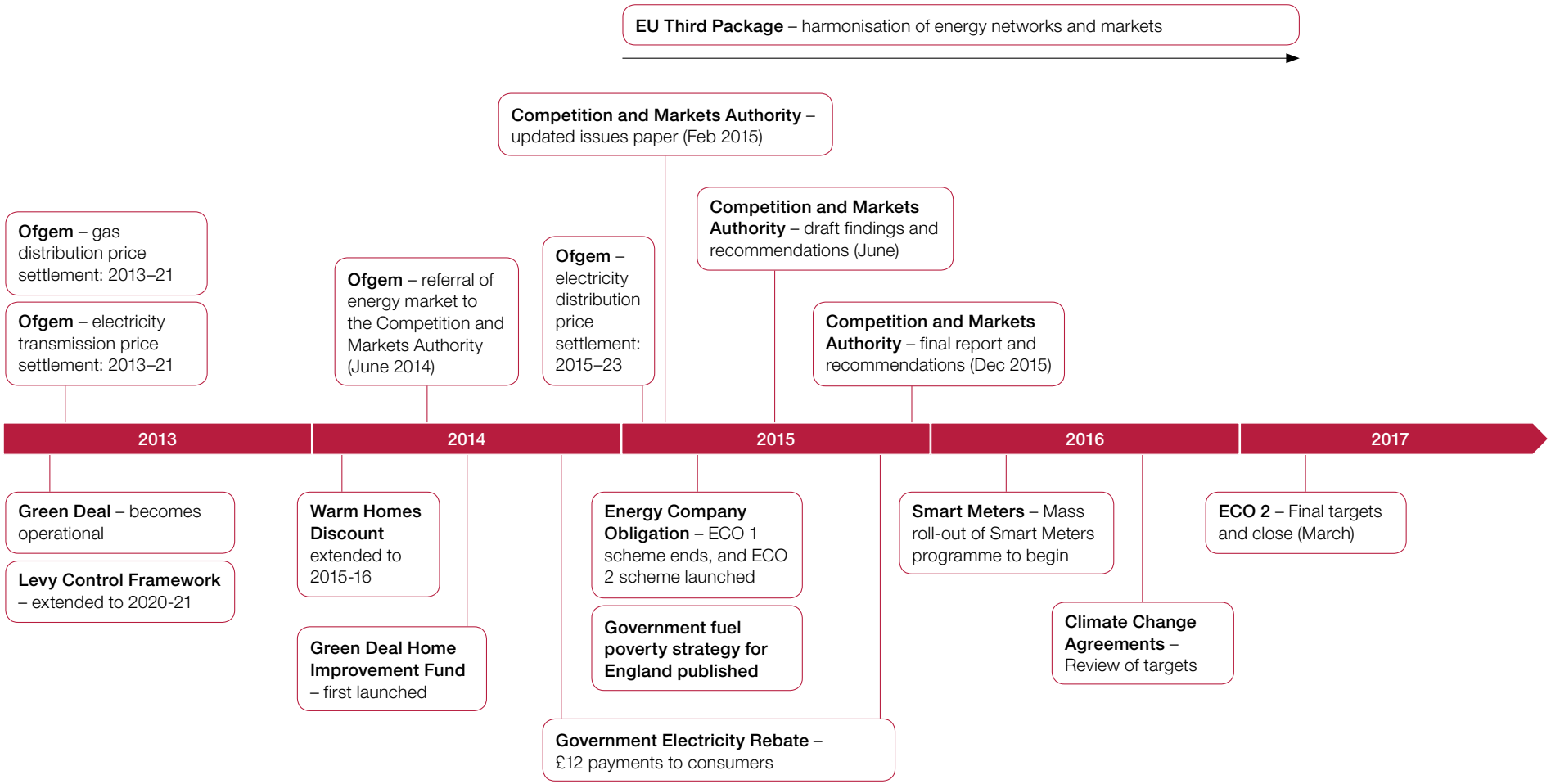
Average IEA Domestic Electricity Prices in 2013



Source: Department of Energy & Climate Change

Affordability

Recent and future developments



Source: National Audit Office

Affordability

What are the things to look out for?

Whether developments to the scope and caps for the Levy Control Framework maintain its effectiveness, that is appropriately balance the need to control costs for consumers and secure sufficient investment in low carbon generation to meet national statutory commitments.

Whether developments in the regulatory framework will improve competition and reduce consumer costs:

- The Competition and Markets Authority investigation is due to be completed by the end of 2015, and could result in changes to the structure of the energy market.
- EU developments on harmonisation of networks and markets across member states are intended to create a more efficient single market in energy.

Whether energy efficiency schemes are achieving their intended outcomes and are impacting on consumer behaviour:

- The Green Deal finance arrangements have had limited take-up to date and the revised Energy Company Obligation scheme runs to 2017.
- The Smart Meters mass roll-out period is now planned to start in April 2016 and to be completed by 2020.
- The new Climate Change Agreements for business sectors run until 2022 and contain interim targets for achieving business energy efficiency.

Whether the UK is successfully reducing fuel poverty.

Legacy issues

What is involved?

Nuclear waste – why is there a problem?

- The Nuclear Decommissioning Authority's 17 sites contain nuclear wastes and contaminated buildings. Some nuclear waste is extremely hazardous and long-lasting, and requires constant management and security protection.
- The UK currently has no facility for long-term disposal of high hazard nuclear waste. DECC is proposing to build a deep geological disposal facility (GDF), and is working to identify an appropriate site. The facility is intended to be in use around 2040. The Scottish government is consulting on how to provide near surface storage in Scotland.
- There is a stockpile of 112 tonnes of separated plutonium, which requires particular management to mitigate the security risk. Future options are to use it as a fuel component in new nuclear reactors or to dispose of it in the GDF.

Coal Mining – why is there a problem?

Legacy issues arising from coal mining include:

- Health liabilities relating to diseases such as noise induced hearing loss which miners have experienced as a result of working underground with heavy machinery.
- Historical commitments to provide miners with coal or a cash alternative (the National Concessionary Fuel Scheme).
- Issues relating to disused coal mining sites, including methane emissions, subsidence, contaminated water and site restoration.
- Financial legacy issues including the management of the coal miners' pension fund.

How does the government deal with energy legacy issues?

DECC

Is responsible for managing nuclear waste and legacy issues arising from coal mining

Managing these legacy issues involves large potential future expenditure stretching over many years, and these are shown in DECC accounts as provisions.

The Nuclear Decommissioning Authority

Is responsible for managing and decommissioning its sites and disposal of the nuclear waste.

The Coal Authority

Is responsible for the licensing of coal mining and managing environmental and public safety legacy coal issues in the UK.

The Office for Nuclear Regulation

Is a statutory public corporation responsible for regulating the nuclear industry.

The Committee on Radioactive Waste Management

Monitors progress on nuclear waste management and provides expert advice to the UK government and devolved administrations

Legacy issues

How much does it cost?

The nuclear provision

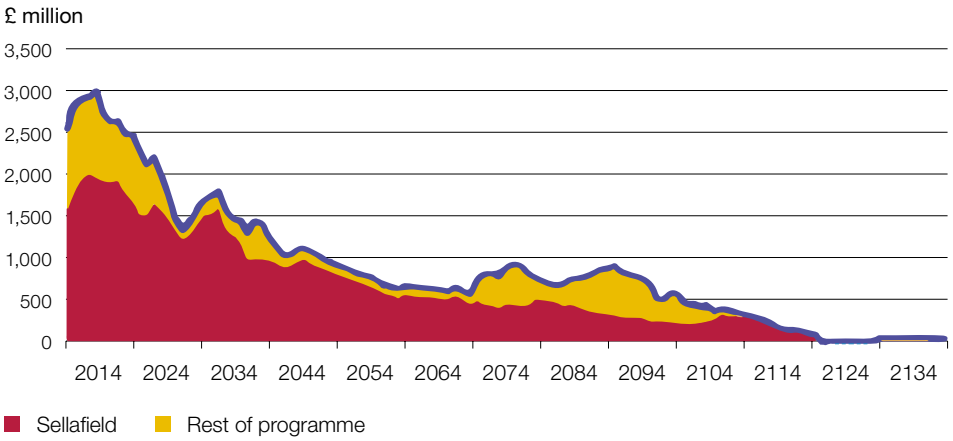
Gross expenditure by the Nuclear Decommissioning Authority in 2013-14 was £3,314 million. This was offset by £1,105 million commercial income mainly from fuel reprocessing and sales of electricity.

The nuclear provision is an estimate of the total future costs of completing the decommissioning programme to 2120. The estimate has grown significantly over the last 6 years, and at the end of March 2014 totalled £110 billion (undiscounted), or £65 billion (discounted).

The growth in future estimated costs is from extended completion times and the resulting increases in the estimated costs of decommissioning at Sellafield, which have outweighed work done; and from changes in the required discount rate.

Nuclear Provision: Expenditure profile for future years

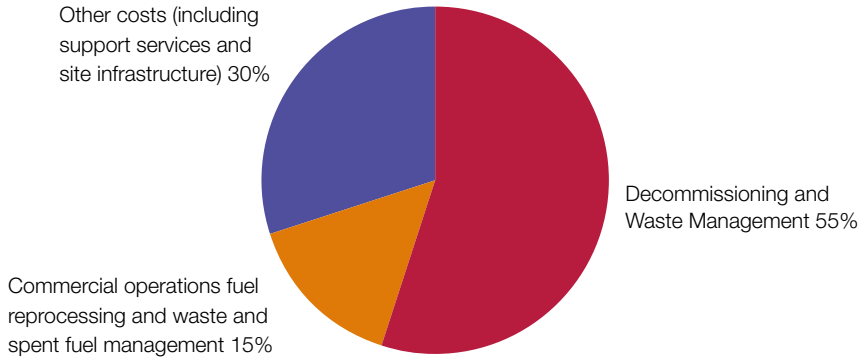
Undiscounted figures



Source: Nuclear Decommissioning Authority

Nuclear Decommissioning Authority expenditure

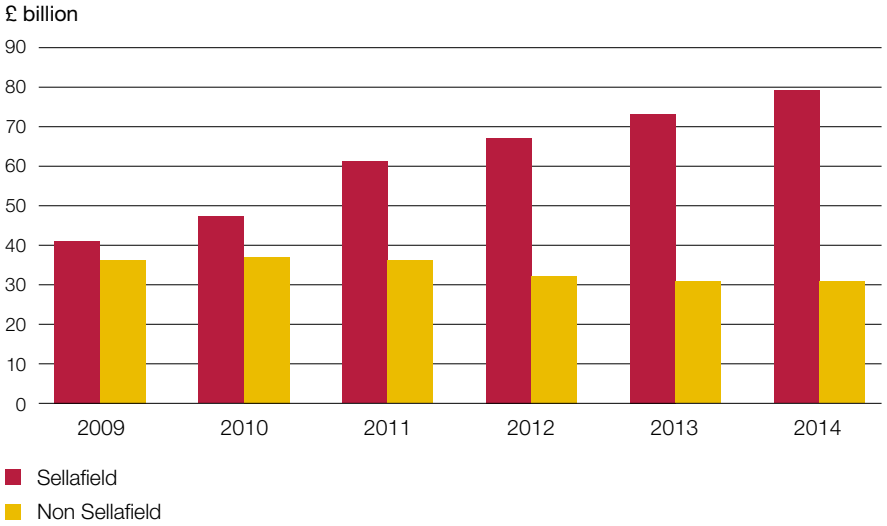
Gross expenditure in 2013-14 was £3,314 million



Source: Nuclear Decommissioning Authority

Growth of nuclear provision

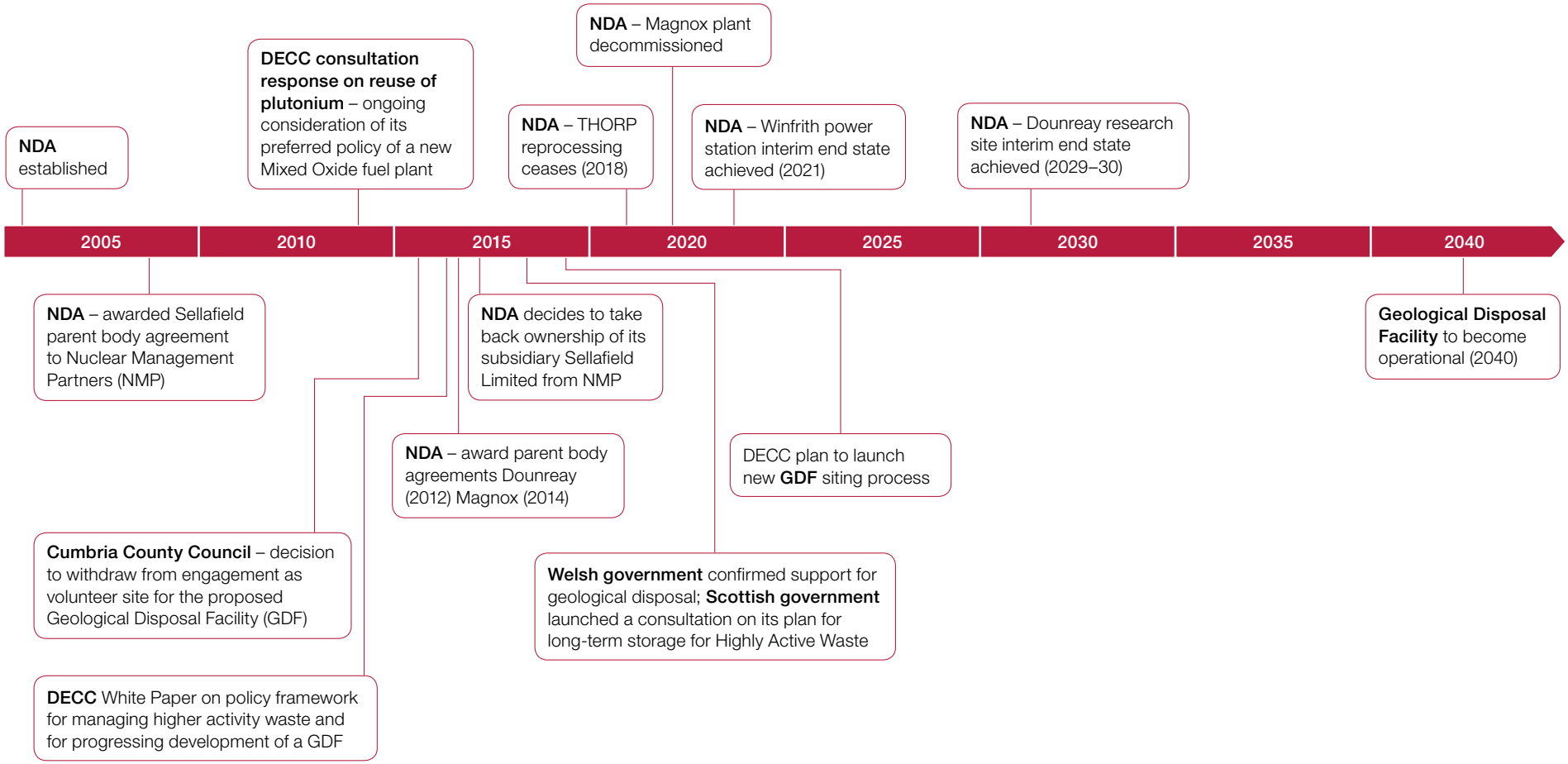
Undiscounted figures, within a range of £88 billion to £218 billion across estate as at March 2014



Source: Nuclear Decommissioning Authority

Legacy issues

Recent and future developments



Source: National Audit Office

Legacy issues

What are the things to look out for?

Whether the NDA is making progress in decommissioning:

- The 2015 spending review settlement will determine the resources available for NDA and hence the speed of decommissioning, particularly in the context that the NDA's income is likely to decline, as its Magnox reactor closes and its other commercial contracts wind down.
- The new delivery model for the Sellafield site will take effect from April 2016 and the NDA is expecting it to deliver faster progress and improve value for money.

Whether DECC is making progress with identifying a suitable site for developing a geological disposal facility:

- Following the end of the previous process to agree the site for the proposed geological disposal facility (GDF), DECC set out in its White Paper a 2-year programme of actions to support an improved siting process.

What decisions the government makes on handling the plutonium stockpile:

- The plutonium stockpile poses particular challenges, and the government is continuing to consider the possibility of using it to produce Mixed Oxide fuel (MOX) to be used in new nuclear power stations.

Appendix One

DECC sponsored bodies

Executive non-departmental public bodies

Civil Nuclear Police Authority

Coal Authority

Nuclear Decommissioning Authority

Committee on Climate Change

Oil and Gas Authority

Advisory non-departmental public bodies

Committee on Radioactive Waste Management

Fuel Poverty Advisory Group

Nuclear Liabilities Financing Assurance Board

Public Corporations

National Nuclear Laboratory

Nuclear Liabilities Fund

Low Carbon Contracts Company

Electricity Settlements Company