

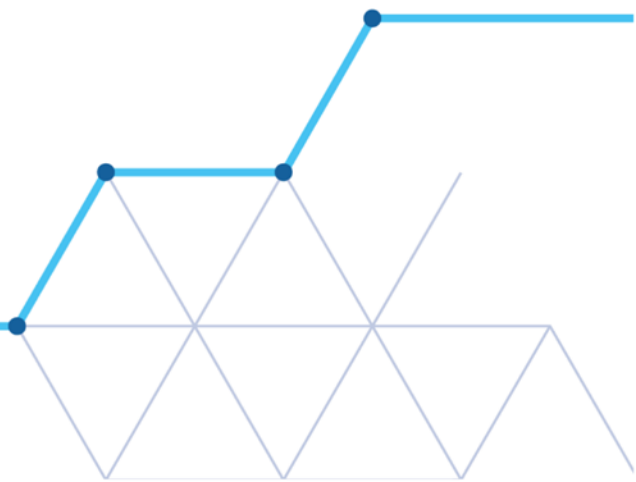


Ministry
of Justice

Estates Directorate

Carbon and Energy Reduction Strategy

March 2018





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Carbon and Energy Reduction Strategy

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1 Executive Summary

- 1.1 Reducing energy demand and choosing low carbon solutions is a key priority for the Ministry of Justice (MoJ) to help the UK and Central Government meet its carbon targets, to minimise the impacts from climate change, and to reduce operating costs.
- 1.2 MoJ is the second largest departmental contributor of carbon emissions after the MOD and has a significant role within to play in ensuring the Government meets its Greening Government Commitments (GGC) including reducing greenhouse gas emissions.
- 1.3 MoJ has developed this Carbon and Energy Reduction Strategy to provide an evidenced based strategic document to help deliver these carbon targets and reduce energy demand. The Strategy has been developed based on a review of existing processes and systems against the requirements of known standards such as the Carbon Trust Standard and the Energy Management System Standard ISO 50001.
- 1.4 This document provides information on MoJ's approach to delivering carbon and energy reductions, focusing on our baseline, our achievements so far, how we will work with stakeholders, how projects will be identified, managed and delivered and how we see the short term, medium term and long-term reduction in carbon emissions will be delivered across our estate.
- 1.5 MoJ's ambition is to achieve and if possible exceed a 38% carbon reduction by 2019–20. This document sets out a Strategy to drive down carbon emissions to 2020, and looks forward to 2025. Reducing carbon emissions from the custodial estate is a key priority as these sites contribute the majority of MoJ's emissions. However, the Strategy also addresses the non-custodial estate, in particular court buildings and key administrative sites.
- 1.6 Dedicated resources have been committed across MoJ, including HMPPS, and HMCTS, and resource levels will be kept under review to ensure successful implementation of this Strategy.
- 1.7 The Strategy commits MoJ to progressing specific short, medium and long-term objectives to ensure effective energy and carbon management. These commitments will be reviewed and updated on a regular basis. A full list of our commitments is set out at [Annex 1](#).

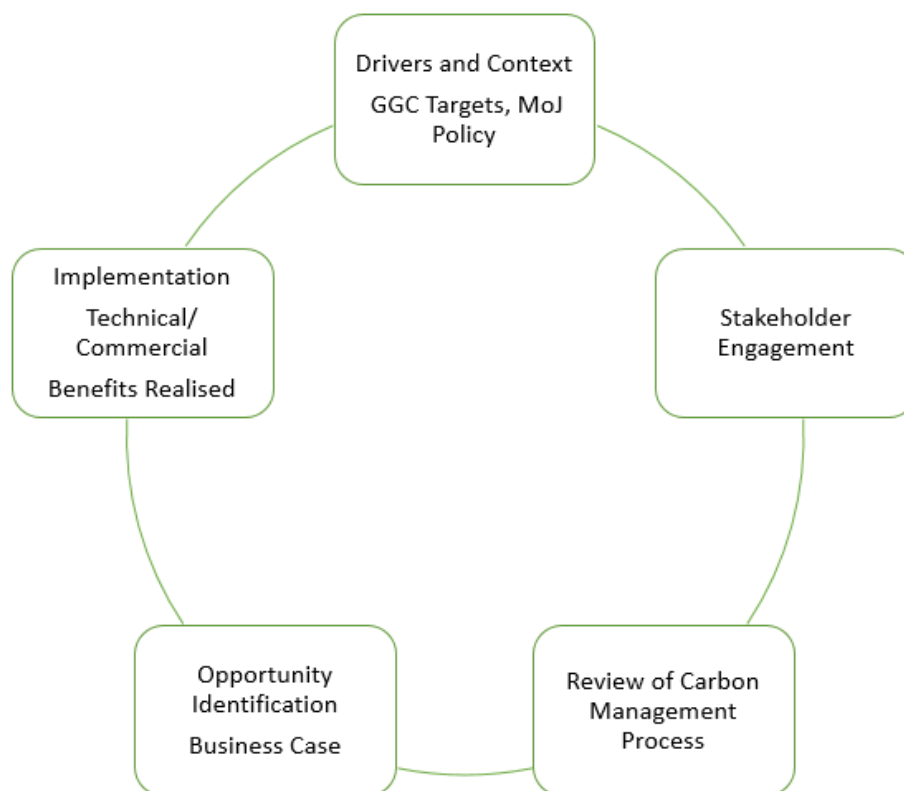
2 Introduction and Scope

Scope

2.1 This Strategy covers the period 2017–20 but looks forwards to 2025, and will be reviewed at least annually. It covers all the key parts of MoJ including HMPPS, HMCTS, HQ and its arm's length bodies.

Figure 1 provides an outline of this Carbon and Energy Reduction Strategy.

Figure 1



2.2 Implementing carbon management in a complex organisation such as the MoJ requires regular reviews and adjustments to ensure it remains relevant and appropriate. The Strategy is therefore based on a cyclical process with reviews and checks to ensure that plans evolve in response to changing targets, regulation, technologies, utility costs, commercial routes, and stakeholder responsibilities.

2.3 Reducing our carbon emissions will also be realised by reducing our overall demand for energy, improved processes and behaviour change. Our plans include, but are not limited to:

- Reducing the size of the estate and better utilisation of the remaining buildings
- Selection and use of energy efficient buildings, equipment and controls, for example through the Government Buying Standards
- Improving thermal performance

- Improvements in technology (these will be reflected in MoJ Technical Standards)
- Pilot projects, lessons learned and post project evaluations
- Education of key stakeholders, estates staff and FM providers and end-users
- Better processes for data collection, benchmarking and monitoring and targeting.

2.4 Where feasible the remaining energy demand will come from Low or Zero Energy sources.

2.5 We recognise that decarbonisation of the national energy infrastructure and new, innovative technologies will also play an important role in MoJ delivering this Strategy.

3 Key Drivers and Policy

UK Climate Change Act (2008)

- 3.1 The Climate Change Act 2008 is a key driver for sustainable energy management as it mandates a minimum 80% reduction in carbon emissions by 2050 against a 1990 baseline; and sets legally binding carbon budgets:
- Carbon budget 2 (2013–17): 31%
 - Carbon budget 3 (2018–22): 37% (by 2020)
 - Carbon budget 4 (2023–27): 51% (by 2025)
 - Carbon budget 5 (2028–2032): 57% (by 2030)
- 3.2 This activity will also contribute to Goal 13 of the United Nations Sustainable Development Goals (SDGs), which were agreed in September 2015, to “take urgent action to combat climate change and its impacts”.

Greening Government Commitments

- 3.3 The Greening Government Commitments set out the actions UK government departments and their agencies will take to reduce their impacts on the environment. These targets require government to, amongst other things, reduce its greenhouse gas emissions by at least 32% by 2020 against a 2009–10 baseline. This 32% target has been exceeded three years early, with a 33% reduction by the end of 2016/17, and BEIS is currently working with departments to set more stretching targets for 2020.

MoJ Sustainable Operations Policy, November 2017

- 3.4 This Strategy supports the MoJ Estate Directorate Sustainable Operations Strategy which sets out the Ministry of Justice aims and objectives for improving the sustainability of its operations, in line with the cross-Government targets – the Greening Government Commitments 2016–20.

Regulatory Context

- 3.5 The UK Government has committed to providing 15% of its energy needs from renewable sources. This includes a significant increase in renewable electricity generation. With an increased proportion of renewable energy, the electricity grid is becoming increasingly decarbonised. Over the long term the Government projects this decarbonisation to continue.
- 3.6 Changes to the grid carbon factor will influence the choice of technologies and energy reduction strategies that will be employed across the MoJ Estate on the short, medium and long term. For example, BEIS has issued guidance that gas fired Combined Heat and Power (CHP) should be considered transitional technology preferably not commissioned after 2023 as the carbon factors by that time would no

longer make it a favourable technology to reduce carbon emissions against other low carbon technologies.

- 3.7 The impact of our participation in two greenhouse gas emissions trading schemes are a key regulatory factor in this Strategy:
- i. The Carbon Reduction Commitment Energy Efficiency Scheme, administered by the Environment Agency, require us purchase and surrender allowances relating to our annual carbon emissions. This Strategy will enable us to reduce our emissions and therefore reduce the amount of allowances we are required to buy and sell.
 - ii. MoJ is legally obliged to purchase carbon trading allowances under the European Union Emissions Trading System (EU ETS), to offset the use of coal at HMP Wymott and HMP Garth. Our proposals to replace the coal fired boilers will negate the need to purchase these allowances.

Technology Context

- 3.8 Technology options constantly evolve often in parallel with a changing regulatory landscape. New technologies enter the market, whilst costs or efficiencies change with other technologies making them more or less attractive. This Strategy takes account of this through a continual programme of re-evaluation alongside pilot projects to ensure the most appropriate technologies are being implemented. MoJ Technical Standards will be reviewed regularly to align with best practice and reflect our operational requirements.

4 Baseline and Targets

4.1 Table 1 below is the GGC 2016–2020 targets for greenhouse gas emission reductions for MoJ contributing to the overall Government target. In March 2018 MoJ committed to a new target of 38% reduction in carbon dioxide emissions by 2019–20 on the 2009–10 baseline, having met the previous GGC target of 22% improvement. We also commit to setting stretch targets for 2020, 2025 and 2030 before 2019, and to work with BEIS to ensure our approach aligns to any cross-Government commitments.

Table 1 Greening Government MoJ Carbon Commitments and Performance

Department	Baseline GHG emissions (tonnes CO ₂ e)	GHG emissions in 2014/15	GHG Emissions 2016/17	Improvement from baseline (2009/2010 baseline to 2016/2017) (%) (MoJ)	GGC target 2009/10 to 2019/2020 ¹ (%) (MoJ)
MoJ	561,576	486,913	405,140	28%	38%
MoJ – Non-custodial	191,259	146,007	109,519		
MoJ – Custodial	370,317	340,907	296,722		

Figure 2 shows the reduction in carbon emissions across the custodial, non-custodial and MoJ Estate from 2009–10 to 2016/2017.

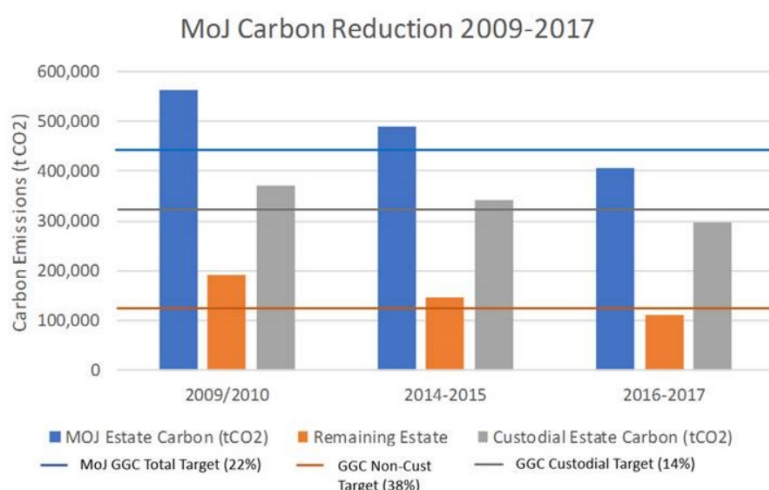


Figure 2: MoJ Carbon Reduction Performance 2009–2017

4.2 MoJ's emissions have been reduced through a combination of estate rationalisation, implementation of range of energy efficiency measures, as well as decarbonisation of grid electricity.

¹ Agreed Target in March 2018 having met previous GGC target of 22%

5 Stakeholder Mapping

- 5.1 Several stakeholders are involved directly and indirectly in helping to reduce energy and carbon emissions across the MoJ estate. By identifying these stakeholders and mapping responsibilities for energy and carbon management activities will improve communication, efficiency and overall benefits of the carbon management programme.

Key Stakeholders involved in Carbon Management Projects

Corporate level:

Rory Stewart OBE MP, the Ministry of Justice Sustainable Development Minister

Richard Heaton, Permanent Secretary

Matthew Coats, Sustainability Champion and chair of the MoJ Senior Sustainability Board

Andy Mills, Director of Estates

Senior Sustainability Board members

MoJ Sustainability Team:

Responsible for coordinating implementation of the carbon management programme.

MoJ Service Delivery

Governors and team

Regional Estate Managers (REMs)

Service Delivery Managers (SDMs)

Regional Property Asset Managers (RPAMs)

Third Party Facilities Management (FM)

Site Managers

Energy Managers

Private prisons

Estates

Project Management Office (PMO)

New build projects

Technical Standards

Finance and Commercial

Finance teams

Commercial teams

Other

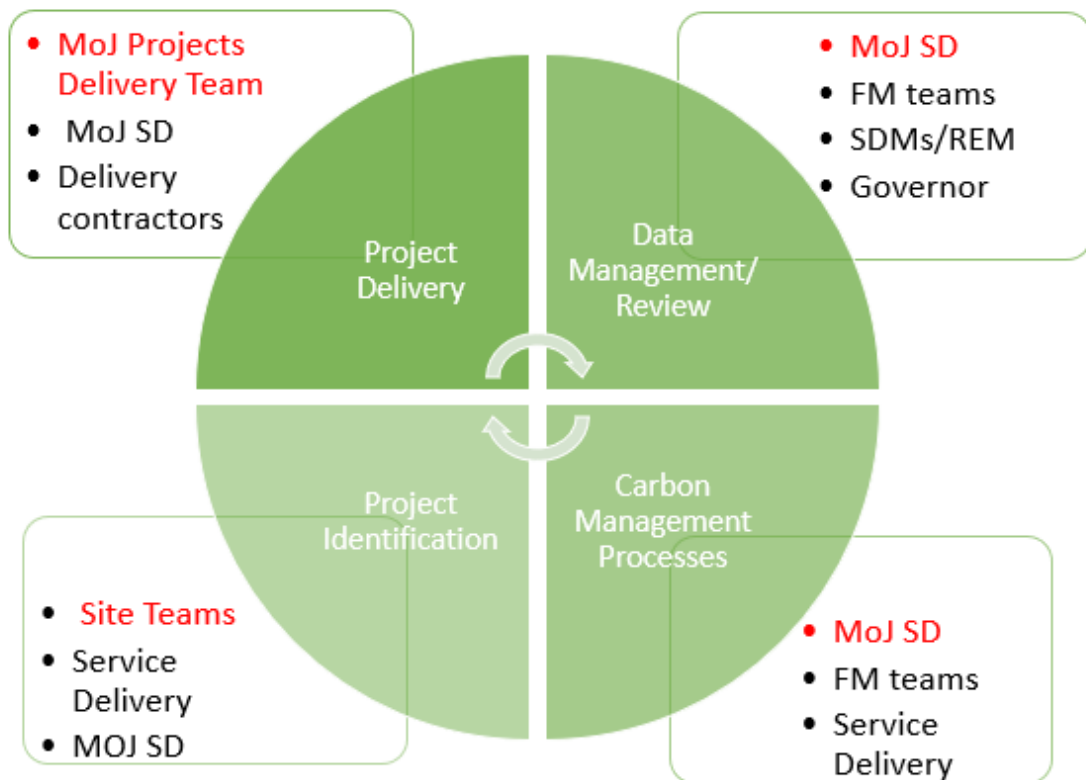
Delivery contractors

Data contractors

Commitments on Stakeholder Mapping

5.2 We will provide key stakeholders with guidance on responsibilities within the carbon management programme and key actions and, if required, reporting requirements. Figure 3 reflects initial stakeholder mapping already undertaken with the lead stakeholders highlighted in red.

Figure 2: Carbon Management Programme – Stakeholder Mapping



5.3 This mapping exercise will be regularly reviewed and be used to help identify and communicate responsibilities.

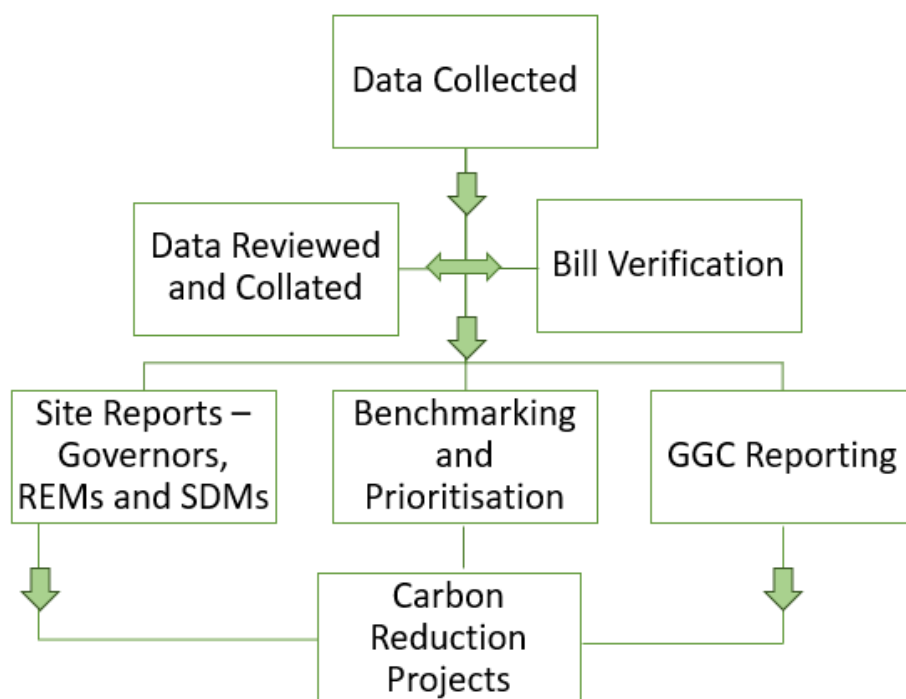
6 Carbon Management Processes

6.1 A successful Carbon and Energy Reduction Strategy is underpinned by clear carbon management processes and accurate carbon accounting procedures. It is also necessary to implement carbon monitoring and reporting structures with feedback into opportunity identification for carbon optimisation and carbon reduction projects.

Carbon Accounting, Monitoring and Reporting

6.2 MoJ is working towards the implementation of a fuller carbon accounting process that includes data review and verification, site monitoring and reporting, and bill verification. This process is outlined in Figure 4 below.

Figure 4: MoJ Carbon Accounting Process



6.3 This process reflects the fact that MoJ has a complex organisational structure and responsibilities related to energy data and its use to drive energy reduction. A key element of this Strategy is to implement this accounting process and ensure responsibilities are clear for collecting and reviewing energy data, and acting upon information generated from the data analysis.

Carbon Accounting and Management Commitments

6.4 This Strategy commits MoJ to the following actions to embed carbon management best practice in its operations (summarised at Annex 1):

Strategy

1. Site Specific Targets

- Based on energy benchmarking and agreement with site teams, each custodial site will develop a carbon reduction target for 2020 and 2025 by the end of 2018. This target will be reviewed at quarterly and annual site meetings.

Metering and Data Collection

1. Site by Site Sustainability Technical Record – Metering Strategy and Energy Reporting

- For each custodial site, and other MoJ sites with significant energy consumption, the facilities management provider will be responsible for ensuring there is a record highlighting which meters should be read as part of the energy management process for that site. The record will be prepared in conjunction with key site stakeholders and include key meters and sub-meters. The record will outline the metering approach for all fuels including solid and liquid fuels.

2. Collecting Energy Data

- Following Regulation P272: all half hourly and non-half hourly meters that fall into meter profile class level 5 or higher will be fitted with Automatic Meter Reader (AMR) and technology/software for collecting and reviewing data
- All main gas meters across the custodial estate and other MoJ sites with significant energy consumption will be fitted with gas AMR meters in the next two years where feasible. Technology and software will be installed to collate and review this data.
- Existing key sub-meters will be subject to data collection and review and on a site by site basis. Further sub-meters and collection technology will be considered.

Guidance and Review on the Custodial Estate

1. Quarterly Energy and Carbon Review

- As part of the reporting from the facilities management provider to the site or prison staff (or similar reporting arrangement), there will be a requirement for a stand-alone recommendations section based on the energy data, profiling, benchmarking, results from energy surveys or other compliance reporting such as DEC's TM44.
- The site SDM and site manager will take responsibility for organising a quarterly energy review meeting to address issues identified in regular energy consumption reporting. A template agenda and Terms of Reference will be developed for these meetings to ensure consistency and effectiveness across the estate.

2. Governor Reporting

- A regular summary energy report will be provided to the prison Governor and invitation to the quarterly Energy and Carbon Review meetings.

3. REM and SDM Forum Meetings

- Guidance and training on new approaches and developments related to the Carbon and Energy Reduction Strategy will be provided at least annually to the main SDM/REM forums.

Travel Emissions

- 6.5 This Strategy focuses primarily on emissions from the built estate but we acknowledge that travel-related emissions also contribute around 6% of our overall UK emissions. To mitigate these, we will continue to:
- Harness digital tools such as Skype for Business to connect and collaborate with one another regardless of where we are working;
 - Reduce our reliance on our estate, including through adopting more efficient desk ratios, sharing our workspace and maximising the use of our collaborative areas;
 - Review our travel policy and the authorisation process for domestic flights;
 - Increase the usage of low emission fleet vehicles;
 - Expand the choice of low emission/ hybrid vehicles within the car hire contract.

Real Time Energy

- 6.6 We will continue to be transparent in our energy reporting through our online energy reporting portal for headquarter sites and review the opportunities to extend this to other key sites – <http://webview2.ecodriver.net/Justiceshared/>

Display Energy Certificates

- 6.7 We will report on the percentage of A to D Display Energy Certificate (DEC)² ratings in our public buildings and where feasible improve ratings.

7 Project Identification and Implementation

Approach to Project Identification

- 7.1 MoJ comprises a large built estate including around 120 custodial sites each comprising several different building types and uses. The non-custodial estate also consists of a broad range of buildings. A challenge therefore exists to identify and prioritise cost-effective carbon reduction projects.
- 7.2 To address this issue a Strategy has been developed to identify and prioritise projects, split into two themes:

² DEC's provide an energy rating of the building from A to G, where A is very efficient and G is the least efficient and are based on the actual amount of metered energy used by the building over the last 12 months within the validity period of the DEC.

A DEC and advisory report are required for buildings with a total useful floor area over 250m² that are occupied in whole or part by public authorities and frequently visited by the public.

1. Site by Site Project Identification: Specific projects identified at each site based on site prioritisation:
 - Energy and carbon benchmarking
 - Site interviews (internal project identification)
 - Asset register reviews
 - Site specific energy audits
2. Thematic Projects: Some key themes will be relevant to many sites. Strategies will be developed to develop consistent standards with MoJ Technical teams for roll out across the estate. Examples of themes include:
 - Lighting Improvements
 - Boiler asset plant replacement
 - Boiler Controls
 - Building Management System
 - Renewable and Low Carbon Technologies e.g.
 - Combined Heat and Power projects
 - Solar Photovoltaics
 - Potential for district heating
- 7.3 The overall aim will be to have developed an individual Opportunity Tracker linked to the site-specific target and energy reduction plan for each custodial site by 2019. This tracker will be developed in conjunction with asset management lists and refurbishment and asset replacement programmes.

Approach to Project Prioritisation

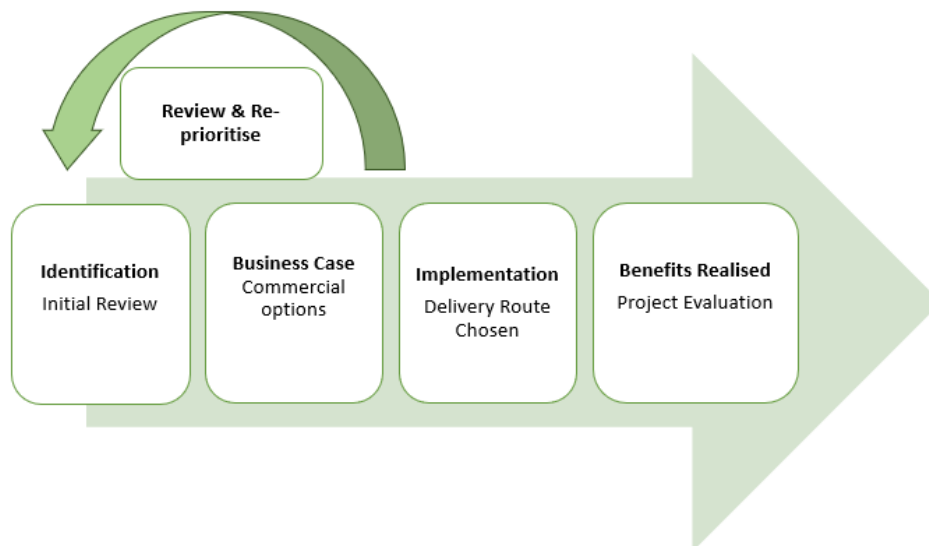
- 7.4 Following project identification, a prioritisation process is undertaken to ensure value for money. This process is informed by the energy hierarchy. The overarching principal is that sites should look to reduce energy demand prior to making investment in energy efficiency or low and zero carbon technologies. It is also preferable to reduce energy demand with more efficient technologies before considering renewable energy so that the generation required is minimised. However, stakeholders should not be discouraged from addressing all levels of the energy hierarchy where the relative benefits of a hierarchical approach are not as clear.
- 7.5 Projects are prioritised based on the development of a high-level business case to determine the cost-effective carbon abatement potential. The business case and impact on carbon savings includes the following elements:
 - Project description
 - Outline Specification
 - Budget cost (including appropriate costs for custodial sites)
 - Annual Energy Savings
 - Cost of carbon saving (£/tCO₂)

- Annual cost savings
- Income from incentives (e.g. FIT and RHI)
- Payback analysis
- Assessment of long term financial return on whole life costs
- Annual carbon savings
- Approach to benefit realisation

Project identification and Prioritisation commitments

Figure 5 outlines the process to be undertaken to identify and prioritise energy and carbon reduction projects.

Figure 5: MoJ Project Identification, Development, Implementation and Review Process



7.6 Taking account of identification and prioritisation strategies, MoJ has made 11 commitments in this area. These are included in [Annex1](#).

8 Economics, finance & commercial

8.1 There are various funding routes available to deliver the projects and commitments in this Strategy. These include:

- Central Government Funding
- Departmental Funding including locally or business funded
- Innovative funding – such as Energy Performance Contracting and gain share arrangements

8.2 MoJ is committed to exploring these different funding options whilst looking to achieve best value for money and value for carbon emissions saved.

9 Contact details

Contact details

For any questions on or suggestions for improving this Strategy, please contact:

Email: SDEnquiries@justice.gsi.gov.uk

Annex 1: Energy and Carbon Strategy Commitments

The following table outlines the commitments within this Strategy.

Technology/ Theme	Commitments	Reference	Timescale
Stakeholder Engagement	Strategic responsibility guidance on responsibilities within the carbon management programme and key actions will be provided, and if required reporting arrangements.	5.2	Q1 2018
Strategy	Each custodial site will develop a carbon reduction target for 2020 and 2025 by the end of 2018. This target will be reviewed at quarterly and at annual site meetings.	6.4	Q4 2018
Strategy	Set stretch targets for 2020, 2025 and 2030 in early 2018 and work with BEIS to ensure our approach compliments any cross-Government commitments.	6.4	Q1 2018
Metering and Data Collection	For each custodial site, and other MoJ sites with significant energy consumption, a technical record will be prepared highlighting which meters should be read as part of the energy management process for that site.	6.4	Q1 2018
Metering and Data Collection	Following Regulation P272: All half hourly and non-half hourly meters that fall into meter profile class level 5 or higher will be fitted with Automatic Meter Reader (AMR) and technology/software for collecting and reviewing data.	6.4	Q2 2018
Metering and Data Collection	All main gas meters across the custodial estate and other large energy users will be fitted with gas AMR meters in the next two years where feasible.	6.4	Q4 2018
Metering and Data Collection	Existing key sub-meters will be subject to data collection and review and on a site by site basis further sub-meters and collection technology will be considered.	6.4	Q4 2018
Quarterly Energy and Carbon Review	Quarterly summary report from FM providing recommendations for review based on the energy data, profiling, benchmarking, results from energy surveys or other compliance reporting such as DEC's TM44.	6.4	Q2 2018
Quarterly Energy and Carbon Review	The site SDM and site manager will take responsibility for organising a quarterly energy review meeting where they are required to respond to issues identified in regular energy consumption reporting.	6.4	Q1 2018
Governor Reporting	A regular summary energy report will be provided to the prison Governor and an invitation extended to the quarterly Energy and Carbon Review meetings.	6.4	Q2 2018

Technology/ Theme	Commitments	Reference	Timescale
REM and SDM Forum Meetings	MoJ SD team will present at least annually to the main SDM/REM forums to provide guidance and training on new approaches and developments related to the Carbon and Energy Reduction Strategy.	6.4	Q1 2018
Real Time energy	We will continue to be transparent in our energy reporting through our online energy reporting portal for headquarter sites and review the opportunities to extend this to other key sites.	6.6	2018
Report on DEC ratings	Report on the percentage of A to D Display Energy Certificate (DEC) ratings in our public buildings and where feasible improve ratings.	6.7	2018
Project Identification	The overall aim will be to have developed an individual Opportunity Tracker linked to the site-specific target and energy reduction plan for each custodial site by 2019. This tracker will be developed in conjunction with asset management lists and refurbishment and asset replacement programmes.	7.3	Q1 2019
Project Prioritisation	<ol style="list-style-type: none"> 1. Prioritise top 20 custodial sites for detailed prison audits based on electricity and fossil fuel benchmarking by end of 2017. 2. Work with University College London (UCL) to improve its benchmarking capability to identify poor performing sites based on a range of key factors. 3. Complete an opportunity database for key custodial and court sites by 2019 that is interlinked with relevant sections of the asset register and refurbishment programmes. 4. Continue to develop strategic themes and pilot studies for projects to test benefits, commercial solutions and support further roll out. 5. Continue to assess projects through business case development and develop a consistent approach whole life cost assessment and to benefits realisation. 6. Regular reviews of energy technologies including low and zero carbon to ensure appropriate technologies are identified to meet long term sustainable development goals: Strategy and guidance documents will be developed and updated to support and demonstrate technology choices. 7. Contractors will be responsible for calculating carbon emission increases or decreases resulting from the project on which they are working and communicate to the Senior Project Sponsor. Where appropriate, business cases 	7.6	2018

Technology/ Theme	Commitments	Reference	Timescale
	<p>will articulate how much carbon emissions will be reduced.</p> <p>8. Government Soft Landings (GSL): Improving project handover so that end-users and FM providers operate our facilities as intended to maximise carbon savings. Where feasible we provide equipment or processes to monitor the usage of key new or refurbished equipment to ensure that it is running at its optimal level.</p> <p>9. Closer monitoring of how facilities are maintained so that carbon savings are maintained over time. Our project evaluation documentation will provide data on how the facilities are meeting the projected carbon savings.</p> <p>10. All buildings on the government estate should achieve a minimum BREEAM rating of “Excellent” for new builds and “Very Good” for all major refurbishments in line with our Sustainable Construction: BREEAM Policy 2018.</p> <p>11. Improving the overall percentage of A to D Display Energy Certificate (DEC) ratings in our public buildings.</p>		
Economics, finance and commercial	The MoJ is committed to exploring different funding options whilst looking to achieve best value for money and value for carbon emissions saved.	8.2	2018



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