



## NOTICE OF MEETING

<i>Meeting</i>	<b>Hampshire and Isle of Wight Fire and Rescue Authority</b>	<i>Clerk to the Hampshire &amp; Isle of Wight Fire and Rescue Authority</i> <b>CFO Neil Odin</b>
<i>Date and Time</i>	<b>Tuesday 27th July, 2021 10.30 am</b>	<i>Fire &amp; Police HQ</i> <i>Leigh Road,</i> <i>Eastleigh</i> <i>Hampshire</i> <i>SO50 9SJ</i>
<i>Place</i>	<b>Room X/Y/Z - Fire &amp; Police Shared HQ, Eastleigh</b>	
<i>Enquiries to</i>	<b><u><a href="mailto:members.services@hants.gov.uk">members.services@hants.gov.uk</a></u></b>	

The Openness of Local Government Bodies Regulations are in force, giving a legal right to members of the public to record (film, photograph and audio-record) and report on proceedings at meetings of the Authority, and its committees and/or its sub committees. The Authority has a protocol on filming, photographing and audio recording, and reporting at public meetings of the Authority which is available on our website. At the start of the meeting the Chairman will make an announcement that the meeting may be recorded and reported. Anyone who remains at the meeting after the Chairman's announcement will be deemed to have consented to the broadcast of their image and anything they say.

## Agenda

### 1 **APOLOGIES FOR ABSENCE**

To receive any apologies for absence.

### 2 **DECLARATIONS OF INTEREST**

To enable Members to disclose to the meeting any disclosable pecuniary interest they may have in any matter on the agenda for the meeting, where that interest is not already entered in the Authority's register of interests, and any other pecuniary or non-pecuniary interests in any such matter that Members may wish to disclose.

### 3 **MINUTES OF PREVIOUS MEETING** (Pages 3 - 8)

To confirm the minutes of the previous meeting

### 4 **DEPUTATIONS**

Pursuant to Standing Order 19, to receive any deputations to this meeting

**5 CHAIRMAN'S ANNOUNCEMENTS**

To receive any announcements the Chairman may wish to make.

**6 MEMBER DEVELOPMENTS**

To receive any updates from Members of the Combined Fire Authority.

**7 OUTTURN REPORT (Pages 9 - 36)**

To consider a report from the Chief Financial Officer, which sets out the financial position for the financial year 2020/21 as per the draft Statement of Accounts.

**8 ANNUAL PAY POLICY STATEMENT (Pages 37 - 44)**

To consider a report from the Chief Fire Officer, which asks the Authority to approve the Pay Policy Statement at Appendix A for publication on Hampshire and Isle of Wight Fire and Rescue Service's website.

**9 HIWFRS CARBON REDUCTION PATHWAY (Pages 45 - 110)**

To consider a report from the Chief Fire Officer, which seeks approval to establish a bold carbon reduction programme and funding of £1.1m for the identification and delivery of carbon reduction works during 2022/23.

**10 PROPERTY MATTERS (Pages 111 - 114)**

To receive a report from the Chief Fire Officer, which summarises property related matters where action has already been taken under delegated authority.

**ABOUT THIS AGENDA:**

This agenda is available through the Hampshire & Isle of Wight Fire and Rescue Service website ([www.hantsfire.gov.uk](http://www.hantsfire.gov.uk)) and can be provided, on request, in alternative versions (such as large print, Braille or audio) and in alternative languages.

# Agenda Item 3

AT A MEETING of the Hampshire and Isle of Wight Fire and Rescue Authority  
held at Fire & Police HQ, Eastleigh on Tuesday 15th June, 2021

Chairman: \* Councillor Rhydian Vaughan MBE

- |                                |                             |
|--------------------------------|-----------------------------|
| * Councillor Roz Chadd         | * Councillor David Harrison |
| * Councillor Liz Fairhurst     | * Councillor Gary Hughes    |
| * Councillor Jason Fazackarley | * Councillor Derek Mellor   |
| * Councillor David Fuller      | * Councillor Ian Stephens   |
| * Councillor Jonathan Glen     | * Councillor Roger Price    |

Also present with the agreement of the Chairman: James Payne and Luke Stubbs on behalf of the Police and Crime Commissioner's office.

## 14. ELECTION OF CHAIRMAN

Councillor Rhydian Vaughan was proposed by Cllr Roz Chadd and seconded by Cllr Liz Fairhurst. There were no other nominations and Cllr Vaughan was unanimously voted in as the new Chairman of the Hampshire and Isle of Wight Fire and Rescue Authority for 2021/22.

## 15. ELECTION OF VICE CHAIRMAN

Councillor Roz Chadd was proposed by Cllr Rhydian Vaughan and seconded by Cllr Liz Fairhurst. There were no other nominations and Cllr Chadd was unanimously voted in as the Vice Chairman of the Hampshire and Isle of Wight Fire and Rescue Authority for 2021/22.

## 16. APOLOGIES FOR ABSENCE

All Members were present, but apologies were noted from Donna Jones, Police and Crime Commissioner.

## 17. DECLARATIONS OF INTEREST

To enable Members to disclose to the meeting any disclosable pecuniary interest they may have in any matter on the agenda for the meeting, where that interest is not already entered in the Authority's register of interests, and any other pecuniary or non-pecuniary interests in any such matter that Members may wish to disclose.

## 18. MINUTES OF HAMPSHIRE AND ISLE OF WIGHT FIRE AND RESCUE AUTHORITY - 14 APRIL 2021

The minutes of the last meeting were reviewed and agreed.

19. **DEPUTATIONS**

There were no deputations for the meeting.

20. **CHAIRMAN'S ANNOUNCEMENTS**

The Chairman thanked the Authority for his appointment and welcomed new and returning Members to the Hampshire and Isle of Wight Fire and Rescue Authority.

21. **MEMBER DEVELOPMENTS**

Councillor Roger Price confirmed that he had attended a Fire Commissioner meeting, which had been very interesting and included a briefing on a recent fire in London.

Councillor Jonathan Glen thanked the Hampshire and Isle of Wight Fire and Rescue Service for their continuing help and support with the roll-out of Covid-19 vaccinations.

22. **APPOINTMENTS REPORT AND UPDATES TO HIWFRA CONSTITUTION**

The Authority considered a report from the Monitoring Officer (item 9 in the minute book), which summarised the Hampshire and Isle of Wight Fire and Rescue Authority (HIWFRA) appointments required for the municipal year, as well as some minor updates to the constitution.

It was agreed that to continue to encourage fairness and equality, a seat should be given to the Isle of Wight as an Independent member on the sub-committees of the Authority, despite there being no obligation to do so with how the proportionality was calculated.

In agreeing the minor changes to the constitution, it was also noted that officers would connect with Members and share dates of upcoming local Crime and Disorder network meetings so that Members could attend if they wished to.

The Monitoring Officer confirmed at the meeting that Councillor Ian Stephens from the Isle of Wight had been formally appointed to the HIWFRA and was therefore able to be included as part of the appointments being made at the meeting.

**RESOLVED**

a) The Authority approved the current schedule of meetings of the Authority and its committees for the coming year at Appendix 3.

b) That, for the purposes of Part 1 of the Local Government and Housing Act 1989, the allocation of seats on the Standards and Governance Committee, and the Stakeholder Committee of the Authority were approved as set out in the Appendix 2 of the report.

c) The Authority appointed the following members of the Standards and Governance Committee, and the Stakeholder Committee and their respective Chairmen and Vice-Chairmen following the agreed allocation of seats at paragraph 9 (above).

<b>Standards &amp; Governance Committee</b>	<b>Stakeholder Committee</b>
L. Fairhurst (Chairman)	R. Price (Chairman)
D. Fuller (Vice Chairman)	J. Glen (Vice Chairman)
J. Glen	R. Chadd
D. Harrison	D. Mellor
I. Stephens	I. Stephens

With regards to the Pension Board, the Authority considered the position as set out in paragraph 10 of the report and confirmed the appointments as set out in paragraph 10 of the report.

d) It was approved that the Authority Policy Advisory Group (APAG) include all appointed HIWFRA Members as set out in paragraph 11a of the report, until the AGM in 2022.

e) The Authority appointed the following three Members to an informal working group for the **review of principal officer pay**, as detailed in paragraph 11b of the report, until the HIWFRA AGM in 2022.

**L. Fairhurst (Chairman)**

**G. Hughes**

**R. Price**

f) The Authority appointed the following three Members to an informal working group for the review of the **Member Allowance Scheme**, as detailed in paragraph 11g of the report, until the HIWFRA AGM in 2022.

**R. Chadd (Chairman)**

**L. Fairhurst**

**D. Harrison**

g) The Minority Group Spokesperson for the Liberal Democrat Party Group until the inaugural meeting of the Combined Fire Authority in 2022 was confirmed as **Roger Price**, as set out in paragraph 11c of the report.

h) Peter Moore and Michael Cronin were appointed as Independent Persons for HIWFRA for a four-year term with an allowance of £100 per annum each.

i) The Chairman of the Stakeholder Committee was appointed as the Shareholder Representative for 3SFire CIC pursuant to Article 42 of the Articles of Association of 3SFire CIC as set out in paragraph 11e of the report, until the HIWFRA AGM in 2022.

j) The Authority approved grants dispensations under Sections 33(2)(a) and (d) of the Localism Act 2011, expiring on 30 June 2022, in respect of the provisions of Sections 31(4)(a) and (b) of the Localism Act:

- a) to all Members to enable them to participate and vote in any business of the Authority relating to the setting of Council Tax or Precepts, when they would otherwise be prevented from doing so in consequence of a beneficial interest in land within the administrative area of the Authority; and
- b) to all Members in receipt of an allowance under the Authority's Members' Allowances Scheme or Members' Allowances Scheme, enabling them to participate and vote in any business of the Authority where they may otherwise be prevented from doing so in consequence of being in receipt of a Members' Allowance.

k) The Authority approved the Constitution at Appendix 4 and agreed to delegate any future formatting and minor technical changes to the Monitoring Officer

## 23. **GRENFELL TOWER PROGRESS REPORT**

The Authority received a report from the Chief Fire Officer (item 10 in the minute book) on progress following the Grenfell Tower Inquiry and subsequent recommendations.

Members were taken through the report and it was confirmed that high rise buildings were being focussed on, with inspections and any measures required being implemented by the end of 2021. Additional funding had been received but there were strict guidelines as to how this could be spent, and an update would return to the Full Authority in December 2021.

The Chief Fire Officer thanked officers for their work in making the high rise buildings across Hampshire and the Isle of Wight as safe as possible.

It was confirmed that known cladding issues were being assisted financially by Central Government, who were also being lobbied by other groups outside of the Fire Service to further help residents with funding for defects in high rise buildings.

It was enforced that buildings 'failing' an inspection did not automatically mean that they were dangerous, but the Fire Service did have powers to intervene where a building was felt to be dangerous and the causes were not being addressed by the owners. The Fire Service continued to work with planners and developers to ensure building safety at the earliest opportunity before construction went ahead.

Members agreed to add the topic to a future APAG agenda.

RESOLVED

The contents of the report were noted by the HIWFRA Full Authority.

## 24. **2020/21 END OF YEAR PERFORMANCE AND SAFETY PLAN REPORT**

The Authority received the end of year performance and safety plan report from the Chief Fire Officer (item 11 in the minute book), which detailed progress with performance and safety within the Fire and Rescue Service.

It was acknowledged that 2020-2021 had been an anomaly year with the Covid-19 pandemic and subsequent challenges, but the Service had lead the resilience forum, as well as managing the set-up of the Combined Fire Authority (CFA) and business as usual work.

It was acknowledged that fire fatalities had increased in the year, but a full review was always undertaken and this had been affected by the amount of time people had been spending at home following local restrictions. Learning that had been captured from fire-related incidents was highlighted in paragraph 8 of the report.

It was confirmed that the 11.4% turnover in staff was not a particularly high amount compared to other Fire Services and was primarily down to retirement of staff.

Learning was still being consolidated following the pandemic and whilst there had been restrictions implemented throughout the year, the Service had continued to work with the most vulnerable and isolated in society to maintain their safety.

Looking at the CFA, it was confirmed that an amalgamation had been done with figures where possible, but there were differences in how things had historically been reported. This would be a focus going forward, particularly looking at rurality and the challenges it posed.

The Chief Fire Officer thanked officers for their work and invited Members to contribute to how they thought performance updates could be monitored going forward.

### RESOLVED

a) The 2020/21 End of Year Performance Report was noted by the HIWFRA Full Authority

b) The 2020/21 Safety Plan Year 1 Improvements Report was noted by the HIWFRA Full Authority

*The Police and Crime Commissioner, Donna Jones, joined the Full Authority meeting and addressed Members before leaving to attend another meeting.*

## 25. **COMBINED FIRE AUTHORITY (CFA) PROGRESS REPORT**

The Authority received a report from the Chief Fire Officer (item 12 in the minute book) that updated Members on progress with the formation of the Combined Fire Authority (CFA).

The report provided a summary timeline of work that had been undertaken along with achievements and opportunities utilised over the past year. The transition into a CFA had been smooth with targets achieved ahead of schedule, along with coming in under budget.

An on-call review was still to take place, but this had been moved into business as usual work as part of the CFA along with work on estates. The process had focussed on people, making it an exemplary example of best practice.

The Chief Fire Officer thanked Members for their brave political leadership and collaborative working throughout the CFA transition as well as the Deputy Chief Fire Officer and his officers for their hard work and determination.

#### RESOLVED

The content of the report was noted by the HIWFRA Full Authority

#### **Farewell to the Deputy Chief Fire Officer**

At the end of the meeting, the Chief Fire Officer paid special thanks to the Deputy Chief Fire Officer (DCFO), Steve Apter, ahead of his upcoming retirement. The DCFO had recently been awarded the Queens Fire Service medal and had played an integral role in the Combined Fire Authority project and its success. The Full Authority Members wished him all the best for the future.

The Chief Fire Officer also confirmed that since the elections, he had met with Sharon Mintoff from Southampton City Council who had previously sat on the Fire Authority and presented her with a certificate for her dedication to the Fire Authority up until May 2021.

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Chairman,



**Hampshire  
& Isle of Wight**  
FIRE & RESCUE AUTHORITY

## **HIWFRA Full Authority**

Purpose: Approval

Date: **27 JULY 2021**

Title: **OUTTURN REPORT**

Report of Chief Financial Officer

### SUMMARY

1. This outturn reports covers the final year end position for Hampshire Fire and Rescue Service for the 2020/21 financial year. The final position is an underspend of £2.196m against the budget. This underspend position includes additional COVID related costs of £1.2m offset by government grant.
2. Carry forward requests of £0.551m have been proposed and provisionally agreed by the Chairman of the Fire Authority, which would leave a balance of £1.645m to be transferred to reserves.
3. This report requests Members of the Authority to review the figures as laid out in the appendices and recommends that the outturn report, including carry forwards, reserves and capital financing are approved. In addition, it recommends that the annual treasury outturn for 2020/21 is approved.

### BACKGROUND

4. This is an annual report that sets out the financial position for the financial year 2020/21 as per the draft Statement of Accounts.

## REVENUE EXPENDITURE 2020/21

5. A summary of the revenue position by area of spend and type of spend is shown at Appendix A. After allowing for carry forward requests, the outturn position is an underspend of £1.645m.
6. During financial year 2020/21 the Authority made a significant contribution to the response to the COVID-19 pandemic, including significant levels of support to partner organisations. This resulted in additional COVID related costs of £1.245m during the financial year. This has been covered by additional COVID related Government grant of £1.840m. The balance of the COVID grant funding (£0.595m) has been transferred to the Revenue Grants Unapplied Reserve to support COVID response and recovery during the next financial year and does not form part of the net underspend of £1.645m quoted above.
7. After carry forward requests, there is a business as usual underspend of £1.645m. A full breakdown is included at Appendix A. The main reasons for this underspend are:
  - (a) Vacancies across the service - £0.670m. Underspends on staff and whole time firefighters were partially offset by a small overspend on retained firefighters.
  - (b) Lower non-pay spend - £0.625m. This mainly relates to reduced spend on utilities, waste and catering.
  - (c) Additional income - £0.451m. This mainly relates to additional investment and rental income.
8. Given the challenges of the past year, this is a strong outturn position and reflects the focus on sound financial management within the service.

## CARRY FORWARD REQUESTS

9. Requests have been received from the Operations, Corporate Services and People and Organisational Development Directorates to carry forward budget allocated in 2020/21 for work which was unable to be completed during the year. The main reason for delay in the completion of these activities during the year was the COVID-19 pandemic. These requests are:
  - (a) Operations (£0.145m) – purchase of mobile data terminals for the electronic recording of Safe and Well visits. Technical and security issues mean that the purchase has been delayed.

- (b) People and Organisational Development (£0.306m) – delayed essential training courses and work to support Mental Health, Equality, Diversity and Inclusion and Organisational Design. This work has been delayed primarily due to COVID-19 and will be progressed urgently in 2021/22 if the carry forward is formally approved.
  - (c) Corporate Services (£0.100m) – additional IT consultancy support to address a backlog of application and project requests. The backlog has arisen due to recruitment difficulties in the IT team. If approved the carry forward will be used to address the backlog.
10. These carry forward requests were provisionally agreed by the Chairman of HIWFRA in May to enable activity in these areas to continue and have therefore already been reflected in the Statement of Accounts and the figures quoted within this report.

CAPITAL EXPENDITURE 2020/21

11. Capital payments during the year totalled £2.044m compared with the £2.624m forecast. A breakdown of the expenditure against the plan, including the sources of funding for the schemes is given in Appendix B.
12. The lower spend is related to slippage of the schemes. The funding will be required during 2021/22, which has been reflected in the capital forecast.
13. As agreed by the Fire Authority the Redbridge and Cosham schemes will be funded from prudential borrowing. £12,000 of the spend to be funded from prudential borrowing has been incurred this year. This is in line with the agreed funding strategy.
14. The 2020/21 capital programme including major revenue investments has been financed as follows:

<b>Funding source</b>	<b>£'000</b>
Capital payments reserve	1,987
Prudential borrowing	12
Capital receipt	45
<b>Total</b>	<b>2,044</b>

## CAPITAL EXPENDITURE 2021/22 TO 2024/25

15. Appendix B provides an update to the capital programme for the coming years, including the latest forecast of spending requirements and funding sources.
16. Basingstoke Fire Station has been in operation for some time. The project remains in the programme as final works have been delayed due to the use of the site as a mass vaccination centre in 2020/21. Final works will now take place during 2021/22.
17. The final cost of SHQ Phase 2 has now been agreed and the final account will be settled in 2021/22.
18. Significant capital expenditure on the vehicle replacement programme and the Station Investment Programme is planned from 2021/22 - 2023/24.

## PROVISIONS

19. Provisions are included in the year end position for future liabilities where the timing or amount is uncertain at the end of the financial year. Increases and decreases in provisions impact on the revenue budget. The following provisions have been adjusted during the 2020/21 financial year:
  - (a) **Provision for uninsurable and other claims (£30,000 increase)**  
This provision covers costs that may arise as a result of the Authority being uninsured for a period (as the Authority's insurers went into liquidation some years ago), possible employment tribunals (together with their associated costs) and other claims made against the Authority. These cases may take a number of years to settle. The increase is based on the latest assessment of outstanding claims.
  - (b) **Provision for pension liabilities (-£66,000 decrease)** This provision covers the costs of pension liabilities relating to temporary promotions that the Authority has agreed to fund. The decrease reflects the use of the provision as affected firefighters retire.

## RESERVE BALANCES

20. An updated reserves position is included as Appendix D. The 2020/21 underspend has been split between the Transformation Reserve (£0.822m) and Capital Payments Reserve (£0.823m) subject to final approval by the Authority. This proposed use reflects ongoing pressure on the Capital Payments Reserve whilst at the same time providing funds for

transformation activity in this and future years. These amounts have been included within the closing balances of the Transformation Reserve and Capital Payments Reserve respectively.

21. There are two different types of reserve, and these are:
- (a) Earmarked Reserves – these reserves are held to fund a specific purpose and can only be used to fund spending associated with that specific purpose. Should it transpire that not all the agreed funds are required then the agreement of the Authority would be sought to decide how any remaining balance is to be utilised.
  - (b) General Reserve – use of this Reserve is non-specific and is held to fund any unforeseen spending that had not been included in the base budget e.g. excessive operational activity resulting in significant on-call pay costs. Generally, this is deemed to be a reserve of ‘last resort’ and the Authority has never been required to use its General Reserve.
22. The changes to reserves during the year, including the contribution of the underspend to the Transformation and Capital Payments Reserves, can be summarised as follows:

	Earmarked Reserves (£'000)	General Reserve (£'000)
Opening balance	28,819	2,500
Contributions	10,997	-
Draws	(6,515)	-
Closing balance	33,301	2,500

Although the reserve balances are significant, the majority of the balance is committed to the capital and other investment programmes over the next five years. In addition, outstanding debt of £7.1m remains, which is due to be paid off over the next 16 years.

23. A proportion of the Isle of Wight Council reserves relate to the Fire and Rescue service and will be transferred to Hampshire and Isle of Wight Fire and Rescue Service following the conclusion of year end processes in both

organisations. This amount is not yet confirmed but will be transferred to the Capital Payments Reserve when received in light of the property repair requirements for the Isle of Wight building estate.

#### TREASURY MANAGEMENT

24. The Treasury Management Strategy approved by the Authority in February 2020 was followed throughout the year. All the limits and boundaries set were fully complied with.
25. The year end report for Treasury Management is set out as Appendix D for Members' approval.

#### SUPPORTING OUR SAFETY PLAN AND PRIORITIES

26. Ensuring that funding is appropriately accounted for is vital for all public sector organisations. 2020/21 has been particularly challenging due to the extra pressures and uncertainty resulting from the COVID 19 pandemic. Strong budget management has meant that an underspend has been achieved in year.

#### CONSULTATION

27. No consultation is required for this report as it is based on historic information and is a purely factual document. The information contained within this report will be verified by our external auditors.

#### RESOURCE IMPLICATIONS

28. This report reflects the financial position for the previous financial year and does not contain any requests which would affect the future financial position other than the carry forward requests and the proposed transfer of the underspend to the Transformation and Capital Payments reserves providing for future funding needs.

#### IMPACT ASSESSMENTS

29. This is a factual report that looks back over the financial performance during the last financial year. Any financial decisions taken during that year, or future decisions about the use of the amounts added to reserves will be subject to separate impact assessments.

#### LEGAL IMPLICATIONS

30. This report is part of the final accounts process. There is a legal requirement that the Statement of Accounts be approved and signed off by external audit. Sign off of the audited accounts is planned for the end September, in line with current legislative requirements.

### OPTIONS

31. There are no options for consideration in this report.

### RISK ANALYSIS

32. This report covers the draft outturn position prior to the full audit of the accounts. If any significant errors are uncovered during the audit process these will be referred back to the Authority.

### CONCLUSION

33. It is requested that the Authority review and approve the financial position for the year ended 31<sup>st</sup> March 2021 as detailed in this report.

### RECOMMENDATION

34. That that the outturn position for 2020/21 (including Appendix A) and the use of reserves set out in paragraph 22 and appendix C of this report be approved by the HIWFRA Full Authority
35. That the carry forward requests totalling £551,000 as set out in paragraph 9 of this report be approved by the HIWFRA Full Authority
36. That the capital outturn position in 2020/21 and the capital spend profile going forwards set out in appendix B be approved by HIWFRA Full Authority
37. That the financing for capital payments set out in paragraph 14 be approved by HIWFRA Full Authority
38. That the annual Treasury outturn report set out in appendix D of this report be approved by HIWFRA Full Authority

### APPENDICES ATTACHED

Appendix A – Revenue Outturn by type of spend and service areas

Appendix B – Capital Outturn, forecast and funding

Appendix C – Reserves Position

Appendix D – Treasury Management Outturn

Contact: Rob Carr, Chief Financial Officer, [rob.carr@hants.gov.uk](mailto:rob.carr@hants.gov.uk), 0370 779 2647

<b>Appendix A – Revenue Outturn</b>			
<b>By type of spend</b>	<b>Budget 2020/21</b>	<b>Outturn 2020/21</b>	<b>Variance 2020/21</b>
	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>
Whole Time Firefighters	33,289	32,710	(579)
Retained Firefighters	6,771	7,084	313
Staff	12,039	11,588	(451)
Net cost of pensions	1,087	1,122	35
Other Employee Costs	585	597	12
	<b>53,771</b>	<b>53,101</b>	<b>(670)</b>
Premises	6,204	6,312	108
Transport	1,449	1,512	63
Supplies & Services	8,789	8,180	(609)
Third Party Payments	3,151	3,127	(24)
	<b>19,593</b>	<b>19,131</b>	<b>(462)</b>
Income	(4,032)	(4,327)	(295)
	<b>(4,032)</b>	<b>(4,327)</b>	<b>(295)</b>
Contributions to / (from) reserves			
Capital reserve	1,977	1,977	-
Equipment reserve	453	453	-
Grant equalisation reserve	625	625	-
Transformation reserve	(597)	(597)	-
ICT reserve	500	500	-
Carry forward reserve	(219)	(219)	-
Revenue grants unapplied reserve	2	2	-
Princes Trust reserve	25	25	-
SHQ maintenance reserve	70	70	-
	<b>2,836</b>	<b>2,836</b>	<b>-</b>
Net Cost of Service	72,168	70,741	(1,427)
Change in provisions	0	(36)	(36)
Investment income	(210)	(395)	(185)
Capital Financing	799	812	13
Revenue contribution to capital	1,504	1,504	-
	<b>74,261</b>	<b>72,626</b>	<b>(1,635)</b>
<b>Budget Requirement</b>			
<b>Funded by:</b>			

Precept	(44,492)	(44,492)	-
Revenue Support Grant	(7,333)	(7,333)	-
Business Rates Top-Up Grant	(7,585)	(7,585)	-
Locally Retained Business Rates	(7,158)	(7,158)	-
Pension grant	(3,443)	(3,443)	-
New Dimensions	(951)	(951)	-
Firelink	(315)	(315)	-
S31 Business rates	(2)	(8)	(6)
CT Collection Fund Balance	(6)	(6)	-
BR Collection Fund Balance	(195)	(195)	-
Government Grant for Covid Losses	(1,584)	(1,584)	-
Other grants	(1,197)	(1,201)	(4)
Funding Gap / (Surplus)	<b>(74,261)</b>	<b>(74,271)</b>	<b>(10)</b>
<b>Surplus transferred to reserves</b>			<b>(1,645)</b>

### Appendix A – Revenue Outturn

By service area	Budget 2020/21	Outturn 2020/21	Variance 2020/21
	£'000	£'000	£'000
Combined Fire Authority	601	601	-
People and Organisational Development	3,880	3,570	(310)
Risk and Strategy	1,147	1,001	(146)
Operations	38,713	38,583	(130)
Performance and Assurance	1,652	1,496	(156)
Corporate Services	21,206	20,553	(653)
Finance	2,133	2,101	(32)
	<hr/> 69,332	<hr/> 67,905	<hr/> (1,427)
Contributions to / (from) reserves			
Capital reserve	1,977	1,977	-
Equipment reserve	453	453	-
Grant equalisation reserve	625	625	-
Transformation reserve	(597)	(597)	-
ICT reserve	500	500	-
Carry forward reserve	(219)	(219)	-
Revenue grants unapplied reserve	2	2	-
Princes Trust reserve	25	25	-
SHQ maintenance reserve	70	70	-
	<hr/> <b>2,836</b>	<hr/> <b>2,836</b>	<hr/> -
Net Cost of Service	72,168	70,741	(1,427)
Change in provisions	0	(36)	(36)
Investment income	(210)	(395)	(185)
Capital Financing	799	812	13
Revenue contributions to capital	1,504	1,504	-
<b>Budget Requirement</b>	<hr/> <b>74,261</b>	<hr/> <b>72,626</b>	<hr/> <b>(1,635)</b>

**Funded by:**

Precept	(44,492)	(44,492)	-
Revenue Support Grant	(7,333)	(7,333)	-
Business Rates Top-Up Grant	(7,585)	(7,585)	-
Locally Retained Business Rates	(7,158)	(7,158)	-
Pension grant	(3,443)	(3,443)	-
New Dimensions	(951)	(951)	-
Firelink	(315)	(315)	-
S31 Business rates	(2)	(8)	(6)
CT Collection Fund Balance	(6)	(6)	-
BR Collection Fund Balance	(195)	(195)	-
Government Grant for Covid Losses	(1,584)	(1,584)	-
Other grants	(1,197)	(1,201)	(4)
Funding Gap / (Surplus)	<b>(74,261)</b>	<b>(74,271)</b>	<b>(10)</b>

**Surplus transferred to reserves**

**(1,645)**

**Appendix B – Capital outturn, forecast and funding**

<i>Project Details</i>	<b>Approved Spend</b>	<b>Previous Years' Spend</b>	<b>2020/21</b>	<b>2021/22</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>	<b>Latest Estimate</b>
	<b>£'000s</b>	<b>£'000s</b>	<b>£'000s</b>	<b>£'000s</b>	<b>£'000s</b>	<b>£'000s</b>	<b>£'000s</b>	<b>£'000s</b>	<b>£'000s</b>
Basingstoke Fire Station	6,955	6,644	188	123	-	-	-	-	6,955
Fire control system	729	671	-	58	-	-	-	-	729
Solar photovoltaic panels	1,059	1,059	-	-	-	-	-	-	1,059
Estates Transformation -HQ Phase 2	4,660	4,509	10	141					4,660
Estates Transformation -HQ Phase 1 F&E	260	260							260
Vehicles	40,157	3,654	1,244	10,828	9,094	7,392	3,558	4,387	40,157
Replacement Fire Training Facility	3,500			1,750	1,750				3,500
Fleet Maintenance Centre - Sprinkler Installation	400			400					400
Cosham (SIP)	20,450		0	3,990	11,524	3,107	1,829	0	20,450
Gosport Land Purchase (SIP)	200			200					200
Bishops Waltham Station (SIP)	3,700		107	369	785	2,395	44		3,700
Redbridge Station (SIP)	24,100		12	3,279	5,088	10,352	5,096	273	24,100
Revenue investments	4,975	1,626	483	2,866	0	0	0	0	4,975
<b>Total Programme Cost</b>	<b>111,145</b>	<b>18,423</b>	<b>2,044</b>	<b>24,005</b>	<b>28,241</b>	<b>23,245</b>	<b>10,527</b>	<b>4,660</b>	<b>111,145</b>
<i>Financed by:</i>									
Capital payments reserve		16,299	1,987	16,635	11,629	9,787	3,252	4,387	63,976
Prudential Borrowing			12	7,269	16,612	13,459	6,925	273	44,550
Capital receipts		1,624	45				350		2,019
Capital Grant									0
Partner contributions		500		100					600
<b>Total financing</b>	<b>111,145</b>	<b>18,423</b>	<b>2,044</b>	<b>24,005</b>	<b>28,241</b>	<b>23,245</b>	<b>10,527</b>	<b>4,660</b>	<b>111,145</b>

## Appendix C

Movement in Reserves 2020/21	Earmarked Reserves									Earmarked Reserves	General Reserve
	Transformation Reserve	Capital Payments Reserve	Equipment Reserve	IT Reserve	Grant Equalisation Reserve	Earmarked underspends	Revenue Grants Unapplied Reserve	SHQ maintenance reserve	Princes Trust Reserve		
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Opening balance	(2,243)	(22,981)	(344)	(75)	0	(770)	(1,756)	(551)	(99)	<b>(28,819)</b>	<b>(2,500)</b>
Draws	1,884	1,987	497	0	0	770	1,377	0	0	<b>6,515</b>	<b>0</b>
Contributions	(2,108)	(4,788)	(950)	(500)	(625)	(551)	(1,380)	(70)	(25)	<b>(10,997)</b>	<b>0</b>
<b>Closing balance</b>	<b>(2,467)</b>	<b>(25,782)</b>	<b>(797)</b>	<b>(575)</b>	<b>(625)</b>	<b>(551)</b>	<b>(1,759)</b>	<b>(621)</b>	<b>(124)</b>	<b>(33,301)</b>	<b>(2,500)</b>

## Appendix D - Annual Treasury Outturn Report 2020/21

### Purpose of the Report

1. Hampshire and Isle of Wight Fire and Rescue Authority has adopted the key recommendations of the Chartered Institute of Public Finance and Accountancy's Treasury Management in the Public Services: Code of Practice (the CIPFA Code), last updated in 2017. The CIPFA Code requires the Fire and Rescue Authority to approve a treasury management strategy before the start of the year and a semi-annual and annual treasury outturn report. The purpose of this report is therefore to meet this obligation by providing an update on the performance of the treasury management function during 2020/21.

### Summary

2. This report fulfils the Fire and Rescue Authority's legal obligation under the Local Government Act 2003 to have regard to the CIPFA Code and provides an update on the performance of the treasury management function during 2020/21.
3. The Fire and Rescue Authority's treasury management strategy was most recently updated and approved at a meeting of Hampshire & Isle of Wight Fire & Rescue Authority (Shadow Authority) in February 2021. The Fire and Rescue Authority has borrowed and invested sums of money and is therefore exposed to financial risks including the loss of invested funds and the revenue effect of changing interest rates. The successful identification, monitoring and control of risk are therefore central to the Fire and Rescue Authority's treasury management strategy.
4. Treasury management in the context of this report is defined as: "the management of the organisation's investments and cash flows, its banking, money market and capital market transactions; the effective control of the risks associated with those activities; and the pursuit of optimum performance consistent with those risks."
5. This annual report sets out the performance of the treasury management function during 2020/21, to include the effects of the decisions taken and the transactions executed in the past year.
6. Overall responsibility for treasury management remains with the Fire and Rescue Authority. No treasury management activity is without risk and the effective identification and management of risk are therefore integral to the Fire and Rescue Authority's treasury management objectives.
7. All treasury activity has complied with the Fire and Rescue Authority's Treasury Management Strategy and Investment Strategy for 2020/21, and all relevant statute, guidance and accounting standards. In addition, support in undertaking

treasury management activities has been provided by the Fire and Rescue Authority's treasury advisers, Arlingclose.

8. The 2017 Prudential Code includes the requirement to produce a Capital Strategy, a summary document approved covering capital expenditure and financing, treasury management and non-treasury investments. The latest iteration of the Fire and Rescue Authority's Capital and Investment Strategy, complying with CIPFA's requirement, was approved by the Fire and Rescue Authority in February 2021.

## **External Context**

9. The following sections outline the key economic themes in the UK against which investment and borrowing decisions were made in 2020/21.

### **Economic commentary**

10. The coronavirus pandemic dominated 2020/21, resulting in significant levels of government borrowing and expenditure to support the economy, with the UK also agreeing a Brexit trade deal within the period.
11. The Bank of England (BoE) held Bank Rate at 0.1% throughout the year and extended its Quantitative Easing programme by £150bn to £895bn in November 2020. The Bank expects Gross Domestic Product (GDP) to remain low in the near-term but believes that the easing of restrictions is likely to lead to a strong recovery in growth later in 2021, with inflation forecast to increase in the near-term. The economic outlook has improved but downside risks remain, such as a further increase in unemployment when the furlough scheme ends.
12. Inflation remained low during 2020/21, with the annual headline rate of UK Consumer Price Inflation (CPI) rising to 0.7% year-on-year in March 2021, below expectations and below the BoE's 2% target. Unemployment was higher for the three months to March 2021 than for the same period the previous year, while periods of GDP contractions and growth over the year largely mirrored the tightening and easing of restrictions, creating some significant quarterly swings.

### **Financial markets**

13. Monetary and fiscal stimulus helped provide support for equity markets which rose over the period. In the UK, the FTSE indices performed reasonably well during the period to November 2020 before being buoyed in December by both the vaccine approval and Brexit deal.
14. Ultra-low interest rates prevailed throughout most of the period, with yields generally falling between April and December 2020. From early in 2021 the improved economic outlook due to the new various stimulus packages (particularly in the US), together with the approval and successful rollout of

vaccines, caused government bonds to sell off sharply on the back of expected higher inflation and increased uncertainty, pushing yields higher more quickly than had been anticipated.

### Credit review

15. After spiking in March 2020, credit default swap spreads subsequently declined to broadly pre-pandemic levels. Credit default swaps are used as an indicator of credit risk, where higher premiums indicate higher perceived risks.
16. Moody's downgraded the UK sovereign rating to Aa3 with a stable outlook during the period and this change had an impact on a number of other UK institutions, banks and local government.
17. The vaccine approval and subsequent rollout programme are both credit positive for the financial services sector in general, but there remains much uncertainty around the extent of the losses banks and building societies will suffer due to the pandemic and the effects of lockdowns and restrictions. This uncertainty means the Fire and Rescue Authority's treasury management advisors, Arlingclose, continue to recommend maximum durations of 35 days for unsecured investments with banks and building societies on their list of recommended counterparties.

### Local Context

18. At 31 March 2021 the Fire and Rescue Authority's underlying need to borrow for capital purposes was £10.3m as measured by the Capital Financing Requirement (CFR), while usable reserves and working capital are the underlying resources available for investment and amounted to £29.5m. These factors are summarised in Table 1.

<b>Table 1: Balance sheet summary</b>	<b>31/03/20 Balance £m</b>	<b>Movement £m</b>	<b>31/03/21 Balance £m</b>
CFR	10.8	(0.5)	10.3
Less: External borrowing			
- Public Works Loan Board	(8.3)	1.2	(7.1)
<b>Internal Borrowing</b>	<b>2.5</b>	<b>0.7</b>	<b>3.2</b>
Less: Usable Reserves	4.4	1.9	6.3
Less: Working Capital	(31.3)	(4.5)	(35.8)
<b>Net Investments</b>	<b>(24.4)</b>	<b>(1.9)</b>	<b>(26.3)</b>

19. The CFR has reduced by £0.5m during 2020/21. External borrowing reduced by £1.2m as a result of the scheduled repayment of Public Works Loan Board (PWLB) borrowing. Usable reserves rose as contributions were made to the

Capital Payments Reserve, Transformation Reserve and Equipment Reserve in line with the Medium Term Financial Plan. There were some delays to expenditure, particularly vehicle purchases which meant the overall levels of reserves increased during the year. Increased internal borrowing and an increase in usable reserves have been partially offset by an increase in the working capital liability, resulting in a small rise in net investments reported at 31 March 2021.

20. The Fire and Rescue Authority's strategy was to maintain borrowing and investments below their underlying levels, referred to as internal borrowing, to reduce risk and keep interest costs low. The treasury management position at 31 March 2021 and the change during the year are shown in Table 2.

<b>Table 2: Treasury management summary</b>	<b>31/03/20 Balance £m</b>	<b>Movement £m</b>	<b>31/03/21 Balance £m</b>	<b>31/03/21 Rate %</b>
Long-term borrowing	(7.10)	0.45	(6.65)	4.69
Short-term borrowing	(1.15)	0.70	(0.45)	4.50
<b>Total borrowing</b>	<b>(8.14)</b>	<b>1.15</b>	<b>(7.10)</b>	<b>4.68</b>
Long-term investments	9.00	(1.00)	8.00	4.53
Short-term investments	4.01	9.99	14.00	0.26
Cash and cash equivalents	12.50	(7.71)	4.79	0.01
<b>Total investments</b>	<b>25.51</b>	<b>1.28</b>	<b>26.79</b>	<b>1.49</b>
<b>Net investments</b>	<b>17.26</b>	<b>2.43</b>	<b>19.69</b>	

Note: the figures in Table 2 are from the balance sheet in the Fire and Rescue Authority's statement of accounts, but adjusted to exclude operational cash, accrued interest and other accounting adjustments.

21. The increase in net investments of £2.5m shown in Table 2 reflects a small increase in investment balances of £1.3m in combination with the repayment at maturity of borrowing of £1.2m, in line with the Fire and Rescue Authority's policy on internal borrowing. Further details are provided in the Borrowing Activity and Treasury Investments Activity sections of this report.

## **Borrowing Update**

22. In November 2020 the PWLB published its response to the consultation on 'Future Lending Terms'. The rate at which local authorities could borrow from the PWLB is defined by a margin above gilts; following the response to the consultation the margin above gilts on PWLB loans was reduced from 1.8% to 0.8%, however restrictions were introduced meaning that this rate would only be available to authorities not planning to purchase investment assets primarily for yield. Authorities that are purchasing or intending to purchase investment assets primarily for yield will not be able to access the PWLB except to refinance existing loans or externalise internal borrowing. Acceptable use of

PWLB borrowing includes service delivery, housing, regeneration, preventative action, refinancing and treasury management.

23. As part of the borrowing process authorities are now required to submit more detailed capital expenditure plans with confirmation of the purpose of capital expenditure from the Section 151 Officer. The PWLB can now also restrict local authorities from borrowing in unusual or large amounts.
24. The Fire and Rescue Authority is not planning to purchase any investment assets primarily for yield and so is able to take advantage of the reduction in the PWLB borrowing rate if required.

### Borrowing Activity

25. At 31 March 2021 the Fire and Rescue Authority held £7.1m of loans (a decrease of £1.2m from 31 March 2020) as part of its strategy for funding previous years' capital programmes. The year-end treasury management borrowing position and year-on-year change are summarised in Table 3.

<b>Table 3: Borrowing position</b>	<b>31/03/20 Balance</b>	<b>Net movement</b>	<b>31/03/21 Balance</b>	<b>31/03/21 Weighted average rate</b>	<b>31/03/21 Weighted average maturity</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>	<b>%</b>	<b>(years)</b>
Public Works Loan Board	(8.3)	1.2	(7.1)	4.68	10.2
<b>Total borrowing</b>	<b>(8.3)</b>	<b>1.2</b>	<b>(7.1)</b>	<b>4.68</b>	<b>10.2</b>

Note: the figures Table 3 are from the balance sheet in the Fire and Rescue Authority's statement of accounts but adjusted to exclude accrued interest.

26. The Fire and Rescue Authority's chief objective when borrowing has been to strike an appropriately low risk balance between securing low interest costs and achieving cost certainty over the period for which funds are required. The flexibility to renegotiate loans should the Fire and Rescue Authority's long-term plans change is a secondary objective.
27. Short-term interest rates have remained much lower than long-term rates and the Fire and Rescue Authority has therefore considered it to be more cost effective in the near term to use internal resources than to use additional borrowing. In line with this strategy, £1.2m of PWLB loans were allowed to mature without refinancing.
28. This borrowing strategy has been monitored with the assistance of Arlingclose and has enabled the Fire and Rescue Authority to reduce net borrowing costs (despite foregone investment income) and reduce overall treasury risk.

### Treasury Investment Activity

29. The Fire and Rescue Authority holds invested funds representing income received in advance of expenditure plus balances and reserves held. During the year, the Fire and Rescue Authority's investment balances have ranged between £19.5m and £38.5m due to timing differences between income and expenditure. The year-end investment position and the year-on-year change are shown in Table 4.

<b>Table 4: Treasury investment position</b>	<b>31/03/2020 Balance</b>	<b>Net movement</b>	<b>31/03/2021 balance</b>	<b>31/03/21 Income return</b>	<b>31/03/21 Weighted average maturity</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>	<b>%</b>	<b>(years)</b>
Short term investments					
- Banks and Building Societies:					
- Unsecured	2.97	1.87	4.84	0.02	0.04
- Secured	1.00	(1.00)	-	N/A	N/A
- Money Market Funds	9.54	(6.59)	2.95	0.01	0.00
- Local Authorities	3.00	8.00	11.00	0.32	0.23
<b>Total</b>	<b>16.51</b>	<b>2.28</b>	<b>18.79</b>	<b>0.19</b>	<b>0.14</b>
Long term investments					
- Banks and Building Societies:					
- Secured	1.00	-	1.00	0.45	2.03
- Local Authorities	1.00	(1.00)	-	N/A	N/A
<b>Total</b>	<b>2.00</b>	<b>(1.00)</b>	<b>1.00</b>	<b>0.45</b>	<b>2.03</b>
Long term investments – higher yielding strategy					
- Pooled Funds					
- Pooled property*	3.25	-	3.25	4.34	N/A
- Pooled equity*	2.00	-	2.00	6.54	N/A
- Pooled multi-asset*	1.75	-	1.75	4.95	N/A
<b>Total</b>	<b>7.00</b>	<b>-</b>	<b>7.00</b>	<b>5.12</b>	<b>N/A</b>
<b>Total investments</b>	<b>25.51</b>	<b>1.28</b>	<b>26.79</b>	<b>1.49</b>	<b>0.24</b>

\*\* The rates provided for pooled fund investments are reflective of annualised income returns over the year to 31 March 2021 based on the market value of investments at the start of the year.

Note: the figures in Table 4 are from the balance sheet in the Fire and Rescue Authority's statement of accounts, but adjusted to exclude operational cash, accrued interest and other accounting adjustments.

30. The Fire and Rescue Authority made a payment of £3.9m on 1 April 2020 to prepay its employer's LGPS pension contributions for 3 years. By making this

payment in advance the Fire and Rescue Authority was able to generate an estimated saving of £0.26m over 3 years on its pension contributions.

31. Investment balances have subsequently increased which is in part explained by the Fire and Rescue Authority not having to make monthly employer's pension contributions throughout 2020/21 (having already paid in advance) but also represents the impact of underspends in 2020/21 and the balance of grants received but not yet applied.
32. The CIPFA Code and government guidance both require the Fire and Rescue Authority to invest its funds prudently, and to have regard to the security and liquidity of its treasury investments before seeking the optimum rate of return, or yield. The Fire and Rescue Authority's objective when investing money is therefore to strike an appropriate balance between risk and return, minimising the risk of incurring losses from defaults alongside managing the risk of receiving unsuitably low investment income. The Fire and Rescue Authority's Treasury Management Strategy Statement (TMSS) sets out how it will manage and mitigate these risks.
33. The security of investments has been maintained by following the counterparty policy and investment limits within the TMSS, taking advice from Arlingclose on changes in counterparty credit worthiness, and making use of secured investment products that provide collateral. The Fire and Rescue Authority invests in liquid investments to ensure money is available when required to meet its financial obligations, spreading these investments across a number of counterparties to mitigate operational risk.
34. In delivering investment returns, the Fire and Rescue Authority has operated against a backdrop in which the UK Bank Rate was cut to 0.10% in March 2020 in response to the coronavirus pandemic. It has remained at this rate throughout the year, having an impact on rates across the market. Returns had been at or around 0% for liquid investment options such as Money Market Funds (MMFs), bank call accounts and the UK Government's Debt Management Account Deposit Facility (DMADF) and have not been significantly higher for other short-term options like fixed duration loans to other local authorities and bank notice accounts. Investment income has therefore largely come from investments arranged at fixed rates of interest prior to the pandemic and through the Fire and Rescue Authority's investments in pooled funds.
35. The Fire and Rescue Authority benchmarks the performance of its internally managed investments against that of other Arlingclose clients. Internally managed investments include all investments except externally managed pooled funds but do include MMFs. The performance of these investments against relevant measures of security, liquidity and yield are shown in Table 5, providing data for the quarter ended 31 March 2021 and at the same date in 2020 for comparison.

<b>Table 5: benchmarking pooled funds)</b>	<b>Investment (excluding)</b>	<b>Credit rating</b>	<b>Bail-in exposure</b>	<b>Weighted average maturity (days)</b>	<b>Rate of return %</b>
31.03.2020		AA-	68%	99	0.61%
31.03.2021		AA-	39%	87	0.22%
Police & Fire Authorities		AA-	70%	26	0.09%
All LAs		A+	63%	14	0.15%

36. Table 5 shows the average credit rating of the portfolio has remained consistent at 31 March 2021 in comparison to the previous year. Bail-in exposure was lower than at the same time in 2020, as the Fire and Rescue Authority held a greater investment balance with other local authorities, who are not subject to bail-in risk, while the weighted average maturity of investments was lower as the Fire and Rescue Authority held lower long-term balances due to the availability of appropriate longer term investments combined with the prudent management of liquid investment balances during an uncertain economic market. The average rate of return (0.22%) was lower than at 31 March 2020, but with the benefit of higher rates for fixed investments made prior to the pandemic helping to offset returns at or close to 0% for many investments across the market. The Fire and Rescue Authority compared favourably with the other police and fire authorities and also the other local authorities included in the benchmarking exercise across all metrics.

### **Externally managed pooled funds**

37. In order to minimise the risk of receiving unsuitably low investment income, the Fire and Rescue Authority has continued to invest a proportion of steady core balances in externally managed pooled funds as part of its higher yielding strategy.
38. The CIPFA Code requires the Fire and Rescue Authority to invest its funds prudently and to have regard to the security and liquidity of its investments before seeking the highest yield. As a result, the Fire and Rescue Authority's investments targeting higher yields have been made from its most stable balances and with the intention that they will be held for at least the medium term. This means that the initial costs of any investment and any periods of falling capital values can be overcome and mitigates the risk of having to sell an asset for liquidity purposes, helping to ensure the long-term security of the Fire and Rescue Authority's investments.
39. The Fire and Rescue Authority's investments in pooled funds fell considerably in value when the coronavirus pandemic hit world markets but have since recovered well. This recovery means these investments are now worth only marginally less in aggregate than the initial sums invested, as shown in Table 6, demonstrating the importance of taking a longer term approach and being able

to ride out periods of market volatility, ensuring the Fire and Rescue Authority is not a forced seller at the bottom of the market.

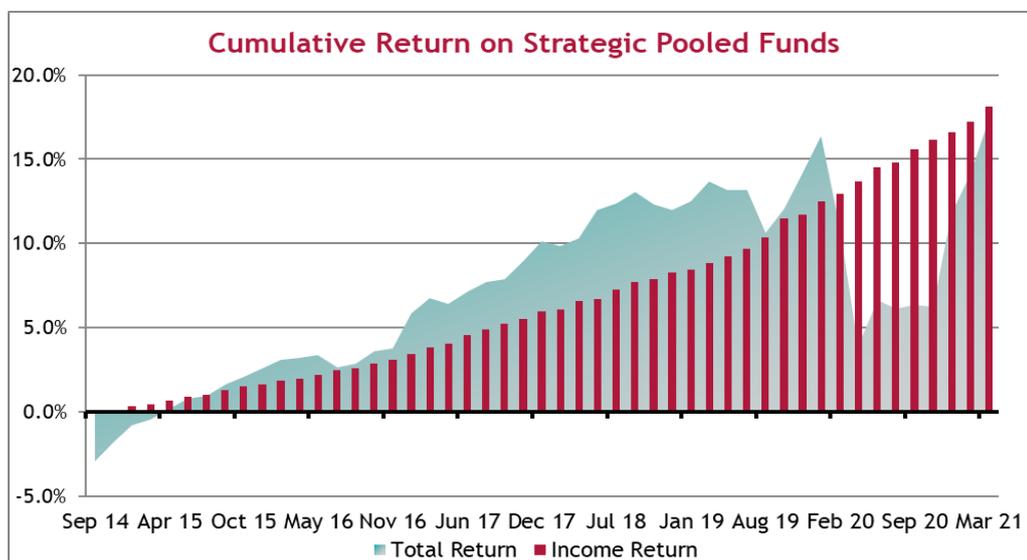
Table 6 – Higher yielding investments – market value performance	Amount invested*	Market value at 31/03/21	Gain/(fall) in capital value	
			Since purchase	2020/21
	£m	£m	£m	£m
Pooled property funds	3.25	3.19	(0.06)	(0.02)
Pooled equity funds	2.00	2.06	0.06	0.50
Pooled multi-asset funds	1.75	1.72	(0.03)	0.27
<b>Total pooled funds</b>	<b>7.00</b>	<b>6.97</b>	<b>(0.03)</b>	<b>0.75</b>

40. The Fire and Rescue Authority's investments in pooled funds target long-term price stability and regular revenue income and bring significant benefits to the revenue budget. As shown in Table 7 the annualised income returns have averaged 4.57% pa (per annum) since purchase, contributing to a total return of 17.28%.

Table 7 – Higher yielding investments – income and total returns since purchase	Annualised income return	Total return
	%	%
Pooled property funds	4.30	20.01
Pooled equity funds	5.15	21.86
Pooled multi-asset funds	4.36	6.58
<b>Total pooled funds</b>	<b>4.57</b>	<b>17.28</b>

41. Following advice from Arlingclose, the Fire and Rescue Authority made prudent income forecasts for 2020/21 to reflect the impact of the pandemic and the challenging market conditions being faced by the investment managers of its pooled funds, identifying the potential impact in its forecasting. Actual income returns from pooled fund investments were more positive than this prudent forecast resulting in income of £0.31m, which was about 3.5% lower than in 2019/20. This is compared with the 25% to 30% reduction that could reasonably have been anticipated given the pandemic's impact on property rental income, company dividends and bond yields. The Fire and Rescue Authority's pooled fund investments continue to deliver income returns far in excess of what could be generated from cash investments and accounted for 85% of the Fire and Rescue Authority's total income from its treasury investments, despite making up only 26% of the average investment balance.

42. The cumulative total return from the Fire and Rescue Authority's investments in pooled equity, property and multi-asset funds since purchase is shown in the following graph. This highlights that the Fire and Rescue Authority has benefited from strong and steady income returns over time and the way that capital values have recovered since March 2020.



43. The IFRS 9 accounting standard that was introduced in 2018/19 means that annual movements in the capital values of investments need to be reflected in the revenue account on an annual basis, although a five year statutory override was put in place for local authorities that exempts them from complying with this requirement.
44. Pooled fund investments have no defined maturity date but are available for withdrawal after a notice period and their performance and continued suitability in meeting the Fire and Rescue Authority's investment objectives is monitored regularly and discussed with Arlingclose.

### Financial Implications

45. The outturn for debt interest paid in 2020/21 was £383,000 on an average debt portfolio of £7.7m, against a budgeted £388,000 on an average debt portfolio of £7.7m.
46. The outturn for investment income received in 2020/21 was £370,000 on an average investment portfolio of £29.8m, therefore giving a yield of 1.24%, against a budgeted £210,000. By comparison investment income received in 2019/20 was £510,000 on an average investment portfolio of £28.2m with a yield of 1.81%.

### Non-Treasury Investments

47. Although not classed as treasury management activities the Fire & Rescue Authority may also make loans and investments for service purposes, for example the direct purchase of land or property. Such loans and investments will be subject to the Fire & Rescue Authority's normal approval processes for revenue and capital expenditure and need not comply with the treasury management strategy. The Fire & Rescue Authority does not have any existing non-treasury investments.

### Compliance Report

48. The Fire and Rescue Authority confirms compliance of all treasury management activities undertaken during 2020/21 with the CIPFA Code of Practice and the Fire and Rescue Authority's approved Treasury Management Strategy.
49. Compliance with the authorised limit and operational boundary for external debt, is demonstrated in Table 8.

<b>Table 8 – Debt limits</b>	<b>2020/21 Maximum</b>	<b>31/03/21 Actual</b>	<b>2020/21 Operational Boundary</b>	<b>2020/21 Authorised Limit</b>	<b>Complied?</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>	<b>£m</b>	
Borrowing	8.7	7.1	14.3	18.0	✓
Other long-term liabilities	-	-	5.0	5.0	✓
<b>Total debt</b>	<b>8.7</b>	<b>7.1</b>	<b>19.3</b>	<b>23.0</b>	✓

### Treasury Management Indicators

50. The Fire and Rescue Authority measures and manages its exposures to treasury management risks using the following indicators.

#### Interest rate exposures

51. The following indicator shows the sensitivity of the Fire and Rescue Authority's current investments and borrowing to a change in interest rates:

<b>Table 9 – Interest rate risk indicator</b>	<b>31/03/21 Actual</b>	<b>Impact of +/-1% interest rate change</b>
Sums subject to variable interest rates		
Investment	£26.8m	+/- £0.2m
Borrowing	£2m	+/-£0.0m

Fixed rate investments and borrowings are those where the rate of interest is

fixed for the whole financial year. Instruments that mature during the financial year are classed as variable rate.

### **Maturity structure of borrowing**

52. This indicator is set to control the Fire and Rescue Authority's exposure to refinancing risk. The upper and lower limits show the maximum and minimum maturity exposure to fixed rate borrowing as agreed in the Treasury Management Strategy Statement:

<b>Table 10 – Refinancing rate risk indicator</b>	<b>31/03/21 Actual</b>	<b>Upper Limit</b>	<b>Lower Limit</b>	<b>Complied</b>
Under 12 months	6%	50%	0%	✓
12 months and within 24 months	11%	50%	0%	✓
24 months and within 5 years	10%	50%	0%	✓
5 years and within 10 years	1%	75%	0%	✓
10 years and within 20 years	72%	75%	0%	✓
20 years and above	0%	100%	0%	✓

### **Principal sums invested for periods longer than a year**

53. The purpose of this indicator is to control the Fire and Rescue Authority's exposure to the risk of incurring losses by seeking early repayment of its investments. The limits on the long-term principal sum invested to final maturities beyond the period end were:

<b>Table 11 – Price risk indicator</b>	<b>2020/21</b>	<b>2021/22</b>	<b>2022/23</b>
Actual principal invested beyond year end	£8m	£8m	£7m
Limit on principal invested beyond year end	£10m	£10m	£10m
Complied?	✓	✓	✓

54. The table includes investments in strategic pooled funds of £7m as although these can usually be redeemed at short notice, the Fire and Rescue Authority intends to hold these investments for at least the medium-term.

### **Other**

#### **CIPFA consultations**

55. In February 2021 CIPFA launched two consultations on changes to its Prudential Code and Treasury Management Code of Practice. These follow the Public Accounts Committee's recommendation that the prudential framework should be further tightened following continued borrowing by some authorities for investment purposes. These are principles-based consultations and will be followed by more specific proposals later in the year. The Fire and Rescue Authority must follow both the Prudential Code and the Treasury Management Code and therefore any changes to either Code will be applicable to the Fire and Rescue Authority. Its views on the initial phase of the consultation were represented in the responses submitted by Hampshire County Council and Arlingclose. Hampshire County Council provide the treasury management service to the Fire and Rescue Authority and Arlingclose are its advisors.
56. In the Prudential Code the key area being addressed is the statement that "local authorities must not borrow more than or in advance of their needs purely in order to profit from the investment of the extra sums borrowed". Other proposed changes include the sustainability of capital expenditure in accordance with an authority's corporate objectives, such as recognising climate, diversity and innovation, commercial investment being proportionate to budgets, expanding the capital strategy section on commercial activities, replacing the "gross debt and the CFR" with the liability benchmark as a graphical prudential indicator.
57. Proposed changes to the Treasury Management Code include requiring job specifications and "knowledge and skills" schedules for treasury management roles to be included in the Treasury Management Practices (TMP) document and formally reviewed, a specific treasury management committee for MiFID II professional clients and a new TMP 13 on Environmental, Social and Governance Risk Management.

#### **IFRS 16**

58. CIPFA/LASAAC has proposed delaying the implementation of the new IFRS 16 Leases accounting standard for a further year to 2022/23.

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**Hampshire  
& Isle of Wight**  
FIRE & RESCUE AUTHORITY

## **HIWFRA Full Authority**

Purpose: Approval

Date: **27 July 2021**

Title: **ANNUAL PAY POLICY STATEMENT**

Report of Chief Fire Officer

### SUMMARY

1. Relevant authorities are required by section 38(1) of the Localism Act 2011 (openness and accountability in local pay) to prepare a Pay Policy Statement. Hampshire and Isle of Wight Fire and Rescue Service (HIWFRS) falls within the definition of a relevant authority and as such is required to prepare and publish a Pay Policy Statement.
2. Under the terms of the Localism Act, the Pay Policy Statement must be considered at a full meeting of Hampshire and Isle of Wight Fire and Rescue Authority (HIWFRA) and cannot be delegated to any sub-committee.
3. The Pay Policy Statement, attached at Appendix A, is correct at the time of writing for the 2021/22 financial year. It will need to be updated throughout the financial year if there is a pay review/award as this will change the details of the financial content and the corresponding assessment of multiples.

### BACKGROUND

4. Increased transparency about how taxpayers money is used, including in the pay and reward of public sector staff, is now a legislated requirement.

5. A Pay Policy Statement for a financial year must set out the Authority's policies for the financial year relating to:
  - a) the remuneration of its Chief Officers
  - b) remuneration of Chief Officers on recruitment
  - c) the remuneration of its lowest-paid employees, and the relationship between the remuneration of its Chief Officers and the remuneration of its employees who are not Chief Officers
  - d) increases and additions to remuneration for each Chief Officer
  - e) the use of performance-related pay for Chief Officers
  - f) the use of bonuses for Chief Officers
  - g) the approach to the payment of Chief Officers on their ceasing to hold office under or to be employed by the Authority, and the publication of and access to information relating to remuneration of Chief Officers
  - h) the definition of "lowest paid employees" adopted by the Authority for the purposes of the statement, and the Authority's reasons for adopting that definition.
6. For information, the definition of 'Chief Officers' as set out in the Localism Act, is not limited to Heads of Paid Service or statutory Chief Officers. It also includes those who report directly to them, such as the Deputy Chief Fire Officer.
7. The Act sets out the minimum information Authorities are required to include in the Pay Policy Statements. Authorities can consider extending this pending their own structure. Therefore, HIWFRS has extended its Pay Policy Statement to include all those roles within the Executive Group that are directly employed by HIWFRS.
8. Approved Pay Policy Statements must be published on HIWFRS's website as soon as is reasonably practicable after they are approved or amended.

#### SUPPORTING OUR SAFETY PLAN AND PRIORITIES

9. Approval and publication of the Pay Policy Statement discharges our obligations under the Localism Act 2011.

#### CONSULTATION

10. There is no requirement to conduct consultation on the content of the Pay Policy Statement. However, in the interests of being open, transparent and providing accountability in local pay, once approved the Pay Policy Statement must be published on the Service website as soon as is reasonably practicable.

## RESOURCE IMPLICATIONS

11. Other than staff time preparing figures and writing reports, no other resource implications have been identified.

## IMPACT ASSESSMENT

12. The publication of the Pay Policy Statement has no impact on the environment or sustainability.
13. The information contained in this report and the attached Pay Policy Statement which, if approved, will be published on the HIWFRS website, is considered compatible with the provisions of equality and human rights legislation.
14. All employees of HIWFRS are paid in accordance with national pay frameworks and the grades of roles are determined through consistent job evaluation criteria. This ensures there are no adverse impacts for those with protected characteristics.

## LEGAL IMPLICATIONS

15. Under section 38(1) of the Localism Act 2011 (openness and accountability in local pay), HIWFRS is required to prepare and publish a Pay Policy Statement.

## OPTIONS

16. [RECOMMENDED] HIWFRA choose to approve the Pay Policy Statement at Appendix A.
17. Alternatively, HIWFRA choose to make some changes to the Pay Policy Statement at Appendix A, prior to publication. This may delay publication but does not present any other risks.
18. Failure to publish a Pay Policy Statement would be in contravention of the Localism Act. Therefore, this would be of significant risk to HIWFRA and is not a viable option.

## RISK ANALYSIS

19. Approval and publication of the Pay Policy Statement discharges HIWFRA's obligations under the Localism Act 2011. Failure to do so in a timely fashion could result in concerns being raised from stakeholders, such as employees and trade unions, regarding the Service's approach to openness and transparency. This risk can be mitigated by ensuring the updated Pay Policy Statement is approved and published on the Service website as soon as is reasonably practicable.

## EVALUATION

20. The publication of a Pay Policy Statement ensures that our communities are able to scrutinise the pay of our most senior officers and the pay frameworks for our employees. This requires the Service to take accountability for its policies on pay and reward and enables interested stakeholders to consider the value of our Service to the communities it serves.

## CONCLUSION

21. In accordance with Section 38(1) of the Localism Act 2011 (openness and accountability in local pay), HIWFRS submits the Pay Policy Statement at Appendix A for consideration and approval by HIWFRA.

## RECOMMENDATION

22. That Hampshire and Isle of Wight Fire and Rescue Authority approve the Pay Policy Statement at Appendix A for publication on Hampshire and Isle of Wight Fire and Rescue Service's website.

## APPENDICES ATTACHED

23. [Appendix A](#) – Pay Policy Statement 2021/22

Contact: Molly Rowland, Director of People and Organisational Development, 07786 086543, [molly.rowland@hants.gov.uk](mailto:molly.rowland@hants.gov.uk)

## **APPENDIX A TO ANNUAL PAY POLICY STATEMENT**

### **Hampshire and Isle of Wight Fire and Rescue Service**

#### **Pay Policy Statement – 2021/22**

##### **1. Introduction**

- 1.1 The purpose of this Pay Policy Statement is to set out Hampshire and Isle of Wight Fire and Rescue Service's (HIWFRS) pay policies relating to its workforce for the financial year 2021/22, including the remuneration of its Chief Officers and lowest paid employees.
- 1.2 Under the terms of the Localism Act 2011, the Pay Policy Statement must be considered at a full meeting of the Hampshire and Isle of Wight Fire and Rescue Authority (HIWFRA) and cannot be delegated to any sub-committee.

##### **2. Pay Framework**

- 2.1 Pay for all employees of HIWFRS is determined by the Local Government Employers with the Employers' Sides of the National Joint Council for Local Authority Fire and Rescue Services, the Middle Managers' Negotiating Body, and the NJC for Brigade Managers of Local Authority Fire and Rescue Services, the HIWFRA locally and representative bodies nationally. Terms and conditions of employment for HIWFRS employees are set nationally with any variations negotiated and agreed locally.
- 2.2 The HIWFRS pay framework for non-operational support staff was implemented in April 2020 in line with national guidance, with the grade for each role being determined by a consistent job evaluation process. Pay awards for non-uniformed support employees are determined by the outcome of Local Government Employers' negotiations with the Trade Unions and are applied from April each year.
- 2.3 The HIWFRS pay framework for operational and Control staff was implemented in December 2003 following a rank-to-role exercise in line with national guidance. Pay awards for uniformed operational employees are determined by the outcome of Local Government Employers' negotiations with the Trade Unions and are applied from July each year.

### **3. Chief Officer Remuneration**

- 3.1 With respect to Chief Officers' pay, this is agreed by the HIWFRA. Taking into account relevant available information, including the salaries of Chief Officers in other comparable Fire and Rescue Services nationally, Chief Officer pay awards are based on NJC recommendations, together with an evaluation of their performance in role as determined locally with the HIWFRA. To support the annual review, information may be provided on inflation, earnings growth and any significant considerations from elsewhere in the public sector. The details of HIWFRS' Chief Officers pay is outlined in Appendix A.
- 3.2 The definition of Chief Officers (as set out in section 43(2)) is not limited to Heads of Paid Service or statutory Chief Officers. It also includes those who report directly to them, such as the Deputy Chief Fire Officer. Roles that form HIWFRS' Executive Group receive remuneration based on direct percentage proportions of the Chief Officer's pay and hence any agreed Chief Officer pay award (as described above) will be reflected in the remuneration of these employees. Therefore, these roles within the Executive Group are covered by the Pay Policy Statement and details of their pay is also outlined in Appendix A.
- 3.3 Chief Officer pay may be varied during a financial year (eg, if the incumbent post holder were to leave and a replacement be recruited). Any changes to remuneration (whether increases or decreases), in this situation, (or for any other legitimate reason) must be approved by the HIWFRA. The effects of any changes cascading from any change to other existing Executive Group employees would also require review and HIWFRA approval at that time.

### **4. Remuneration of the lowest paid employee**

- 4.1 HIWFRS define the "lowest paid employee" as that post holder receiving the lowest (FTE) annual salary. This definition has been chosen as the most representative and equitable method for comparison with Chief Officer remuneration.
- 4.2 The lowest salary paid by HIWFRS is to employees at Grade A of the HIWFRS pay framework. The salary at this grade is £17,842pa equivalent to £9.25 per hour. This is above the the National Living Wage (NLW) of £8.91 per hour which was introduced from 1 April 2016 for workers aged 23 and over. However, there are currently no employees on Grade A. Therefore, the starting salary of the lowest paid employee within HIWFRS is those at Grade B who receive £18,562pa equivalent to £9.62 per hour.

## **5. Average remuneration of employees**

- 5.1 The median average salary of an HIWFRS Green Book FTE post is £29,693. This includes all Green Book posts but excludes incident command unit employees whose earnings vary considerably based on levels of operational activity and the volume of incidents to which they respond.
- 5.2 The median average salary of an HIWFRS Grey Book FTE post is £35,473. This includes all operational posts and Control but excludes retained firefighters whose earnings vary considerably based on levels of operational activity and the volume of incidents to which they respond.

## **6. Relationship between remuneration of Chief Officers and lowest paid employees**

- 6.1 The remuneration of the Chief Officer represents a multiple of 8.7 of the salary at Grade B which is the lowest paid employees' salary. The relationship to the average Green Book staff salary is a multiple of 5.5 and to the average Grey Book staff salary it is a multiple of 4.6. HIWFRS relies on the transparency and equality of application of job evaluation processes to achieve equitable pay rates for all roles. As such, there is no specific policy to set or achieve a particular pay multiple in relation to Chief Officer remuneration compared to the pay levels of other staff.

## **7. Policies relating to remuneration (including pensions)**

- 7.1 There are no special arrangements for Chief Officers in relation to pensions. All staff have the option to join the pension scheme relevant to their role and benefits under each scheme are based on contributions, final salary and length of time in the scheme.
- 7.2 Operational employees joining HIWFRS are eligible to join the New Firefighters Pension Scheme (NFPS). Existing operational employees, including Chief Officers, may be members of the previously available Firefighters Pensions Scheme (FPS) or the NFPS. Non-operational employees are eligible to join the Local Government Pension Scheme (LGPS) as are some more senior operational employees who have taken re-employment after retiring from the FPS.
- 7.3 HIWFRS does not routinely award any employees or Chief Officers with additional payments based on their performance or pay any bonuses.
- 7.4 No special payments are made to employees or Chief Officers on leaving HIWFRS.
- 7.5 The management of redundancy in HIWFRS is detailed in the Redundancy Procedure.
- 7.6 HIWFRS does not permit the automatic re-engagement of staff after retirement.

## **Appendix A**

### **Hampshire and Isle of Wight Fire and Rescue Service - Pay Policy Statement 2021/22**

#### **Salary details of Executive Group roles in Hampshire and Isle of Wight Fire and Rescue Service**

<b>Role</b>	<b>Salary</b>
Chief Fire Officer	£164,752
Director of Policy, Planning and Assurance (Deputy Chief Fire Officer)	£131,802
Director of Operations (Assistant Chief Fire Officer)	£123,552
Director of Corporate Services	£98,849



**Hampshire  
& Isle of Wight**  
FIRE & RESCUE AUTHORITY

## **HIWFRA Full Authority**

Purpose: Approval

Date: **27 JULY 2021**

Title: **HIWFRS CARBON REDUCTION PATHWAY**

Report of Chief Fire Officer

### SUMMARY

1. This report seeks approval to establish a bold carbon reduction programme and funding of £1.1m for the identification and delivery of carbon reduction works during 2022/23.
2. There is growing momentum for an urgent and sustained reduction of our organisational impact on the environment. This is driven not only by the Government Climate Change Act but equally a need to reduce the future consequences of inaction, since the Service acts as a first responder to events such as flooding and storms, both impacted by changes in climate.
3. The recommended Option 3 seeks to set the strategic direction of Hampshire & Isle of Wight Fire & Rescue Service (HIWFRS) Carbon Reduction Pathway to align with the UK National Target of being Net Zero by 2050. The UK Government have recently indicated that this target could be brought forward to include a 78% reduction in carbon emissions by 2035, however this is not currently legislated. Any changes in legislation will be closely monitored for possible impacts on the Carbon Reduction Pathway.
4. This report seeks approval for £1,090,000 funding to be allocated for the 2022/23 financial year. This consists of:
  - (a) £940,000 to instigate a programme of installing electric vehicle charging points, which will be incorporated into the capital programme through the re-profiling of existing spend.
  - (b) £150,000 of fees to conduct full condition surveys across the 62 sites, which will be allocated from the Transformation Reserve.

5. The report also seeks approval for £43,000 funding to establish an additional role within the Property & Facilities team to drive forward and manage the projects which are required to achieve our carbon reduction target, which will be taken into account as part of the budget setting process for 2022/23.
6. Additional funding will be required in the 2023/24 financial year to address decarbonisation of the estate; however, it is not possible to determine the level of investment required until the condition survey reports, requested as part of this report, are completed.

## BACKGROUND

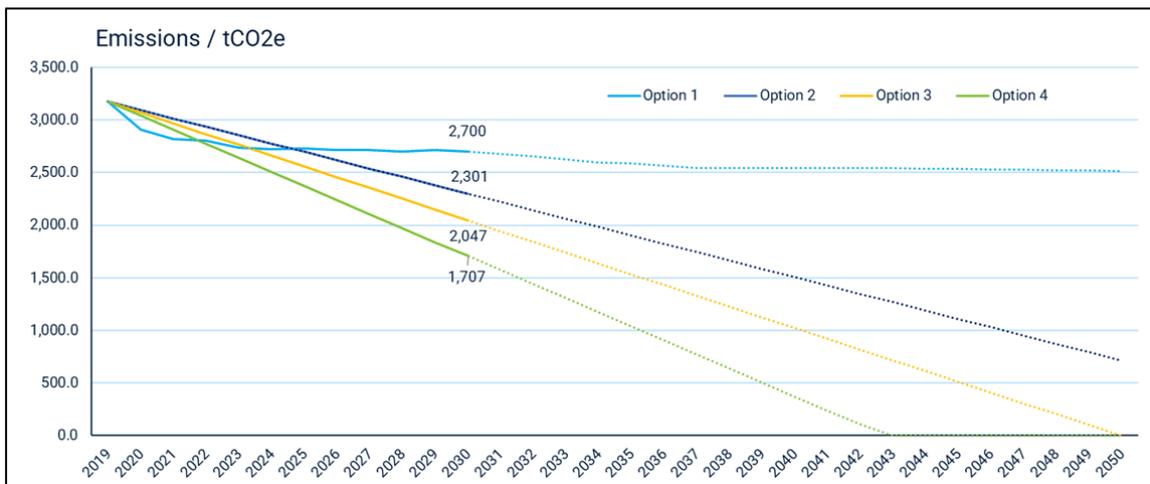
7. HIWFRS has historically taken a proactive approach to reducing our environmental impact, not just in response to the Government's Climate Change Act but predominantly to protect our communities and reduce the consequences of inaction, since the Service acts as a first responder to these extreme weather events.
8. The proposed Carbon Reduction Pathway builds on the success of a series of previous carbon reduction initiatives, such as the 2012 Carbon Management Programme which achieved a 30% reduction in carbon emissions.
9. The Property & Facilities team have engaged with the Carbon Trust to assess our current carbon footprint. From this, a Carbon Report (Appendix A) was created that maps out the 2019/20 carbon footprint of HIWFRS. This will then be used as the baseline for all HIWFRS future carbon reduction assessments.
10. As outlined within the report at Appendix A, 57% of carbon emissions are from our building estate; SHQ and the 61 fire stations across Hampshire and the Isle of Wight, the majority of which are now over 50 years old. To provide HIWFRS with a comprehensive initial position from which programmes of carbon reduction works can be created, updated condition reports will need to be undertaken.
11. The remaining 43% of HIWFRS carbon footprint is from the vehicle fleet. The initial programme proposed will prioritise the installation of electric vehicle charging points at strategic locations across our estate. This will allow the fleet management team to begin the electrification of our non-operational vehicle fleet.
12. A programme of works will be conducted across the estate and fleet, initially reducing fossil fuel use through electrifying vehicles and then, after in-depth condition surveys are conducted, a programme of works will be developed to improve the estate's building fabric and heating systems.

## CURRENT CARBON FOOTPRINT

13. HIWFRS Carbon Footprint has been calculated from the 2019/20 figures as **3173.4 tCO<sub>2</sub>e**.
14. The assessment of our carbon footprint includes the direct emissions from the combustion of gas, vehicle fuel, and other fossil fuels, and purchased electricity, heat or steam. Emissions that were prevented, from solar PV electricity generation, is shown separately as avoided emissions. These are referred to as 'Scope 1 and 2' in the Carbon Trust report at Appendix A.

## CARBON REDUCTION TARGET

15. The Carbon Trust report presents different trajectories of carbon reduction ranging from Option 1 – Do Nothing, which maintains our current practices and asset make-up, Option 2 – which is the trajectory for a 2°C rise in global temperatures, Option 3 which is the trajectory required to meet the UK National Target of net zero carbon emissions by 2050, and finally Option 4 which is the trajectory for a 1.5°C rise in global temperatures.



16. Based on the findings from the Carbon Trust Report, it is the recommendation that the Authority should reduce emissions in line with Option 3, the current UK National Target of Net Zero by 2050.
17. Failure to act now to achieve this UK National Target will make achieving this target increasingly difficult to meet. If action is not taken now to maintain a strong trajectory of carbon reduction, the opportunity to steadily reduce the carbon footprint of HIWFRS will be increasingly difficult to recoup from and will require a much larger financial investment later.

## KEY OPPORTUNITIES FOR CARBON REDUCTION

18. For HIWFRS to reach the UK National Target, an annual 24% reduction in our carbon footprint is required by 2030 when compared with the current Do Nothing trajectory.
19. To achieve this, the following areas have been identified as having the most significant impact:
  - (a) Electrification of the vehicle fleet
  - (b) Improved building fabric and heat decarbonisation works
  - (c) Carbon Reduction by Design
  - (d) Behavioural change and staff engagement.
20. **Electrification of Fleet:** A large proportion of the carbon emissions within the Service originates from the vehicle fleet, which is 43% of our total emissions. An opportunity to reduce these emissions is to electrify vehicles, where it is suitable to do so, as they come to the end of their useful working life. The Carbon Trust report estimates this could save up to 11% of our carbon emissions per year.
21. For this electrification process to begin, a programme is required to install adequate electric vehicle charging infrastructure (EVCP) across the estate. The infrastructure must be in place before replacement vehicles are in use. A feasibility study has been undertaken to determine the initial cost and approach to achieving the required infrastructure. This work has identified an initial investment of £940,000 to allow non-operational, suitable, vehicles to be electrified by 2030. This will provide 104 EVCP points, distributed across Headquarters and strategic fire stations across the estate.
22. These works will also include required upgrades to the Fleet Maintenance Centre at Headquarters to ensure that the team have the required skillset and specialist tools within the workshop facility to maintain an increasing electric fleet.
23. **Building Fabric and Heating Works:** The carbon emissions from the energy use of our buildings are 57% of our total carbon footprint. Our estate is large and ageing, with 62 sites across Hampshire and the Isle of Wight, the majority of were built post war.
24. Estate wide energy condition reports were previously conducted in 2016. Best Asset Management practice is for condition surveys to be completed every five years, and therefore there is a requirement for this to be updated across the estate, but with a particular focus on decarbonisation of buildings.
25. Condition surveys covering all structural, mechanical and electrical systems will be completed with an additional in-depth focus on energy and carbon

reduction requirements. For this, a fee will be required initially of £150,000. From these surveys, further programmes of carbon reduction works can be identified and prioritised.

26. **Carbon Reduction by Design:** Bishop's Waltham, Cosham and Redbridge projects have incorporated carbon reduction technologies and sustainable principles throughout the design and future build of these projects, fully funded through their current budgets.
27. When designing larger maintenance projects, the principles from the Carbon Reduction Pathway must be incorporated fully to future proof and ensure these projects are aligned with our trajectory. Smaller projects will be aligned to the carbon reduction pathway through environmental impact assessments.
28. **Behavioural Change and Staff Engagement:** A key element to the success of the Carbon Reduction Pathway is for staff to be fully engaged across the organisation. The proposals included introducing Environmental Champions across the building estate, to provide staff routes to feedback on localised environmental and energy issues, and for them to role model carbon reduction behaviours to their colleagues. A communications strategy will increase the profile of the Carbon Reduction Pathway amongst staff through articles and annual events.
29. These measures are not envisaged to require any additional funding, instead focussing on reducing carbon emissions that are caused through staff behaviours, such as leaving lights switched on, or unnecessarily travelling between sites.

#### SUPPORTING OUR SAFETY PLAN AND PRIORITIES

30. ***Our Communities:*** *We work together to understand different community needs and deliver accessible, local services which build safer places.*
  - (a) This proposal will better support our communities by improving the long-term resilience of HIWFRS as an organisation, while reducing our contribution to climate change.
  - (b) By installing the infrastructure required to move to electric vehicles, this will facilitate a reduction in local air pollution by reducing vehicle emissions, creating a better and healthier environment for our communities.
31. ***Our People:*** *We look after each other by creating great places to work and promoting the health, well-being, and safety of our people.*
  - (a) Environmental Champions will promote sustainable behaviours, such as active commuting, to their colleagues, while acting as an advocate

for minor energy improvement works at their station. This will create a unified approach across all levels of the organisation, promoting healthier and more sustainable commuting and working environments.

32. **Public Value:** *We plan over the longer-term to ensure our decisions and actions deliver efficient and effective public services.*
- (a) Without investment in the present, the trajectory to reach net zero by 2050 will become increasingly difficult to reach and will require much higher levels on investment to obtain.
33. **Learning and Improving:** *We have the support of policy and guidance with the freedom to use our discretion to do the right thing, learning from ourselves and others.*
- (a) Certified IEMA energy management training was delivered to relevant members of the Property & Facilities team to ensure that the team is confident and skilled in the management and delivery of the Carbon Reduction Pathway going forward.

### CONSULTATION

34. An external consultation was undertaken from August 2020 to February 2021 with The Carbon Trust. This has established a baseline of our 2019/20 carbon footprint and identified opportunities for carbon reduction going forward.
35. The Carbon Trust is a company set up by the UK Government to accelerate the UK's move to a low carbon economy, providing expert advice to help organisations cut their carbon emissions.
36. In conjunction with the Carbon Trust's primary identified opportunity for HIWFRS carbon reduction, through the electrification of the vehicle fleet, we have consulted with an EV charging specialist and Hampshire County Council, through the Electric Vehicle Charging Points Central Southern Regional Framework to conduct a feasibility study into the cost of installing electric vehicle charging points across the HIWFRS estate.

### COLLABORATION

37. Hampshire Constabulary is a partner agency that leases space on multiple HIWFRS sites. Quarterly energy meetings are held with Hampshire Constabulary and Hampshire County Council to collaborate on Energy initiatives and to ensure a joined-up approach across shared sites.
38. The electric vehicles charging points supplied under the Electric Vehicle Charging Points Central Southern Regional Framework can be utilised by partner agencies with the partner agency's costs separated out, to be

recharged back. This will allow further collaboration on the expansion and utilisation of charging points across multiple agencies, allowing HIWFRS and our partner agencies to expand our EV vehicle fleets faster.

## RESOURCE IMPLICATIONS

39. This report seeks approval for £1,090,000 funding to be allocated for the 2022/23 financial year. This consists of:
- (a) £940,000 to instigate a programme of installing electric vehicle charging points, which will be incorporated into the capital programme through the re-profiling of existing spend..
  - (b) £150,000 of fees to conduct full condition surveys across the 62 sites, which will be allocated from the Transformation Reserve.
40. The report also seeks approval for £43,000 funding to establish an additional role within the Property & Facilities team to drive forward and manage these projects that are required to achieve our carbon reduction target, which will be taken into account as part of the budget setting process for 2022/23.
41. Additional funding will be required in the 2023/24 financial year to address decarbonisation of the estate; however, it is not possible to determine the level of investment required until the condition survey reports, requested as part of this report, are completed.
42. Additionally, the Carbon Reduction Pathway will utilise external grant funding and current projects planned in the five-year asset management plan to complete some improvement works at no additional cost to the Service wherever feasible.
43. A summary of the funding required is outlined below:

Item	Capital Investment	Revenue Investment	Annual Revenue
Electric Vehicle Charging Points	£850,000	£0	£0
Required Upgrades to FMC for EVCP	£90,000	£0	£0
Condition Surveys at 62 locations	£0	£150,000	£0
Dedicated Job Role	£0	£0	£43,000
<b>Total Funding Required</b>	<b>£940,000</b>	<b>£150,000</b>	<b>£43,000</b>

44. If the proposals within this report are approved, the capital programmes will be re-profiled to secure the necessary funding, subject to approval by the Chief Financial Officer.

#### RESOURCE IMPLICATIONS – PROJECT DELIVERY

45. The Carbon Reduction Pathway must be suitably resourced to be successfully delivered. The skillsets required to deliver capital investment projects of this scale and complexity are not available within the current HIWFRS establishment.
46. Appointing a lead for the Carbon Reduction Pathway is a necessary appointment to ensure time, quality and cost efficiency is achieved. Considering the significant investment by the Authority, the programme justifies the correct level of management expertise to ensure successful delivery and monitoring of HIWFRS progress. The role will be working at a corporate level and will provide assistance to all departments impacted by the Carbon Reduction Pathway, most notably Property & Facilities and Fleet Management.
47. One area of specialist knowledge required for this role is an in-depth knowledge of the UK Government’s legislation around carbon emissions. These regulations are primarily set out in the Climate Change Act and at the core are focused on the requirement for UK public sector organisations to reach net zero carbon emissions by 2050. In addition, specialist knowledge around the operation of a fire service estate and fleet will be required.
48. Therefore, two project delivery options are available:
- (a) **Option A** – Employ an independent consultant via the Hampshire County Council consultancy service. This route would provide a level of expertise to deliver the programme of works, but not the Environmental & Sustainability knowledge, in addition our internal fire service specific needs will not be fully understood.
- (b) **Option B** – The second and **recommended option** is to employ an in-house Carbon Reduction Project Officer, with prior energy and sustainability experience. The total cost is c.£43,000pa as represented in the table below. This pay scale is based on a market test with current advertised roles of similar roles and job roles with similar responsible positions currently working in HIWFRS.

	Annual	Total over 2022-2030
<b>Option A: Consultant</b>	£96,000	£768,000
<b>Option B: In House</b>	£43,000	£344,000

## IMPACT ASSESSMENTS

49. Full stage 1 and stage 2 impact assessments have been completed, and the areas impacted were largely as expected, around environmental factors.
50. The environmental impact assessment primarily shows a positive impact on the environment, by reducing HIWFRS' contribution to climate change through carbon emissions, and by enabling vehicles to be electrified.
51. The increased ability to utilise electric vehicles will lead to a reduction in vehicle fuel consumption, air pollution, and a reduction in noise pollution.
52. The installation process for the charging points may cause a temporary disturbance for building users, as with normal construction works however this will be offset by the long-term benefits to the environment and can be managed and mitigated in the short term by having a dedicated resource (as proposed within this report).

## LEGAL IMPLICATIONS

53. HIWFRS need to be aware of The Climate Change Act 2008 (2050 Target Amendment) Order 2019 legislation. This was amended in June 2019 to ensure the net UK carbon account for 2050 is reduced to at least 100% lower than the 1990 baseline, which is net zero. This holds HIWFRS as a public sector organisation to this legislative target. There is therefore a risk of HIWFRS being penalised for failing to meet this target.
54. The UK Government has recently stated their intention to create an interim target of a 78% reduction of carbon emissions from the 1990 baseline by 2035, however this is not currently a legislative target. Any changes to the current legislation will be closely monitored for potential impact on this Pathway.
55. The UK Government has also stated their intention to bring forward the date from 2040 to 2030 to introduce a ban on sales of new fossil fuel cars and vans, and new hybrid cars and vans banned from sale from 2035. This further reinforces the need for our estate to be future proofed accordingly.
56. HIWFRS are currently signed up to the Electric Vehicle Charging Points Central Southern Regional Framework and will utilise this for the procurement of the electric vehicle charging point infrastructure.

## OPTIONS

57. In drawing the recommendation within this report, several alternative options were fully explored. These are summarised below:

- (a) **Option 1: Do Nothing** – This option would see no Carbon Reduction Pathway established, and no approval for any funding or a dedicated job role. Some estate improvement could be done through routine maintenance works, but over a protracted timeframe, due to the size of the estate and budgetary constraints. Without an EVCP infrastructure in place, HIWFRS risks being unable to purchase new fossil fuel cars and vehicles after 2030 and having to pay premium prices to utilise other agencies' EVCPs. On this trajectory, by 2030, we will be emitting 32% over the UK National Target trajectory each year, and HIWFRS will not be able to meet the UK National Target of net zero by 2050, with the risk of punitive measures from the government and reputational damage.
- (b) **Option 2: Do the Minimum** – This option was included as a minimum requirement to restrict the rise in global temperatures to less than 2<sup>o</sup>C, to avoid the worst of the effects of climate change. This option would seek approval for the creation of a dedicated position to manage the Carbon Reduction Pathway and funding for the condition surveys, but not seek funding for the installation of EVCPs. As with Option 1, some improvements to the estate could be made through utilising revenue projects. However, by 2030 HIWFRS would be emitting 12% over the trajectory for the UK National target each year. On this trajectory, HIWFRS will fail to meet the legislated UK National Target by 2050; and therefore, this option has been deemed unsuitable since the Authority should meet all legislative requirements expected of it.
- (c) **Option 3: UK National Target for Carbon Reduction (Recommended Option)** – The Carbon Reduction Pathway will be implemented, as outlined within this report, and for the EVCP roll out and condition survey funding, plus funding for a dedicated job role to deliver these carbon savings. This will be a real demonstration of HIWFRS strong move towards carbon reduction, and a clear pathway leading to 2030. There is a risk that the UK government will create an interim legislated target in 2035 of a 78% carbon reduction, and this will be closely monitored for an impact on the Carbon Reduction Pathway. On this trajectory, by 2030 HIWFRS will have reduced emissions by 35.5% when compared to 2019/20 and be on course to meet or exceed the UK National Target of net zero by 2050. It is noted that further investment to the scale of that outlined within Option 4 is likely to be required to successfully deliver the Carbon Reduction Pathway.
- (d) **Option 4: High Investment** – This option would seek approval for the upfront funding for possible programmes of carbon reduction works, estimated at c.£4m in front loaded funding. This estimation has been made from previous estate surveys and previous project knowledge. Therefore, HIWFRS would be operating at risk, as the costs and scope of work cannot be accurately identified at present. This option would

conduct a significant programme of energy improvement works and EVCP installation across the estate and would seek approval for a job role created for a Carbon Reduction Project Officer to manage this programme. This option will provide a very strong public display of our commitment, and a clear pathway to 2030. On this trajectory, by 2030 HIWFRS would have reduced annual carbon emissions by 46% when compared to 2019/20 and would be on course to exceed the UK National Target, reaching net zero at 2043. This option requires a high level of investment, a strong buy in across all levels of the organisation and will still be difficult to achieve without serious decisions being made regarding the size and operation of the estate. For these reasons, this option was not deemed feasible.

## RISK ANALYSIS

58. The UK National Target is already a challenging goal, any delay will make it extremely difficult for the Authority to realign with this target. There is an added risk of punitive measures from the UK government for public sector organisations that do not meet this target.
59. Inaction to create infrastructure for the electrification of the fleet will damage the organisation's ability to reduce our carbon footprint. There is an associated risk to the operational efficacy of the organisation once fossil fuel cars and vans are no longer available for purchase after 2030.
60. Compared to the established technology for electric cars and small vans, electric fire appliances and large vans are much earlier in technical development, and they are not currently included in the UK Government's legislation from 2030. The costs of transitioning these larger vehicles in our fleet to electric would currently be prohibitively high, with additional operational risk. Therefore, these vehicles are not included in the scope of this report. Our fleet manager currently sits on a national board which oversees the development and trialling of electric fire appliances. Due to a risk of additional future legislation including larger vehicles from the UK Government, they will monitor the development and viability of this technology.
61. The Electric Vehicle Charging Points Central Southern Regional Framework is due to end in April 2022 and there is a risk that pricing established in the feasibility report will change if this phase is delayed, or for any future phases of installation. There will be increased demand for EVCPs around the 2030 cut-off time, and therefore delaying installation of the EVCP infrastructure is likely to inflate prices and risks there being shortages in supply.

## EVALUATION

62. The Carbon Reduction Pathway will be evaluated through monitoring of our annual carbon footprint to evaluate the HIWFRS current position in relation

to the UK National Target trajectory of carbon emission reduction, based on the methodology used by the Carbon Trust.

## CONCLUSION

63. Hampshire and the Isle of Wight Fire & Rescue Authority need to set a bold carbon reduction target of being carbon neutral by 2050, in alignment with the UK National Government targets for public sector organisations.
64. To meet this, there is a need to identify the current energy efficiency of our estate, utilising condition surveys. In addition, the electrification of our vehicle fleet will play a significant role in meeting this trajectory. To enable this, an estate wide installation of charging infrastructure needs first to be installed.

## RECOMMENDATION

65. That Hampshire and the Isle of Wight Fire & Rescue Authority approve Option 3 to set a clear Carbon Reduction Pathway to 2030.
66. That Hampshire and the Isle of Wight Fire & Rescue Authority approve funding of £940,000 for the installation of electric vehicle charging points, subject to the reprofiling of the current capital programme.
67. That Hampshire and Isle of Wight Fire & Rescue Authority delegates authority to the Chief Financial Officer to approve the re-profiling of the current capital programme.
68. That Hampshire and the Isle of Wight Fire & Rescue Authority approve £150,000 from the Transformation Reserve for estate wide surveys for the creation of carbon reduction programmes which will later come to the Authority for capital investment.
69. That Hampshire and the Isle of Wight Fire & Rescue Authority approve in principle the creation of a new establishment post from financial year 2022/23 to lead the programme delivery, subject to the annual budget setting process.

## APPENDICES ATTACHED

70. The Carbon Trust Report – Appendix A

BACKGROUND PAPERS

71. [Carbon Management Programme](#) – October 2017

72. Carbon Reduction Strategy – July 2020

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The background of the slide is a photograph of a fire truck's equipment compartment. It shows several fire hoses in different colors (red, green, yellow) neatly stacked and organized. A circular nozzle or connector is visible in the center. The lighting is somewhat dim, giving it a professional and serious appearance.

# Hampshire & Isle of Wight Fire & Rescue Service

## Carbon Reduction Strategy Planning

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May 17, 2021

Version 4



**Hampshire  
& Isle of Wight**  
FIRE & RESCUE SERVICE



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# Background and Context

Growing acknowledgement of the latest science and recommendations from the Committee on Climate Change has resulted in unprecedented recognition of the global climate emergency, and **the need to act urgently in order to reduce carbon emissions and the environmental, economic, and social impacts of climate change**. In 2019, the UK Government set a target of achieving net zero emissions by 2050. Since this time Hampshire and the Isle of Wight have declared climate emergencies. The Hampshire and Isle of Wight Fire and Rescue Service (HIWFRS) have been working over a number of years to measure and reduce their carbon emissions. Fire and Rescue services are likely to be impacted differently than many organisations with respect to climate change because they are first responders to the consequences of extreme weather events. In the UK climate change is expected to bring more extremes: longer dry periods and more intense rainfall. When these conditions lead to fires or floods, fire and rescue services will respond. In this sense the carbon emissions reduced by the Hampshire and Isle of Wight Fire and Rescue Service not only contribute to wider UK and International targets, but are also beneficial for the communities they serve, and their own operational reality.

**This report aims to build on the previous work of the fire and rescue service and to support the development a bold new carbon reduction strategy.** To do this, the report analyses the **footprint of the fire and rescue service**, discusses different **science based target options**, and **identifies potential emissions reduction projects** focusing on ten sites across the estate as well as the vehicle fleet.

Hampshire and Isle of Wight Fire and Rescue Service (HIWFRS) is the statutory fire and rescue service for the county of Hampshire and the Isle of Wight. The service currently operates from 1 Corporate Service Headquarters (SHQ) and 61 Operational Sites (15 Whole Time and 46 Retained/On-Call). Associated annual building energy costs for the estate are in excess of £517,000. Additional direct emissions are also assumed to originate from the vehicle fleet which is made up of approximately 400 vehicles.

# Footprint

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# Carbon Footprint Methodology

This chapter provides an inventory of greenhouse gas emissions for the Hampshire and the Isle of Wight Fire and Rescue service (HIWFRS) for the financial year 2019/20. This inventory, or footprint, is the 'baseline' against which future progress will be evaluated.

## Methodology

This footprint has been calculated according to the [Greenhouse Gas \(GHG\) Protocol](#), the most widely used and accepted methodology for greenhouse gas accounting. The GHG Protocol classifies emission as either scope 1, 2, or 3 (figure 1). This chapter presents the scope 1 and 2 footprint for the HIWFRS. In the case of the fire and rescue service, a scope 1 and 2 footprint focuses on the emissions produced by fuel and electricity used in buildings and vehicles. Wood burnt for training exercises is also included but makes a very small contribution to total emissions (0.1%).

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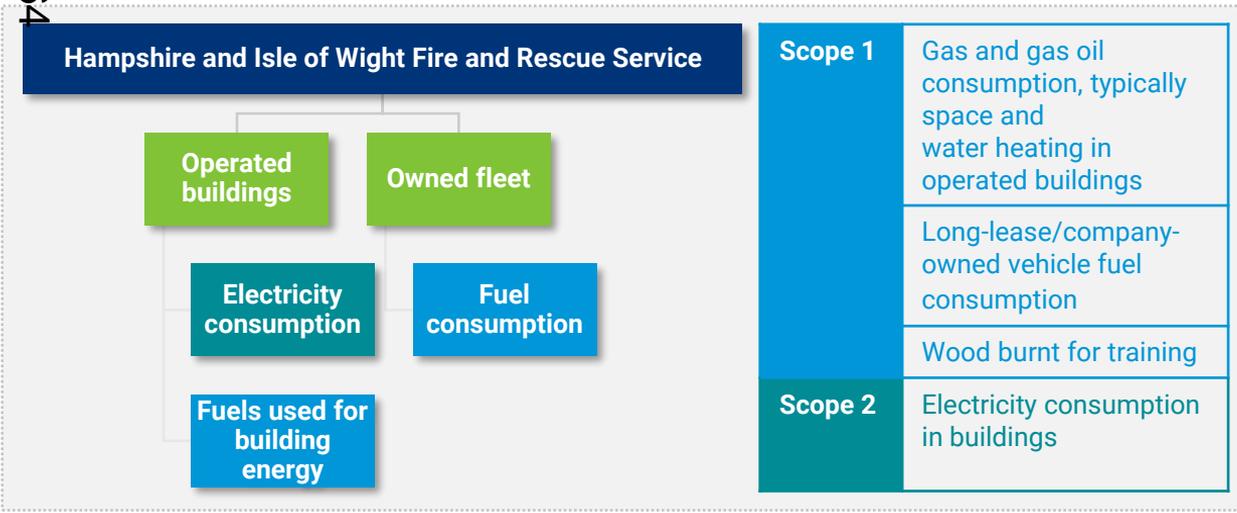
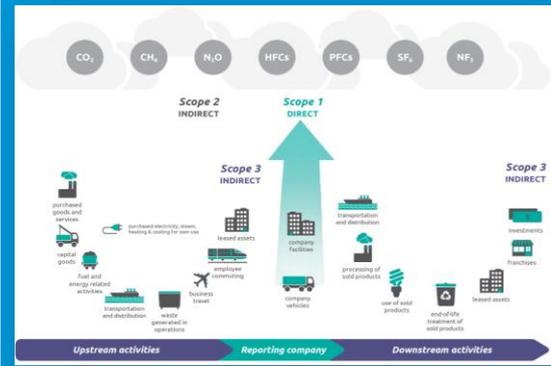


Figure 1: The GHG Protocol emissions classification

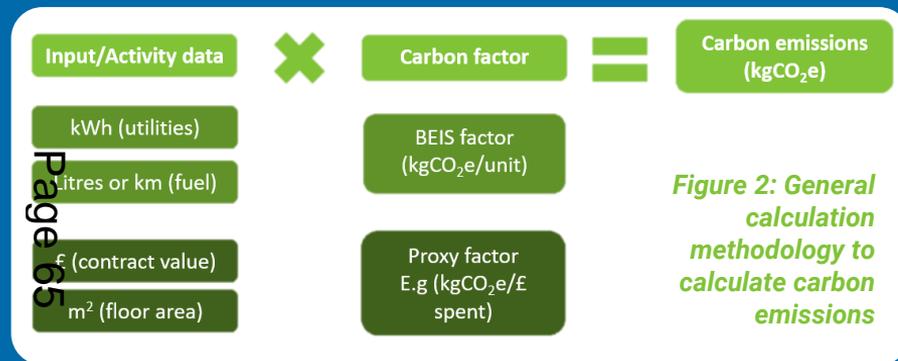


- **Scope 1:** Direct emissions from combustion of gas and other fuels.
- **Scope 2:** Emissions resulting from purchased electricity, heat, or steam.
- **Scope 3:** Emissions made by third parties in connection with operational activities.

# How Carbon Footprints are Calculated

## Calculating a carbon footprint

A carbon footprint is calculated by multiplying **activity data** (e.g. litres of vehicle fuel, kWh of electricity/gas) by an associated **emissions factor**.



## What does CO<sub>2</sub>e mean?

Carbon dioxide (CO<sub>2</sub>) is the most well known of all of the greenhouse gases. There are six other commonly reported GHGs, which can be seen in figure 1 on the previous page. In footprinting carbon dioxide equivalent (CO<sub>2</sub>e) is used in order to express the impact of the other gases in terms of the amount of CO<sub>2</sub> that would create the same amount of warming.

## Data availability and the use of benchmarks

Where possible, real activity data should be collected throughout the reporting period for use in the footprint calculation.

- Emission factors are updated annually and published by the UK Government's department for Business, Energy and Industrial Strategy (BEIS).

If activity data is not available, various **benchmarks and proxies** can be used:

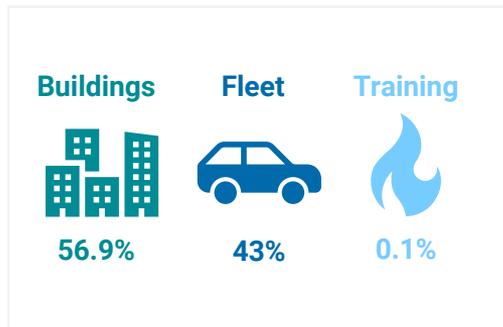
- Benchmarks can be used to approximate activity data. For example, typical electricity consumption per m<sup>2</sup> of a building.
- When input data is scarce, proxy factors can be used in place of the BEIS factors to approximate emissions from the available input data (e.g. contract value).

HIWFRS have provided real activity data for all activities for the 19/20 financial year (FY) with the exception of two areas. 1) For gas oil consumption the data on the litres purchased was only available for the 18/19 FY. As such, a 7.1% consumption decrease was applied to gas oil to align it with the estate's gas consumption change between the 18/19 FY and the 19/20 FY and is assumed to take into account differences in weather and heating demand between years. 2) The fuel-use data for 55 vehicles in the Isle of Wight region was not available. To estimate the fuel use and emissions, the average litres/vehicle type from the mainland regions was applied to the 55 Isle of Wight vehicles.

# Hampshire & Isle of Wight Fire and Rescue Service FY 19/20 Footprint

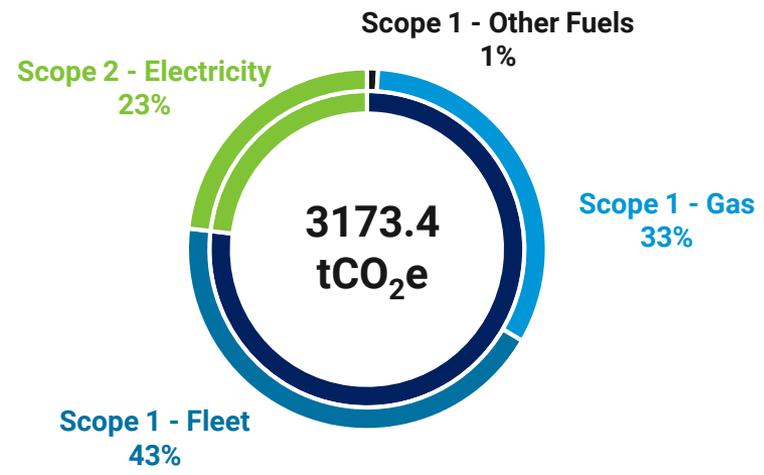
The HIWFRS footprint for the 2019-2020 FY was 2,992.3 tCO<sub>2</sub>e.

- **Scope 1 vs. Scope 2 emissions:** 77% of the footprint are scope 1 emissions from fleet and building fuel consumption. Scope 2 emissions account for the remaining 23% from building electricity use.
- **Emissions by activity:** Approximately 60% of the footprint emissions are from electricity and heat use in buildings. Fleet fuel consumption is responsible for 43% of emissions. 0.1% of emissions occurred when wood was burnt for training.



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**Avoided Emissions:** 142.8 tCO<sub>2</sub>e were avoided through renewable energy generation from solar PV.



Scope	Emission source	tCO <sub>2</sub> e
1	Natural gas	1,029.9
1	Other fuels	31.6
1	Fleet	1,376.8
2	Electricity	735.2
<b>Total Emissions</b>		<b>3173.4</b>
<i>Avoided emissions (Solar PV)</i>		<i>-143.8</i>

## Footprint in Detail: Fire & Rescue Stations

The next pages in this chapter explore the ~57% of greenhouse gas (GHG) emissions that come from the energy used by the 61 fire and rescue stations and 1 corporate Services Headquarters in the Hampshire and Isle of Wight estate.

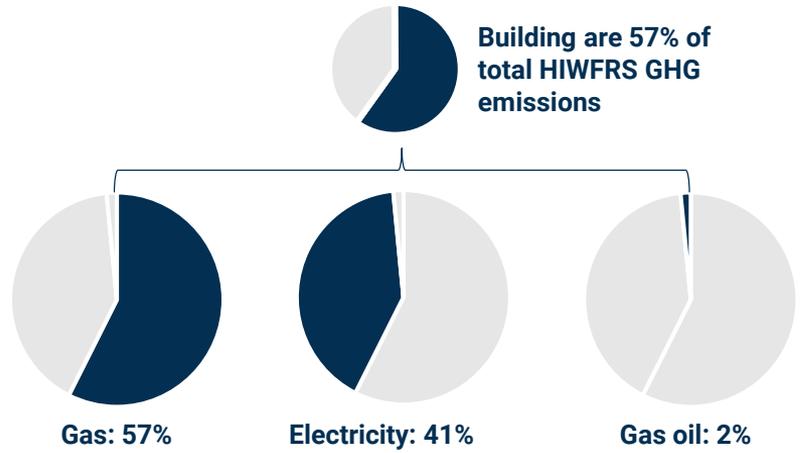


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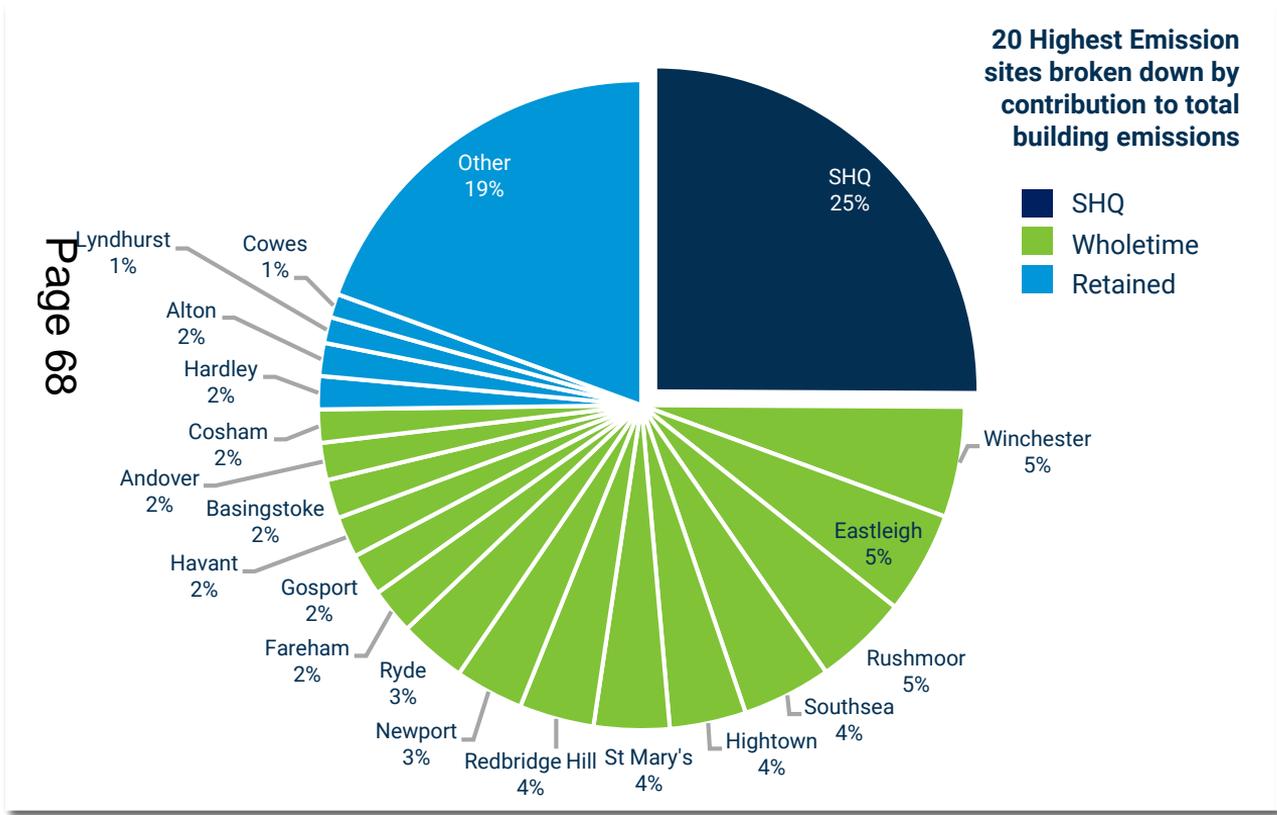
By fuel, gas consumption creates the majority (57%) of building GHG emissions. 75% of the most GHG emission intensive buildings are also the highest fossil fuel intensive buildings.

Building emissions by source



\*Where sites have partners operating, emissions for all parties are included.

# Footprint in Detail: Fire & Rescue Stations



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\*Where sites have partners operating, emissions for all parties are included.

# Footprint in Detail: Fire & Rescue Stations

## Comparing HIWFRS building performance with other fire and rescue services

The chartered institute of building service engineers (CIBSE) have produced benchmarks in terms of energy consumption per floor area (kWh/m<sup>2</sup>/year) for buildings of different uses. The benchmarks are based on the display energy certificates (DEC) from 259 fire and rescue stations. Comparing HIWFRS against these benchmarks gives a sense of how the service compares relative to other services.

### CIBSE typical and good benchmarks

kWh/m <sup>2</sup> /year	Historic (2013)		Current (2019)	
	Good	Typical	Good	Typical
Gas	385	540	171	223
Electric	55	80	55	69

This table shows the most recent benchmarks available as well as historic benchmarks.

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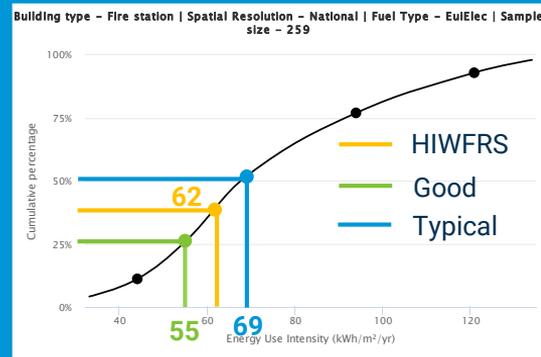
### HIWFRS building performance

HIWFRS performs better than the typical fire and rescue station with respect to electricity consumption but narrowly misses the top 25% of “good” performing buildings.

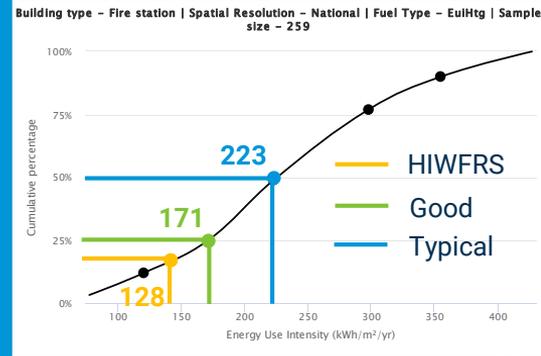
HIWFRS is in the top 20% of best performing sites with respect to fossil fuel consumption outperforming both the typical and good benchmarks.

Property Type	Emissions (tCO <sub>2</sub> e)	Fossil Fuel (kWh/m <sup>2</sup> )	Electricity (kWh/m <sup>2</sup> )
Wholetime	893	146	55
Headquarters	451	91	61
Retained	449	109	66
HIWFRS buildings	1,793	128	62

## Electricity intensity: CIBSE good & typical benchmarks and HIWFRS performance



## Fossil Fuel: CIBSE good & typical benchmarks and HIWFRS performance



\*Where sites have partners operating, emissions for all parties are included.

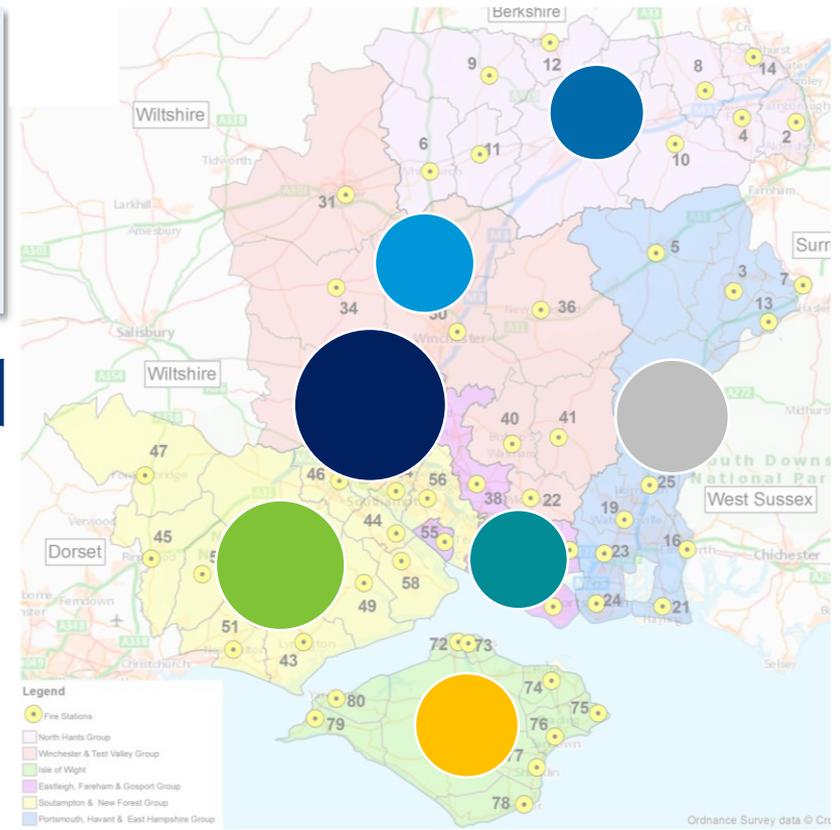
# Regional Emissions

The **Headquarters** is responsible for **25%** of emissions from fuels used for building energy (Natural gas, electricity, and gas oil) followed by the **Southampton and New forest group**, contributing **18%**.

However, per unit floor area, the **Portsmouth, Havant and East Hampshire** has the highest average energy intensity at kWh/m<sup>2</sup>.

Over the next pages we explore the emissions hotspots and energy performance of each region in more detail

Region	Total tCO <sub>2</sub> e	tCO <sub>2</sub> e/m <sup>2</sup>	kWh/m <sup>2</sup>
Service Headquarters	450.7	0.03	76
Southampton and New Forest	325.7	0.03	146
Portsmouth, Havant and East Hampshire	247.5	0.04	200
Isle of Wight	206.9	0.04	212
Winchester and Test Valley	194.3	0.04	187
Eastleigh, Fareham and Gosport	190.7	0.04	187
North Hampshire	176.7	0.04	193



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## Service Headquarters

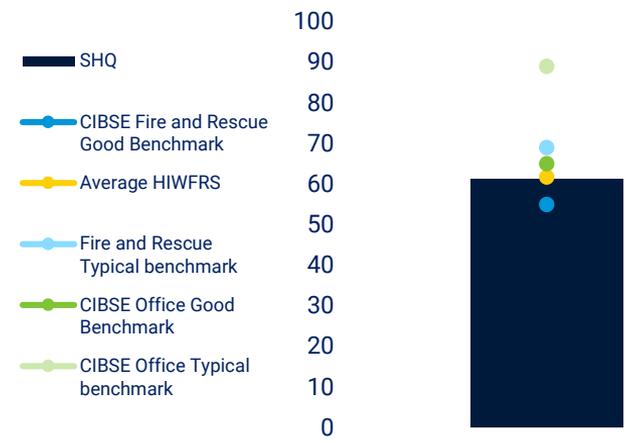
The service headquarters (SHQ) is responsible for 25% of HIWFRS building emissions with an overall floor area of 13895 m<sup>2</sup> (~28%). SHQ is the highest emitting group in HIWFRS. However, SHQ is also the top performer with respect to emissions intensity and energy intensity when compared with the other groups.

The low overall emissions intensity relative to the other HIWFRS buildings is partially due to the building's use which is more comparable to an office setting than operational buildings. The graphs below show the building's electricity and fossil fuel intensity compared against CIBSE benchmarks for local authority offices, fire and rescue services, and the HIWFRS average.

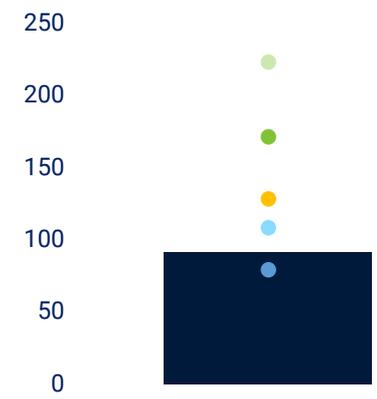
Site	Emissions intensity (tCO <sub>2</sub> e/m <sup>2</sup> )	Absolute Emissions (tCO <sub>2</sub> e)
HQ	0.03	451

SHQ performs better than the HIWFRS average and the CIBSE fire and rescue service good benchmarks. When compared to local authority offices, SHQ performs better than typical buildings but doesn't quite achieve the top 25% of good buildings

Electricity intensity (kWh/m<sup>2</sup>)



Fossil Fuel intensity (kWh/m<sup>2</sup>)





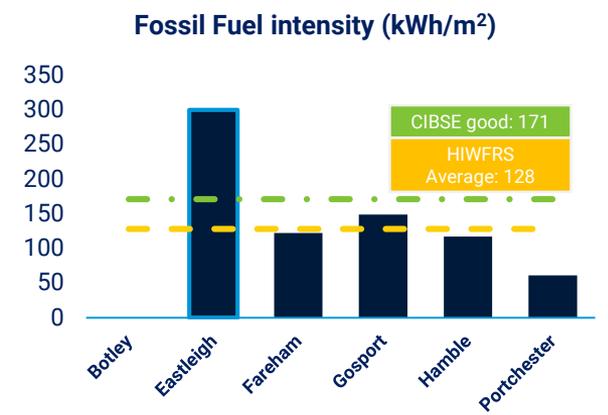
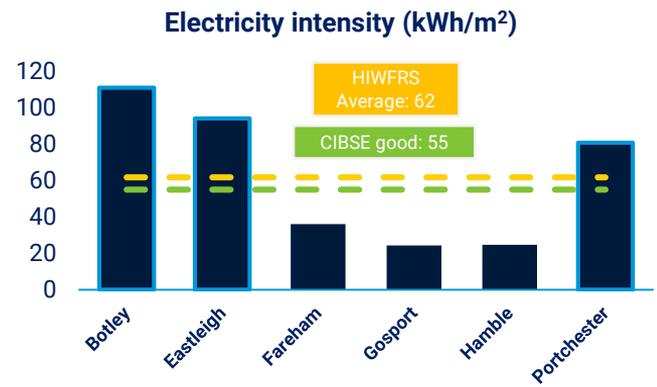
## Eastleigh, Fareham and Gosport

The 6 stations in the Eastleigh, Fareham, and Gosport region make up 11% of building emissions with an overall floor area of 4284 m<sup>2</sup> (8.5%). Three of the stations are wholetimes sites and three are retained sites. The three wholetimes sites are Eastleigh, Fareham, and Gosport.

Within the region Eastleigh stands out as a potential driver of emissions. Eastleigh has the second highest emissions intensity of any HIWFRS building and high electric and fossil fuel intensities.

Botley and Portchester also have electricity intensities above the CIBSE good benchmark, however Botley has no fossil fuel use and Portchester has low fossil fuel emissions intensity.

Site	Emissions intensity (tCO <sub>2</sub> e/m <sup>2</sup> )	Absolute Emissions (tCO <sub>2</sub> e)
Botley	0.03	5
Eastleigh	0.08	91
Fareham	0.03	41
Gosport	0.03	38
Hamble	0.03	10
Portchester	0.03	5





## Isle of Wight

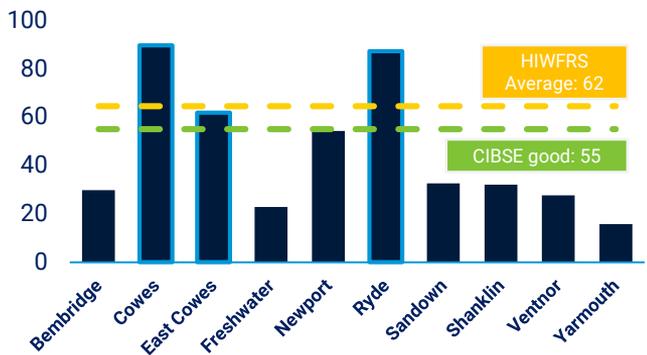
The 10 stations in the IoW contribute 12% of building emissions with an overall floor area of 5,339 m<sup>2</sup> (11%). The Isle of Wight has the second largest emissions intensity and the largest energy intensity of all of the HIWFRS groups. The two wholetime sites in the region are Newport and Ryde.

Four sites stand out as potential drivers of high emissions intensity:

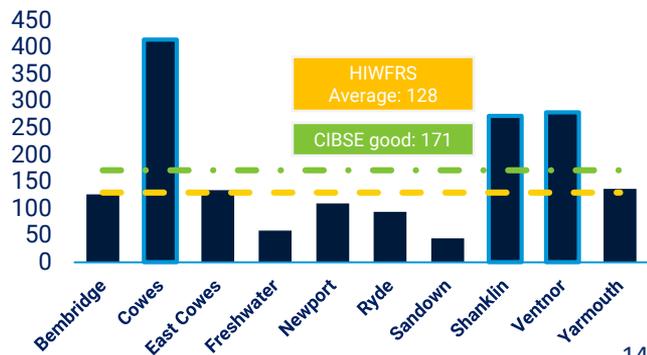
- 1) Cowes has the highest emissions intensity of all HIWFRS sites and performs poorly across all metrics, particularly fossil fuel intensity.
- 2) Shanklin and Ventnor have relatively high fossil fuel intensity which is likely to be impact their overall emissions intensity.
- 3) Overall Ryde has the second largest emissions in the region and relatively high electricity intensity.

Site	Emissions intensity (tCO <sub>2</sub> e/m <sup>2</sup> )	Absolute Emissions (tCO <sub>2</sub> e)
Bembridge	0.03	6
Cowes	0.10	21
East Cowes	0.04	10
Freshwater	0.02	4
Newport	0.03	62
Ryde	0.04	61
Sandown	0.02	5
Shanklin	0.06	19
Ventnor	0.06	13
Yarmouth	0.03	7

Electricity intensity (kWh/m<sup>2</sup>)



Fossil Fuel intensity (kWh/m<sup>2</sup>)





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## Southampton and New Forest

The 14 stations in the Southampton and new forest region make up 18% of building emissions with an overall floor area of 9622 m<sup>2</sup> (19%). Hightown, Redbridge, and St. Mary's are the three wholetime sites in the region. This group is the second largest emitter overall behind SHQ, however it has the second lowest emissions and energy intensities, also behind SHQ. All but one station, St Mary's, perform better than CIBSE fire and rescue service benchmarks in terms of fossil fuel intensity.

Five sites have electricity intensity that is above the CIBSE good benchmark for fire and rescue services: Beaulieu, Brockenhurst, Burley, Fordingbridge, and New Milton.

Site	Emissions intensity (tCO <sub>2</sub> e/m <sup>2</sup> )	Absolute Emissions (tCO <sub>2</sub> e)
Beaulieu	0.04	7
Brockenhurst	0.03	5
Burley	0.03	6
Fordingbridge	0.03	8
Hardley	0.03	30
Hightown	0.04	69
Hythe	0.02	7
Lymington	0.02	7
Lyndhurst	0.04	23
New Milton	0.03	14
Redbridge	0.03	67
Ringwood	0.03	12
St Mary's	0.05	68
Totton	0.02	4

Electricity intensity (kWh/m<sup>2</sup>)



Fossil Fuel intensity (kWh/m<sup>2</sup>)





Basingstoke Fire Station

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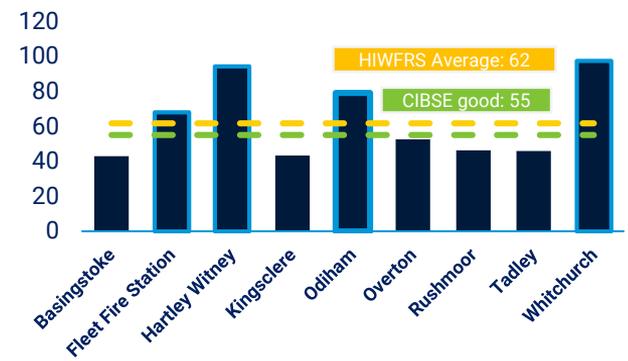
## North Hampshire

The 10 stations in North Hampshire make up ~10% of building emissions with an overall floor area of 5524 m<sup>2</sup> (11%). Basingstoke and Rushmoor are the two wholetime sites in the region and as such have the highest absolute emissions.

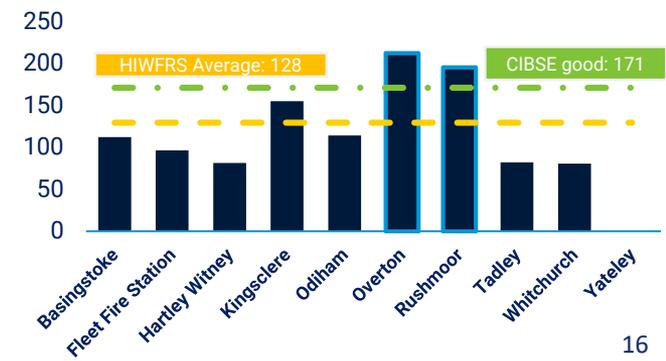
- 1) Whitchurch, Hartley Witney, and Odiham all have electricity intensities above the HIWFRS average.
- 2) Overton and Rushmoor are the two sites with the highest fossil fuel intensities in the region. Decreasing these intensities will reduce the overall emissions intensities for both sites.

Site	Emissions intensity (tCO <sub>2</sub> e/m <sup>2</sup> )	Absolute Emissions (tCO <sub>2</sub> e)
Basingstoke	0.02	35
Fleet Station	0.04	8
Hartley Witney	0.04	7
Kingsclere	0.04	7
Odiham	0.05	9
Overton	0.05	11
Rushmoor	0.05	84
Tadley	0.03	5
Whitchurch	0.04	6
Yateley	0.02	5

Electricity intensity (kWh/m<sup>2</sup>)



Fossil Fuel intensity (kWh/m<sup>2</sup>)





## Portsmouth, Havant and East Hampshire

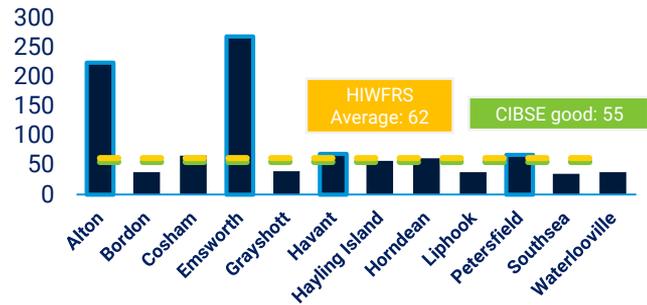
The 12 stations in the Havant and East Hampshire region make up ~14% of building emissions with an overall floor area of 6265m<sup>2</sup> (12.5%). Overall this region has the third largest total emissions and has the worst performance in terms of emissions intensity. Cosham, Havant, and Southsea are the three wholtime site in the region and contribute the largest amount of emissions.

Bordon stands out for high fossil fuel intensity. Its is one of three sites alongside Havant and Hayling Island that have a fossil fuel intensity exceeding the CIBSE good benchmark and the HIWFRS average.

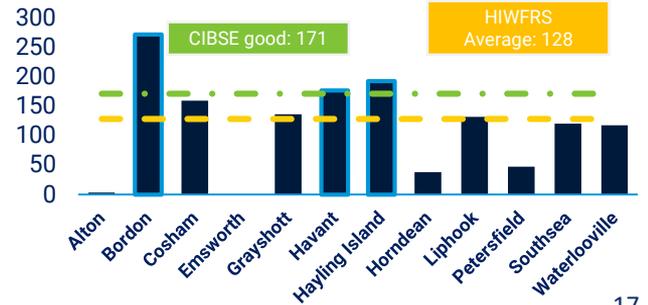
Alton and Emsworth both have very high electricity intensities. Its worth understanding what electric heating equipment may be in use in these stations.

Site	Emissions intensity (tCO <sub>2</sub> e/m <sup>2</sup> )	Absolute Emissions (tCO <sub>2</sub> e)
Alton	0.06	29
Bordon	0.06	18
Cosham	0.05	30
Emsworth	0.07	8
Grayshott	0.04	6
Havant	0.05	37
Hayling Island	0.05	10
Horndean	0.02	4
Liphook	0.03	6
Petersfield	0.03	8
Southsea	0.03	80
Waterlooville	0.03	11

Electricity intensity (kWh/m<sup>2</sup>)



Fossil Fuel intensity (kWh/m<sup>2</sup>)





## Winchester and Test Valley

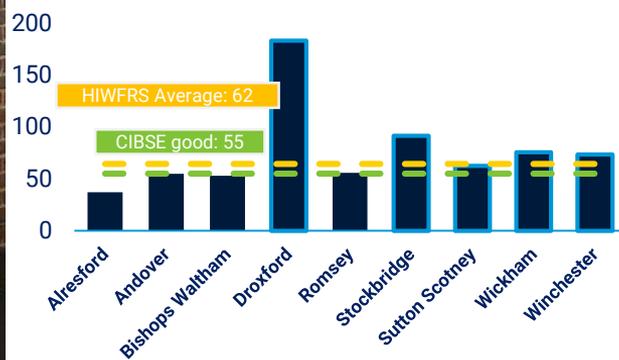
The 9 stations in Winchester and the Test valley make up ~11% of building emissions and ~11% of overall floor area (5192 m<sup>2</sup>). Andover and Winchester are the two wholetime sites in the region and as such have the highest absolute emissions. Overall Winchester has a very low fossil fuel intensity. In combination with a electricity intensity of 73 kWh/m<sup>2</sup>/year which is just above a CIBSE typical intensity of 69 kWh/m<sup>2</sup>/year, Winchester has an overall low emissions intensity.

Droxford and Stockbridge have the highest electricity intensity but also used no fossil fuels.

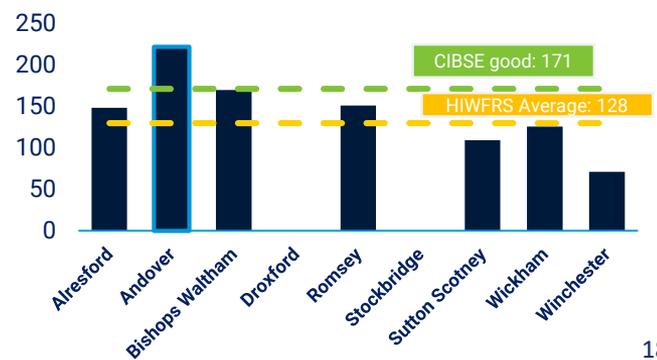
Andover has relatively high fossil fuel intensity which increases its overall emissions intensity.

Site	Emissions intensity (tCO <sub>2</sub> e/m <sup>2</sup> )	Absolute Emissions (tCO <sub>2</sub> e)
Alresford	0.05	17
Andover	0.05	33
Bishops Waltham	0.04	6
Droxford	0.05	6
Romsey	0.04	13
Stockbridge	0.02	5
Sutton Scotney	0.04	8
Wickham	0.04	7
Winchester	0.03	99

Electricity intensity (kWh/m<sup>2</sup>)



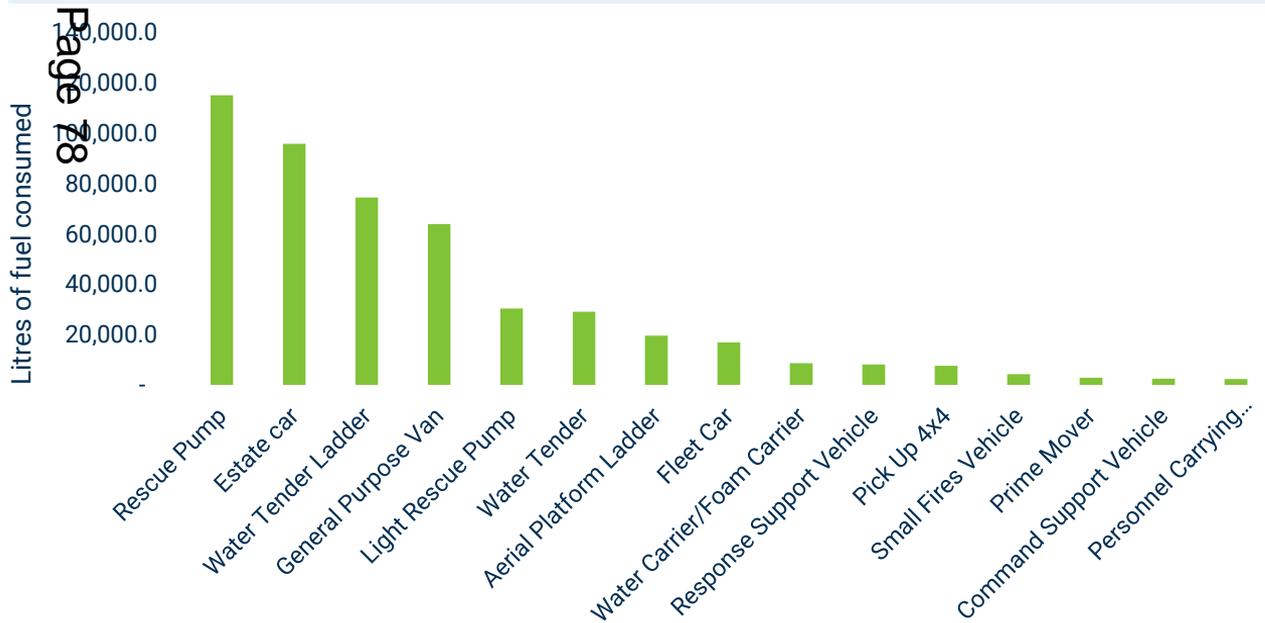
Fossil Fuel intensity (kWh/m<sup>2</sup>)



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## Footprint in Detail: Fleet

- Fleet fuel consumption represents 43% of HIWFRS scope 1 and 2 emissions.
- HIWFRS is responsible for over 400 vehicles that consumed an estimated 532,522 L of fuel in the reporting period.
- 98% of fuel consumed was diesel (2% petrol).
- The 15 largest fuel consuming groups of vehicles are shown in the graph below and represent 91% of fleet fuel use.



# Science Based Target

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# Science-Based Targets

## What is a science based target?

In the Paris Climate Agreement 195 nations agreed to limit the increase in global average temperatures to 2°C and pursue efforts to limit the increase to 1.5°C, relative to pre-industrial levels. A carbon emissions target is defined as science-based if it is in line with the scale of reductions required to keep global temperature increase below 2°C.

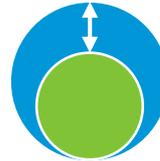
## How are emissions reductions aligned with 2°C or 1.5°C?

Science based targets start by understanding the global carbon budget, or the total amount of emissions that can be still be put into the atmosphere and keep temperatures below 2°C. Organisations can choose to either align with a 1.5 °C (1.6DS) scenario or a well-below 2 °C scenario (2DS). From here, the individual carbon budget for an organisation can be determined by using one of two methodologies:

- 1) **Absolute contraction:** defines a minimum year-on-year percentage reduction that must be achieved by all sectors in all regions of the world to achieve the stated scenario. For a two degree scenario, the annual reduction is 2.5% of the baseline year; for a 1.5 degree scenario, the annual reduction is 4.2% of the baseline year.
- 2) **Sectoral Decarbonisation Approach (SDA):** takes into account the challenges and costs that different sectors face when decarbonising. The emissions intensities of all organisations within a specific sector must converge at 2060.

The absolute contraction methodology has been applied to HIWFRS. The methodology underpinning SDA has not been applied to fire and rescue services. Additionally, SDA is limited to understanding a 2DS target.

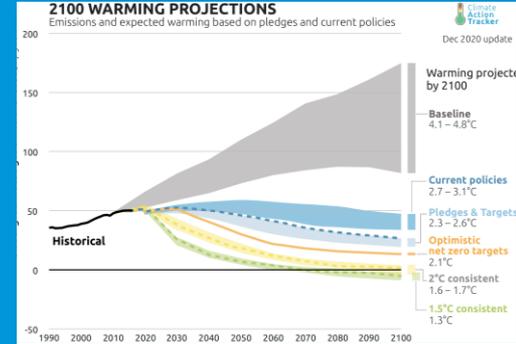
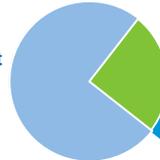
1. Assess the global carbon budget  
*How large is the pie?*



2. Calculate your organisation's carbon budget  
*How large is my slice?*



3. Compare your budget and your footprint  
*Am I eating too much?*



Emissions pathways and warming projections

## What is Net Zero?

In 2019 the UK Government set a target for the UK to achieve net zero emissions by 2050. This target was recommended by the Committee for Climate Change in order to meet the UK's Paris Agreement commitments.

Net zero means reducing emissions close to zero and using offsets or greenhouse gas removal to account for any remaining emissions that are extremely difficult to eliminate. For most sectors net-zero requires reducing emissions close to zero without offsetting. There is no one agreed definition of what net zero means for an individual company or organisation though there is general consensus that it is a ambitious target. The Carbon Trust defines net zero for a company or organisation as a target that reduces scope 1, 2 and 3 emissions in line with 1.5 ° C science-based target and compensates for any residual emissions with greenhouse gas removals.

The scope of this work was to look at science based targets, nonetheless on the next page we try to understand these targets in the context of the UK's net zero target.

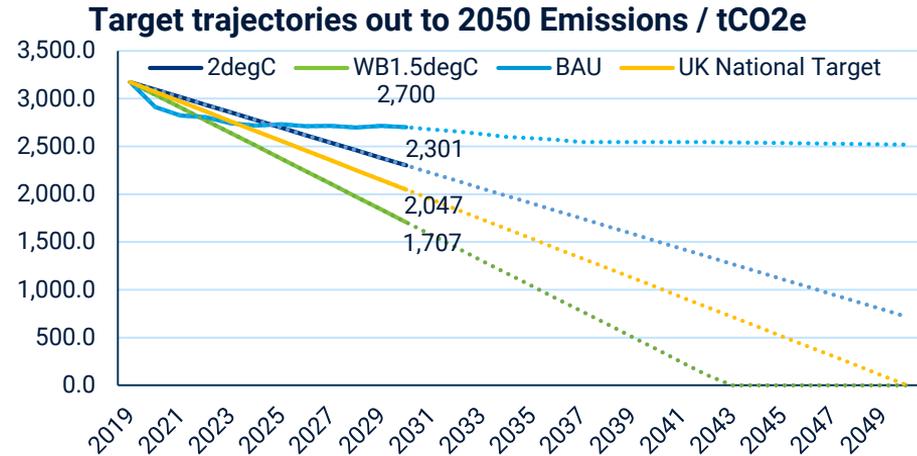
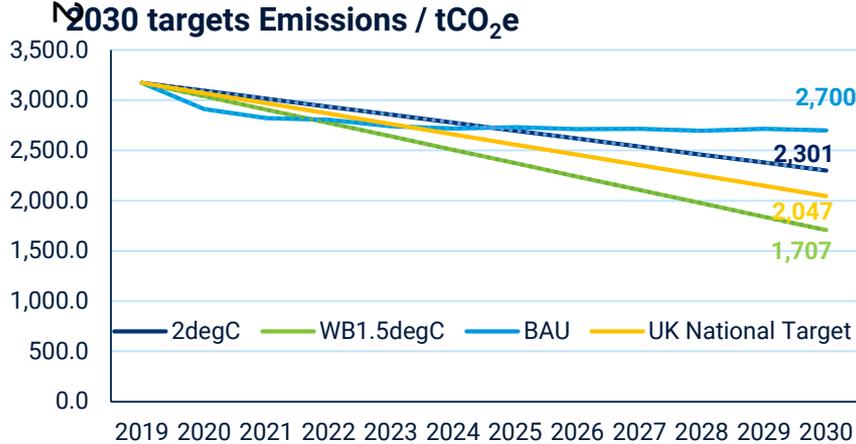
# Targets for HIWFRS

Four scenarios have been modelled to help decide an appropriate 2030 emissions reduction target for the HIWFRS:

- 1) A do-nothing or **business-as-usual (BAU)** scenario
- 2) Science-Based Target: A **well-below 2 ° C (2degC)** scenario
- 3) Science-Based Target: A **1.5° C (1.5degC)** scenario
- 4) A **UK National Target** scenario

Scenario	2030 target (tCO <sub>2</sub> e)	Percentage reduction 2019-2030	Year on Year emissions reduction (tCO <sub>2</sub> e)	Percentage reduction 2031-2050
Business-as-usual (BAU)	2,700	16%	Varies	6%
Science Based: 2 ° C	2,301	28%	79.3	68%
Science Based: 1.5° C	2,047	46%	133.3	100%
UK National Target	1,707	35%	102.4	100%

The graph below on the left shows the emissions target options between now and 2030. Emissions reduce under a BAU scenario due to decarbonisation of the electricity grid. The **1.5° C science-based target** is the most ambitious target, the **well-below 2 ° C** is less ambitious. We've mapped the trajectory of these targets out to 2050 in the right hand graph in order to understand how they perform in the context of the UK's 2050 net zero target, show by the **UK National Target** scenario. The **well-below 2 ° C** is not ambitious enough to be on the path to zero emissions by 2050. On the other hand, the **1.5° C target** is on a path to achieve zero emissions by 2043.





## Target Landscape

When setting targets it can be useful to understand what similar organisations are doing. Below the carbon strategy and targets are provided for three fire and rescue services.



The London Fire Brigade aims to continually reduce their carbon and air quality impacts by focusing on the emissions that they can control from their fleet and buildings. Some of their actions to date include: complete electrification of their car fleet, installed vehicle charge points accessible to the public at 9 stations, maintained ISO 14,001 accreditation for management and 10 high risk stations, and planted forest.



The Avon Fire and Rescue Service set a 1.5 degree – aligned target to reduce emissions from its sites and operations by 50% by 2020 and 65% by 2030 (2009 baseline). The service also committed to generate 20% of energy demand from renewable sources.



The Greater Manchester Fire and Rescue Service set an overall target to be carbon positive by 2050, meaning that “the service averts more greenhouse gases than it produces”. The service’s Interim target is to achieve a 50% reduction by 2020 (against a 2008/9 baseline) in line with 1.5 degrees.



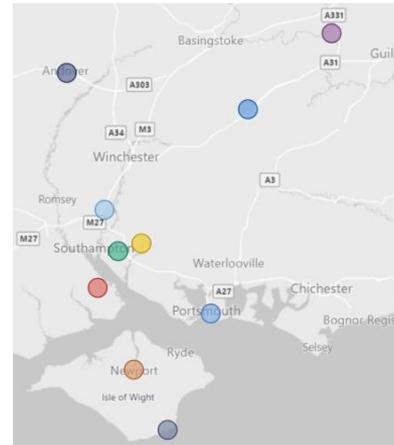
# Carbon Reduction Opportunities

## Introduction to Project Identification

The Carbon Trust has performed desk-based analysis across 10 sites to identify decarbonisation initiatives. In-person site visits could not be conducted as the project was delivered amidst national travel restrictions due to the COVID-19 pandemic. The 10 sites were selected to provide a representative overview of HIWFRS's estate such that recommendations could be extrapolated across the wider estate where possible. The 10 sites include:

	Alton		Service Headquarters (SHQ)
	Andover		Newport
	Botley		Rushmoor
	Hardley		Southsea
	Hightown		Ventnor

A data collection phase was initiated for each site. The project identification was based on the data received, primarily condition surveys, past audit reports, and boiler service reports. **This chapter explores the carbon savings and the estimated costs associated with implementing different decarbonisation measures at the 10 sites identified above and does not quantify the anticipated extrapolation to the wider estate.** The decarbonisation measures considered include:



**Between now and 2030, the carbon intensity of the UK's national grid is expected to reduce by 64%.**

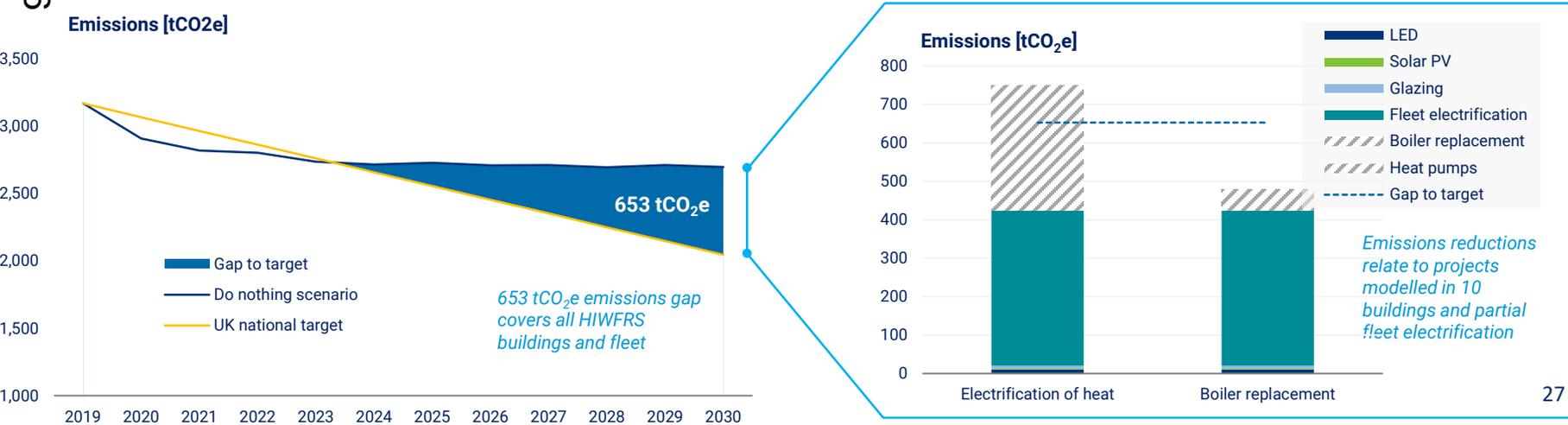
The carbon intensity of the UK's electricity supply is reducing as renewable generation (e.g. wind, solar) is replacing traditional fossil fuels (e.g. coal, natural gas). Many of the recommendations made in this report focus on the 'electrification' of conventional fuel sources so that this greener electricity can be utilised by the Service.

-  Lighting upgrade to LED
-  Solar PV
-  Double glazing and wider building fabric measures
-  Building heating
-  Fleet electrification
-  General energy management

# Project Summary

In a do-nothing scenario, HIWFRS's footprint is expected to decrease due to the decarbonisation of the national grid. In this scenario, HIWFRS has an anticipated gap-to-target of **653 tCO<sub>2</sub>e** by 2030 against the UK national target option. These are emissions that the Service will have to proactively reduce to reach their decarbonisation target. The results below show the expected impact of the implementation of projects at the 10 sites considered towards the UK national target, and **do not account for extrapolation of the measures across the wider estate.**

Two scenarios were modelled to understand how the target might be achieved (*below*). The two scenarios demonstrate the potential to reduce emissions from the installation of low carbon technologies across the 10 sites evaluated as well as partial fleet electrification. The scenarios vary in terms of their approach to heat decarbonisation. One scenario replaces gas boiler systems with heat pumps, whilst the other assumes a like-for-like replacement with more efficient boilers. In practice complete electrification of heat through the use of heat pumps may not be achievable due to building characteristics; it's likely that a hybrid approach will be taken which implements the most appropriate heating technology based on site specific conditions including building fabric and overall efficiency. Nonetheless, the results underscore the importance of electrification and demonstrate that it will be required for HIWFRS to achieve their decarbonisation ambitions.



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## Project Summary

For each of the 10 sites considered the anticipated financial requirement was estimated, including capital costs (CAPEX), annual savings, and cost of carbon abated. This financial assessment was also undertaken for the fleet electrification projects considered. The results are summarised in the table below and show that the environmental and business case for many of the technologies are conflicting. This demonstrates the need for HIWFRS to:

- Actively include environmental considerations and weighting in procurement decisions
- Avoid siloing individual projects and take an estate-wide view to optimise the distribution of technologies across the estate
- Retain an active view of the market (e.g. cost reductions, government support) and be prepared to engage with specialised market instruments to improve the financial viability of marginal business cases (e.g. specialised tariffs)

Additionally, the financial results by-site indicate a disparity between retained and wholetime sites that will require consideration. In particular, the business case for retained sites is weakened by the lack of consumption and therefore annual savings. In the short-term, we recommend targeting resource at the wholetime sites and retained outliers, where the environmental gains are largest and the business case is stronger. The following pages explore these projects in more detail. The assumptions used to develop these estimations can be found in the appendix.

Below: financial summary of the projects analysed over the 10 sites and fleet

Project	CAPEX [GBP]	Annual savings [GBP]	Simple payback [yrs]	Carbon savings '19 – '30 [tCO <sub>2</sub> e]	CAPEX/tCO <sub>2</sub> e
LED	101,700	14,125	7.20	171	595
Solar PV	43,740	3,958	11.1	46	951
Gas boiler replacement	78,998	12,041	6.56	662	119
Heat pumps	648,500	21,009	30.9	3,702	175
Glazing	195,375	2,276	85.8	82	2,382
Fleet electrification	3,279,228	210,857	15.6	4,597	713

## Solar Photovoltaic (PV)

**Summary Recommendations.** Solar PV is the most affordable method of producing on-site renewable electricity. In the absence of feed-in-tariffs, solar PV should be prioritised where on-site usage can be maximised. Emission reductions relative to the National Grid will decrease out to 2030 and solar will increasingly be viewed from a financial standpoint, rather than one that achieves significant emissions reductions across the estate.

**Introduction.** Solar PV is a modular, scalable technology that allows for renewable electricity to be produced at source. Cost reductions over the past decade have made it an increasingly-attractive technology and resulted in its accelerated roll-out at both utility and small-scale.

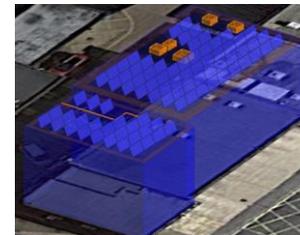
**State of play.** HIWFRS has ~700kW of solar PV installed across 16 sites, which generated 560MWh of electricity in FY 18/19 and avoided 144 tCO<sub>2</sub>e of emissions. The market in the UK is established and there are plentiful providers of solar PV and related services. However, UK government support for small-scale projects has been significantly curtailed and any project will be subject to market prices.

**Project identification.** HelioScope software was used to model rooftop Solar PV on 5 of the Project ID stations, Ventnor, Alton, Andover, Botley, and Newport. The remaining 5 Project ID sites already have solar PV installed. Key findings include:

- A further **48.6 kW** of solar PV could be feasibly installed, generating 43,107 kWh per annum
- Across retained and whole-time sites, it is envisaged this would result in an onsite energy saving of **31,483 kWh** with 11,624 kWh being exported to the grid
- This represents an **8 tCO<sub>2</sub>e** emission saving using 2019 emission factors, which is projected to decrease to **3 tCO<sub>2</sub>e by 2030**
- The financial case for solar PV is significantly improved when more solar PV is consumed on site (displacing grid electricity at 12 p/kWh) as opposed to exporting to the grid (5 p/kWh)

### Emission reduction

The avoided emissions of solar installations will decrease out to 2030 as the national grid decarbonises and the variance between local, zero-carbon generation and national generation decreases.



**Right: Helioscope software was used to model solar PV installations on HIWFRS sites**  
(Pictured: Newport fire and rescue station)

# LED

**Summary Recommendations.** Good quality LED luminaires offer superior illumination, control and energy performance over many of the Service’s incumbent lamp types. They should be installed by default across the estate, either proactively or reactively. The business case for LED lighting improves with increasing occupancy hours; a proactive approach to LED roll-out across wholetime sites should be conducted, whilst a reactive replacement schedule for retained sites is recommended to maximise the reach of annual budgets.

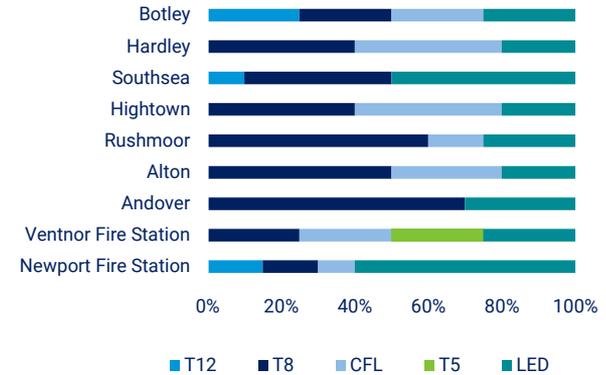
**Introduction.** LEDs have the highest efficiency and lamp life of all widely used lighting types. Cost reductions and a step-change in the technological performance of LED lighting over the past 10-15 years has made them the mainstream solution for the vast majority of lighting applications in the UK.

**State of play.** HIWFRS has a mixture of lighting installed across the sites: incandescent tungsten, tubular fluorescent lamps (T12, T8, T5) compact fluorescent lamps (CFLs), and LEDs. The Service is actively trying to roll-out efficient LED lighting across the estate and has recently performed a lighting upgrade at Hamble Fire and Rescue Station that will serve as a blueprint for future lighting-replacement programmes.

**Project identification.** Available condition surveys and audit reports across the 10 project ID focus sites were used to determine the installed lighting types. The costs and emission savings from upgrading the sites to LED were estimated. Key findings include:

- An annual electricity saving of **117,705 kWh** was estimated across 9 sites, equating to fuel savings of ~£14,000 yr.
- By 2030, this is expected to save **10.8 tCO<sub>2</sub>e** annually.
- The financial case for LED lighting depends on the usage of the newly-installed lighting. For wholetime sites the simple payback varies from 5.0 – 8.1 years (depending on the incumbent lighting). For retained sites, the average payback is > 10 years (see assumptions).

Installed lighting estimate [% of floor area]



Fire & rescue station	kWh saving	2019 tCO <sub>2</sub> e	2030 tCO <sub>2</sub> e
Botley	1,966	0.50	0.18
Hardley	8,430	2.15	0.77
Southsea	32,838	8.39	2.99
Hightown	19,339	4.94	1.76
Rushmoor	34,199	8.74	3.11
Alton	3,871	0.99	0.35
Andover	5,225	1.34	0.48
Ventnor	319	0.08	0.03
Newport	11,518	2.94	1.05
<b>TOTAL</b>	<b>117,705</b>	<b>30.1</b>	<b>10.8</b>

## Heat Hierarchy: a Strategic Approach to Heat Decarbonisation

Gas consumption for space and water heating in buildings accounts for 35% of HIWFRS's measured footprint. Compared to electricity, the emission factor for gas usage is less sensitive to policy and technology changes and is expected to remain relatively constant between now and 2030. In order to achieve their decarbonisation targets, HIWFRS will therefore have to proactively target a significant reduction in gas use across the estate.

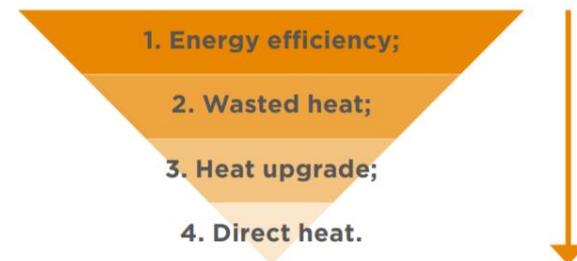
The challenge of heat decarbonisation is multifaceted and there is no one-size-fits-all solution that can be implemented across the estate. However, we recommend that any approach to heat decarbonisation should consider the heat hierarchy outlined below. The hierarchy has four key stages, which should be addressed in chronological order:

**Page 90** **Energy efficiency.** Reduce the heating demand of the building by improving its thermal performance through fabric upgrades (e.g. insulation, draught proofing). As the initial step, this is referred to as a fabric-first approach and should be maximised for each building within the bounds of reasonable viability (i.e. respecting technical and financial constraints) regardless of the heat source.

**Wasted heat.** Utilise any heat that is already being produced in other processes but wasted.

- **Heat upgrade (i.e. heat pumps).** 'Upgrading' heat refers to the process of raising a low-temperature heat source to a higher temperature that can be utilised in heating system. This process requires an energy input (e.g. electricity) and is the function of heat pumps.
- **Direct heat.** This is where energy is directly inputted for the *creation* of heat (e.g. fuel into a boiler). This should be restricted to when wasted heat is not available, or the use of a heat pump is not technically or financially feasible.

A net-zero HIWFRS will likely involve a combination of the above measures in varying proportions. The appropriateness of each option needs to be assessed in the context of the fabric and efficiency of each building to ensure that the space is adequately heated. Due to the remote nature of the assessment, the service should look to consolidate this work with further site specific investigations, using the heat hierarchy as a foundation.



**Above: the heat hierarchy**

Source: ADE, *A framework for net-zero for new and existing buildings.*

## Building Fabric - Glazing

**Summary Recommendations.** Improving thermal performance across the estate should be a short-term priority for the Service, and a coordinated approach to upgrades should be formalised. Fabric upgrades will achieve emission reductions and improve user comfort regardless of the heating mechanism, and will be essential for the Service to adopt low-temperature electric heating.

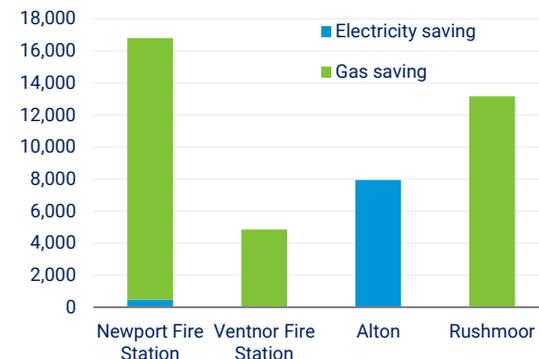
**Introduction.** Building fabric refers to the components of a building that regulate interactions between the interior and exterior of the building (e.g. windows, roofs, walls). The combined effect of a building's fabric governs temperature, air, and moisture transfer of a building, and a balance of these interacting elements is required to ensure effective building management and user comfort.

**State of play.** Benchmarking identified that HIWFRS is in the top 20% of best performing sites with respect to fossil fuel consumption, signalling that the thermal fabric of the general building stock is sound. The condition surveys analysed were non-intrusive and could not provide details on insulation. Of the buildings inspected, the majority were reported to be either fully or partially double glazed. Some audit reports (e.g. Alton, Newport) did indicate that additional sealant was required for draught-proofing and to prevent moisture build-up.

**Project identification.** Using information from condition surveys, the impact of upgrading single glazed units to double glazing across 4 sites was modelled. Key findings include:

- Across the four sites, energy savings of **34,373 kWh per year** can be realised, equating to 7-8 tCO<sub>2</sub>e of emission reductions across gas and electricity
- Payback times vary between **44.1 to >100 years**, with electrically heated sites benefitting from lower payback terms due to higher tariff rates. The business case for sites with higher specific consumption (kWh/m<sup>2</sup>) is significantly more favourable.

Annual energy savings [kWh]



<b>% requiring upgrading</b>	<b>80%</b>	<b>100%</b>	<b>100%</b>	<b>20%</b>
<b>Upgraded glazing m<sup>2</sup></b>	<b>217</b>	<b>22</b>	<b>77</b>	<b>53</b>

**N.B.** The remote assessment has limited the degree to which building fabric recommendations can be made. However, this report has identified building fabric as a core priority for the Service to investigate in the short-medium term. It is recommended that an updated estate-wide analysis is undertaken to prioritise buildings for fabric improvements.

# Heat Pumps

**Summary recommendations.** The installation of heat pumps should be considered for every heating system requiring replacement and installed as standard in new builds. Heat pumps are not a like-for-like replacement with gas boilers or conventional electric heating and improved energy efficiency in buildings is a pre-requisite for heat pump retrofit. Whilst not practically suitable for all applications, the electrification of heat at some sites will be required for the Service to achieve their decarbonisation targets.

**Introduction.** Heat pumps are a highly efficient form of electric heating. They *can* save ~60-70% of emissions compared to conventional electric heating and have lower running costs if operated efficiently. Heat pumps perform optimally at lower temperatures than conventional heating systems and require a thermally efficient site to operate effectively.

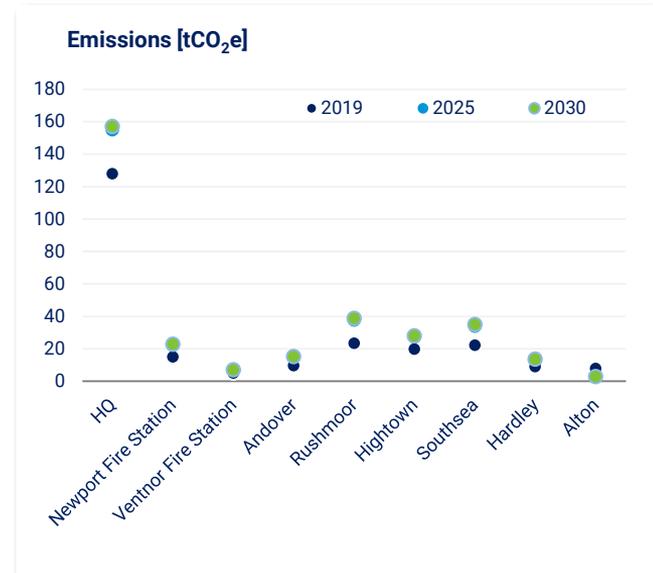
**State of play.** Currently, there are no heat pumps installed in the HIWFRS estate. They have been considered in the Service’s briefing framework where it recommends that a site-by-site options appraisal is conducted to determine the suitability of heat pumps.

**Project identification.** The replacement of existing central heating systems with an efficient heat pump was modelled for 9 sites. Any supplementary heating was excluded from the analysis. Key findings include:

- A reduction of **425 tCO<sub>2</sub>e** could be achieved by 2030. Installation of a heat pump at the SHQ alone is estimated to reduce emissions by 160 tCO<sub>2</sub>e.
- The business case for installing a heat pump is poor for the majority of sites and **environmental weighting** will have to be included to promote their procurement. Current government support to incentivise heat pump use in the form of the non-domestic renewable heat incentive (RHI) is due to finish in March 2021. New support mechanisms are expected to replace RHI, which HIWFRS should consider when announced.

## Emission reduction

The emission savings associated with electrifying heat increase as the national grid decarbonises. This will be further improved if the heat pump is powered by on-site renewable power.



## Boiler Upgrades

**Summary recommendations.** In accordance with the heat hierarchy, alternative heat sources are preferred solution over boiler upgrades. However, it is recognised that technical and/or financial constraints may limit the feasibility of these alternative sources (e.g. heat pumps). When this is the case, boiler upgrades can contribute to decarbonisation through efficiency gains while also making sure that the building is heated properly.

**Introduction.** Gas boilers being the preferred heating mechanism in the UK, with 1.67 million gas boilers sold in 2019. Though gas-fired boilers are carbon intensive, they provide flexibility in heating several building archetypes and often present attractive business case relative to low-carbon alternatives. Advances in boiler design has increased the efficiency of new boilers to over 90%.

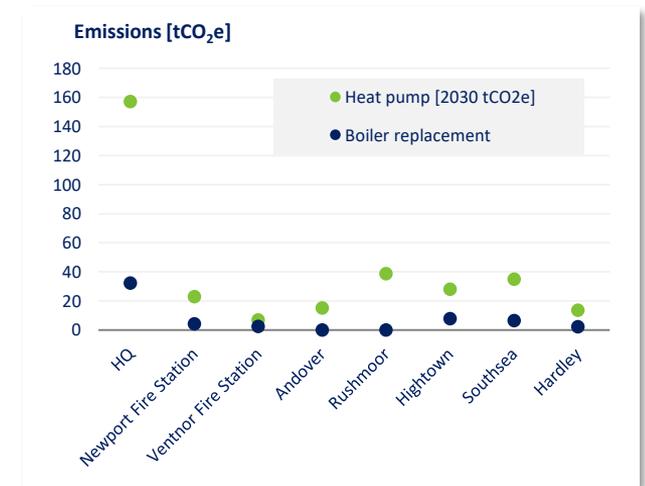
**State of play.** Most sites have gas-fired boilers connected to central heating with radiators. Underfloor heating exists in some sites. Supplementary electric heating was found in several sites, suggesting a lack of efficacy from the main heating system or that the central heating does not cover all areas. Four stations that were not selected for project ID, Alresford, Sutton Scotney, Beaulieu, and Odiham, use boilers fuelled by gas oil, which is more emissions intensive than gas.

**Project identification.** The replacement of incumbent boiler systems operating at an efficiency of less than 80% with a condensing boilers (operating at 92% efficiency) was modelled at 8 sites. Key findings include:

- Annual **gas savings of 301,028 kWh** can be realised, resulting in cost savings of £12,041 and emission savings of **55 tCO<sub>2</sub>e**
- Replacement gas boilers present a strong financing case. However, the emission savings associated with their widespread replacement is not compatible with the Service's decarbonisation ambitions, particularly for larger sites.

## Emission reduction

Emission savings can be realised through increased efficiencies and the reduction in gas consumption for a given heat load. However, their relative carbon intensity means that the Service should only pursue like-for-like replacement when the financial or technical constraints for low-carbon technologies are overwhelming.



## Applying the Heat Hierarchy and Moving to Low Carbon Heat

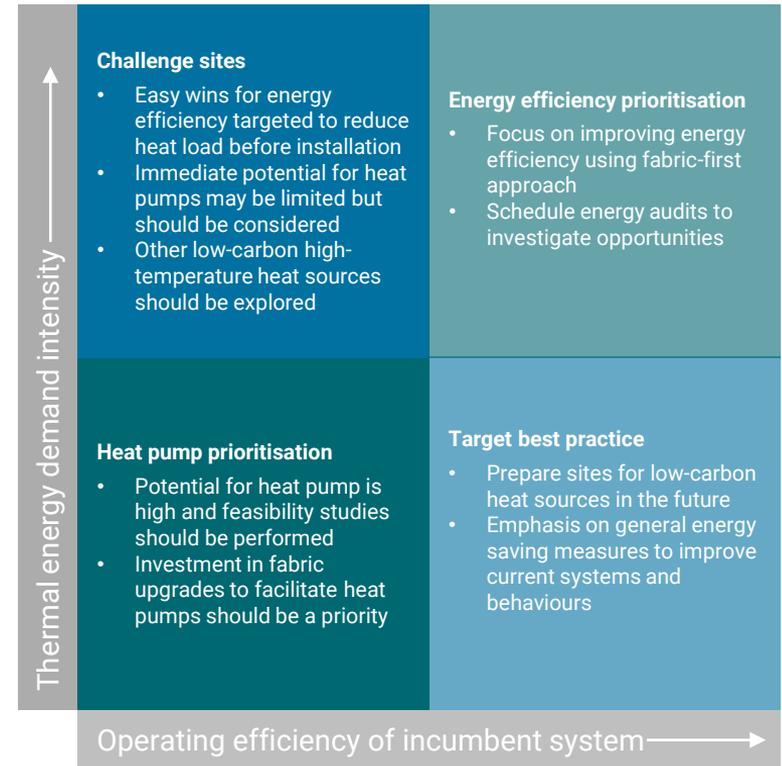
A broad approach to applying the heat hierarchy should be understood and established. However, it should be recognised that site specific conditions at each station will ultimately determine which technologies and interventions are both appropriate and financially viable.

**Technology Replacement Mapping.** As a good first step, mapping the expected heating technology replacement timeline and the operation efficiency of current systems will help prioritise sites for energy audits and heat pump assessment. This mapping should be updated regularly; any heating system that comes up for renewal should have an assessment performed that considers alternative heating technologies including heat pumps.

**The approach will vary site-by-site.** The matrix to the right explores likely actions depending on the thermal energy demand intensity of the site and the immediacy of heating technology replacement. This matrix is only a start, each site is unique in practice, and the approach will be different site-by-site. Low carbon heating will be technically feasible for every site, but some sites will be financial prohibitive due to the amount of retrofit required to achieve the required levels of thermal performance.

### Top tips for low carbon heating:

- Understanding flow temperature is important. Lower flow temperatures are more compatible with the efficient operation of heat pumps, and heat pump business cases become favourable when temperatures are <45°C.
- Flow temperatures are a function of the building's thermal retention and area of heat emitters (e.g. radiators). A building with high heat retention and large heat emitters is a prime candidate for installation of a heat pump.



# Fleet

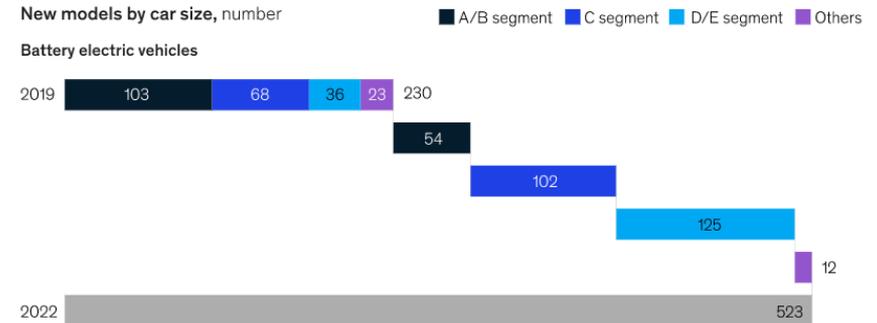
**Summary Recommendations.** Significant fuel-switching of the fleet is required for the Service to achieve their decarbonisation ambitions. The Service should commit to a phased fuel-switching of the fleet, accounting for vehicle type and use. The supporting infrastructure requirement is the largest constraint to electric vehicle (EV) deployment and the Service should, as a priority a) ratify internal support for infrastructure roll-out, b) understand the financial and technical requirements accounting for local constraints, c) explore potential funding avenues, and d) seek collaborative partnerships.

**Introduction.** Fuel consumption in the Service’s fleet accounts for 43% of the baseline footprint. As with gas, the emission factors associated with liquid fossil fuels will not decrease significantly between now and 2030 and fuel-switching will be required to achieve meaningful reductions in emissions. However, the provision of a reliable, efficient and available fleet is central to the Service’s function and cannot be compromised in any decarbonisation strategy.

**State of play.** HIWFRS currently operate a fleet of over 460 vehicles and have 2 EVs in active service (Nissan Leaf). Uptake and use of EVs has been low, predominately due to their limited range and lack of understanding amongst users. However, EV technology has improved drastically in recent years and the market is becoming far more saturated and competitive as mainstream manufacturers begin to offer electric ranges. This is expected to continue, and McKinsey estimate that 523 new electric vehicle models will be launched between 2019 – 2022 across a variety of vehicle sizes.

Despite the growing market, a technology review and targeted interviews identified that the low-emission vehicle market for larger specialised vehicles in the fleet is largely in concept phase and not suitable for immediate consideration. The focus of this plan is therefore on the fleet cars and vans where there is a far more established market for low-to-zero emission vehicles.

HIWFRS benefit from a CAPEX discount on all vehicles under the CCS framework. Government grants are also available for the procurement of electric cars and vans.



**Above: the global EV market is undergoing a period of rapid growth**

Source: McKinsey, Electric Vehicle Index 2020

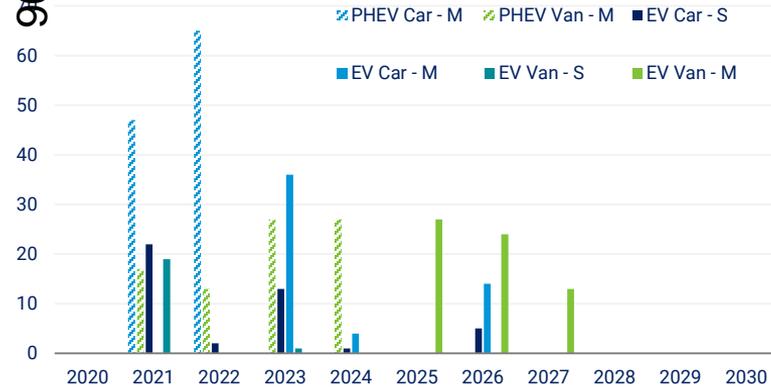
# Fleet

**Project identification.** The Service operate a multiservice fleet that covers 33 individual types of vehicle. Of these, 7 were of appropriate size to be considered for full or partial electrification in this plan. Each vehicle type was categorised into a generic vehicle type (car or van) and size (small or medium), for which a suitable internal combustion engine (ICE), plug-in hybrid electric vehicle (PHEV) (only medium-sized vehicles), and electric vehicle (EV) models were identified. Key findings include:

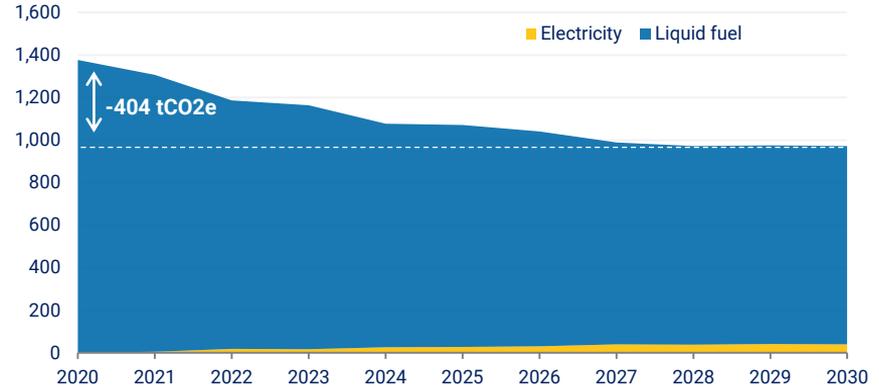
- **377 vehicles** that are due for replacement between now and 2030 are suitable for full or partial electrification. These vehicles account for ~170,000 L of annual fuel consumption (32% of the Service’s total). ‘Suitability’ has been determined from a sectoral market review only and is designed to show the potential impact of fleet electrification. As detailed on the next slide, significant advances in charging infrastructure will also be required to support the roll-out.
- At the point-of-use the **business case for PHEVs and EVs is competitive** for the majority of vehicle types and sizes compared to ICE equivalents.
- The proposed electrification could result in reductions in annual emission reductions of **404 tCO<sub>2</sub>e** and annual operating costs of **£210,857** by 2030.

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Vehicle phasing [no. of vehicles]



Fleet emissions [tCO<sub>2</sub>e]



**N.B.** These calculations assume that PHEV’s are operated according to manufacturer’s specifications. Some studies have shown that the real-world environmental performance of PHEV’s is significantly compromised by inefficient operation (e.g. relying solely on the liquid fuel without electric charge). The Service should make any users of PHEV aware of this and promote optimised usage through training, signage etc.

# Electric Vehicle Infrastructure

The business and environmental case for PHEV and EVs at the point-of-use is competitive and will continue to improve. The Service should prioritise securing access to a robust and available charging network to facilitate the roll-out of electric vehicles. Detailed technical and economic analysis of infrastructure requirements is outside of the scope of this assessment, however it is recommended that the Service:

## Understand the financial and technical requirements accounting for local constraints

Charging infrastructure costs vary significantly based on the number, wattage and specification of chargers required. Higher wattage charge-points are more expensive but required if vehicles need to charge rapidly over shorter periods of time, whereas more lower-wattage charge-points could be installed if it's feasible for EVs to charge over longer periods. The specification for any given-wattage varies too; the cost of a basic 7.4 kW charger (common for van charging) could be as low as £300 but rise to over £1,200 if smart-charging is incorporated. Civil and engineering costs have to be taken into account, which are heavily influenced by site conditions (e.g. length of any trenchwork, ground conditions); assessments in some areas of the UK estimate the installation cost of a 7kW charger at £5,000 with the caveat that these can vary significantly. Once the charging requirement is estimated, a site survey should be conducted to determine the available grid capacity at the site. Depending on local network capacity, grid upgrades may be required that will carry significant additional cost.

## Explore potential funding avenues

Recognising the potential costs of EV infrastructure, grant schemes and innovative financing mechanisms exist that can support infrastructure deployment. The UK Government operates a workplace charging scheme, offering a grant contribution of £500 per socket for charge points installed at the workplace. Depending on ownership model preferences, various levels of private-sector involvement can also be sought to minimise the upfront financial requirement. Due to the size and predictability of the fleet, the Service is in a strong position to attract private sector funding by guaranteeing a substantial level of demand for installed charge points.

## Seek collaborative partnerships and engage with support schemes

Local and national-level initiatives exist that can help the Service develop a network of usable infrastructure. ESPO Vehicle Charging Infrastructure and CCS Vehicle Charging Infrastructure Solutions are two national frameworks that can support Central Purchasing Bodies in the procurement and installation of infrastructure. At a local level, Hampshire County Council manager the Central Southern Regional Framework that is open to public sector organisations across Hampshire. Additionally, Energy Savings Trust offer free fleet strategic assessment the UK that can assist with initial strategic and technology advice. Currently, Flexible Power Systems Ltd. is also offering free fleet strategy assessments for vans that are monitored with telematics or a job management system as part of an Innovate UK funded project.

## General Energy Saving Measures

Energy and cost savings can be readily achieved through the implementation of best-practice energy management and engagement. The associated costs of these measures are often relatively low and can be generically applied across the estate with limited site-specific considerations. These include:

- Page 98
- a) **Pipework insulation.** Several condition surveys report a lack of insulation around pipeline, flanges, and valves. Significant energy savings can be made by incorporating low cost, insulating covers on exposed areas. This is of particular importance in plant rooms where the water is hottest and the heat loss to the environment is greatest. This is easy to implement and payback can be expected to be <1 year under normal operating conditions.
  - b) **Enhanced controls** can be used to better align site usage to occupancy, weather/loads compensators can be readily applied to boiler systems (typical payback 2-3 years) and where practically feasible lighting controls should be integrated with the role out of LEDs (typical payback 2-3 years).
  - c) **Reinforcing and communication an energy management strategy** will provide guidance for the operation of buildings. It was evident from the review of conditional surveys that various levels of supplementary heating is used throughout the estate. A rationalised approach to heating (and other operational considerations) should be provided for various site-types (e.g. wholetime vs. retained).
  - d) **Staff awareness.** Carbon Trust experience shows that typically around three-quarters of staff in a workforce are keen to help their employer reduce their environmental impact but often don't feel engaged. Engagement with staff yields energy savings in two main ways: changing of day-to-day behaviour and the generation of ideas. A successful engagement strategy goes beyond just displaying posters, and should:
    - Include everyone from the chief executive to the part-time worker
    - Be part of an overall energy management strategy
    - Involve general awareness training for all staff and specialist training for some
    - Provide regular feedback on progress towards targets



## Looking Towards a 2030 Target

Analysis of the 10 sites has identified several objectives in the context of a 2030 decarbonisation target. A phased outlook is also presented that presents a view on how the Service should approach decarbonisation in the next decade:

- General energy saving measures (page 39) and LED lighting are no-regret measures that should be considered as BAU across the estate and implemented as common practice.
- Solar PV should be prioritised where on-site usage can be maximised and the business case is strong. From a carbon-centric perspective, budget allocation to Solar PV should not diminish the budget available for heat or fleet decarbonisation.
- Recognising budgetary constraints, it is recommended that expenditure to achieve carbon savings is focused on a) heat decarbonisation, either through thermal improvements to a building or installation of a low-carbon heat source, and b) transition to low emission vehicles.

### Short term outlook (2021 – 2023)

*Form an estate-wide approach to priority decarbonisation areas:*

- Ratify a 2030 decarbonisation target, and agree a governance structure and responsible person(s) for the annual reporting of the Service's carbon footprint to monitor progress against the target. If possible, an annual budget for priority decarbonisation initiatives should be ringfenced that should be additional to BAU upgrades.
- Perform estate-wide mapping of incumbent heating systems and thermal performance of buildings to form the basis of an estate-wide heat decarbonisation strategy. The heat hierarchy should be integrated into the Service's decision making and facilities managers should become familiar with it's implementation.
- Estates and fleet teams should co-ordinate the roll-out of electric vehicle charging infrastructure. Priority sites should be identified and early engagement with local stakeholders should be pursued as a priority to identify delivery and funding mechanisms. To the extent that infrastructure permits, EV procurement should commence in parallel.
- A campaign to promote EV uptake and raise awareness of their correct use should be performed to ensure they are adopted by fleet users.



## Looking Towards a 2030 Target

Medium and long term recommendations are inherently subject to greater degrees of uncertainty. These actions are made based on the current state-of-play and should be reviewed and updated as part of the annual reporting and governance.

### Mid term outlook (2023 – 2027) *Embed the strategies into estate operations, and begin to consider indirect impacts*

- The heat decarbonisation strategy should be implemented such that the heat hierarchy principles are embedded into the running of the estate, and a rolling cycle of fabric improvements and installation of low-carbon heat sources initiated. Fossil-fuel boiler replacements should be isolated to challenge sites and low-carbon heating should become the default option for system replacements.
- Fully electric vehicles should become the default option for vehicle replacement across all non-specialised vehicles. The service should leverage available charging infrastructure in the local area in addition to the installation of private charge points to ensure adequate vehicle availability.
- Begin to consider the wider environmental impact of the Service (i.e. supply chain), and measure and report on the Service's scope 3 emissions. Separate action planning and target setting should be considered for these emission sources.

### Long term outlook (2027 – 2030) *Integrate harder-to-decarbonise areas into HIWFRS's decarbonisation strategy*

- Approach harder-to-decarbonise areas of the estate (e.g. specialised fleet vehicles, challenge sites) as anticipated technology advancements, cost reductions and policy support create a more favourable environment for action.
- In general operation, replacement of assets with fossil fuels should be viewed as a special case and low-carbon technologies should be implemented on a BAU basis.
- Implementation of a scope 3 action plan (e.g. supply chain engagement, green procurement) to reduce the Service's indirect emissions.



# Resources to Help Deliver Decarbonisation

Resource Name	Resource type	Notes	Link
Salix Finance	<ul style="list-style-type: none"> <li>Interest-free finance</li> <li>Recycling Fund</li> </ul>		<a href="https://www.salixfinance.co.uk/">https://www.salixfinance.co.uk/</a>
Non-domestic Renewable Heat Incentive (RHI)	Financial incentive; payments received based on heat generation	Due to finish March 2021; expected to be replaced by another mechanism	<a href="https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi">https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi</a>
Energy Technology List	List of the top performing equipment to help make sure new purchases are efficient. Includes heat pumps, boiler equipment, automatic monitoring and targeting equipment, and more.		<a href="https://etl.beis.gov.uk/purchasers">https://etl.beis.gov.uk/purchasers</a>
Local authorities and sixth carbon budget	A guide for local authorities on their local contributions to the sixth carbon budget		<a href="https://www.theccc.org.uk/wp-content/uploads/2020/12/Local-Authorities-and-the-Sixth-Carbon-Budget.pdf">https://www.theccc.org.uk/wp-content/uploads/2020/12/Local-Authorities-and-the-Sixth-Carbon-Budget.pdf</a>
Smart Export Guarantee	Financial support mechanism for renewables up to 5 MW (replaced the feed-in-tariffs)	For solar PV self-consumption or privately selling the power generated generally give better returns than the smart export guarantee	<a href="https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/about-smart-export-guarantee-seg#:~:text=The%20smart%20export%20guarantee%20(SEG)%20is%20an%20obligation%20set%20by,force%20on%201%20January%202020">https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg/about-smart-export-guarantee-seg#:~:text=The%20smart%20export%20guarantee%20(SEG)%20is%20an%20obligation%20set%20by,force%20on%201%20January%202020</a>
The Workplace Charging Scheme	voucher-based (grant) scheme that provides support towards the up-front costs of the purchase and installation of electric vehicle chargepoints.		<a href="https://www.gov.uk/government/publications/workplace-charging-scheme-application-form">https://www.gov.uk/government/publications/workplace-charging-scheme-application-form</a>
Plug In Vehicle Grant	Grant	Not that noticeable because this comes off the retail price	<a href="https://www.gov.uk/plug-in-car-van-grants">https://www.gov.uk/plug-in-car-van-grants</a>
Public Sector Decarbonisation Fund	Grant funding	Administered by Salix, but different from their normal offering. Currently oversubscribed but could well be back for another round.	<a href="https://www.salixfinance.co.uk/PSDS">https://www.salixfinance.co.uk/PSDS</a>
OZEV grant schemes	OZEV grant schemes for the installation of electric vehicle charging infrastructure		<a href="https://www.gov.uk/government/collections/government-grants-for-low-emission-vehicles">https://www.gov.uk/government/collections/government-grants-for-low-emission-vehicles</a>
RE-fit	A procurement initiative for public bodies wishing to implement energy efficiency measures and local energy generation projects on their assets, with support to assist you in the development and delivery of the schemes		<a href="https://localpartnerships.org.uk/our-expertise/re-fit/">https://localpartnerships.org.uk/our-expertise/re-fit/</a>

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# Appendix: Detailed financial results & Assumptions

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## Detailed Financial Results

### Solar PV

Site	Installed capacity [kWp]	Generation [kWh]	Of which on-site [%]	CAPEX [GBP]	Annual OPEX [GBP]	Annual saving [GBP]	NPV [GBP]	IRR [%]
Ventnor	7.5	7,912	20%	£6,750	£62	£444	£639	4%
Alton	5.4	4,001	20%	£4,860	£45	£212	-£1,938	-1%
Andover	8.1	7,587	100%	£7,290	£67	£844	£5,003	10%
Brey	2.7	2,617	20%	£2,430	£22	£145	-£363	2%
Newport	24.9	20,990	100%	£22,410	£205	£2,313	£11,134	8%

### Hot pumps

Site	Assumed heat load [kWhg]	Heat pump size [kW]	CAPEX [GBP]	Annual saving [GBP]	Simple payback [yrs]	NPV [GBP]	IRR [%]
HQ	713,490	251	£376,500	£16,530	22.8	(£430,895)	-
Newport	118,970	42	£35,700	£237	150.6	(£98,503)	-
Ventnor	32,050	11	£9,350	£284	32.9	(£23,244)	-
Andover	85,772	30	£25,500	(£80)	-	(£73,228)	-
Alton	52,380	18	£15,300	£3,658	4.2	£26,829	-
Rushmoor	231,577	82	£69,700	(£823)	-	(£207,124)	-
Hightown	125,665	44	£37,400	£1,135	32.9	(£92,977)	-
Southsea	194,427	68	£57,800	(£73)	-	(£164,744)	-
Hardley	70,983	25	£21,250	£141	150.6	(£58,633)	-

## Detailed Financial Results

### Replacement boilers

Site	Assumed heat load [kWhg]	Boiler size [kW]	CAPEX [GBP]	Annual saving [GBP]	Simple payback [yrs]	NPV [GBP]	IRR [%]
HQ	713,490	160	£17,967	£7,031	2.6	£63,018	39%
Newport	118,970	140	£10,069	£905	11.1	£356	4%
Ventnor	32,050	40	£5,399	£515	10.5	£538	5%
Hightown	125,665	135.4	£15,244	£1,717	8.9	£4,534	7%
Southsea	194,427	300	£17,967	£1,409	12.8	(£1,740)	2%
Hardley	70,983	130	£12,352	£463	26.7	(£7,020)	-6%

### Electrification of the fleet (N.B. figures presented are counterfactual to procurement of ICE vehicles, and do not include charging infrastructure)

Vehicle type/ size	Number of vehicles	CAPEX [GBP]	Grant [GBP]	Annual savings [GBP]	Simple payback [yrs]	NPV [GBP]	IRR [%]
EV - Car - S	43	£560,208	£129,000	£18,187	23.7	(£279,951)	-13%
PHEV - Car - M	112	£689,374	£0	£85,833	8.0	£24,463	4%
EV - Car - M	54	£781,286	£162,000	£30,925	20.0	(£362,094)	-11%
EV - Van - S	20	£235,557	£140,084	£9,973	9.6	(£12,531)	0.8%
PHEV - Van - M	84	£1,038,375	£0	£11,832	87.8	(£1,036,279)	-
EV - Van - M	64	£917,511	£512,000	£54,106	7.5	£44,468	6%

## Detailed Financial Results

### Double glazing

Site	Total window area [m <sup>2</sup> ]	Upgradable area [%]	CAPEX [GBP]	Annual saving [GBP]	Simple payback [yrs]	NPV [GBP]	IRR [%]
Newport	271.59	80%	£119,500	£710	168.2	(£106,950)	-10%
Ventnor	21.9	100%	£12,045	£194	61.9	(£8,610)	-5%
Andover	76.5	100%	£42,075	£953	44.1	(£25,233)	-3%
Rushmoor	263.7	15%	£21,755	£418	52.0	(£14,371)	-4%

Site	Incumbent lighting [-]	Upgradable area [%]	CAPEX [GBP]	Annual saving [GBP]	Simple payback [yrs]	NPV [GBP]	IRR [%]
Newport	T8 / T12 / CFL	40%	£11,226	£1,382	8.1	£9,738	11%
Ventnor	T5 / T8 / CFL	75%	£2,710	£38	70.8	(£2,079)	-7%
Andover	T8	70%	£6,586	£627	10.5	£2,925	8%
Alton	T8 / CFL	80%	£6,324	£464	13.6	£1,331	5%
Rushmoor	T8 / CFL	75%	£20,437	£4,104	5.0	£41,807	20%
Hightown	T8 / CFL	80%	£21,252	£2,321	9.2	£16,997	10%
Southsea	T8 / T12	50%	£19,863	£3,941	5.0	£39,903	19%
Hardley	T8 / CFL	80%	£11,117	£1,012	11.0	£5,556	8%
Botley	T8 / T12 / CFL	75%	£2,186	£236	9.3	£1,702	10%

## Assumptions

Financial figures have been estimated from industry standard benchmarks and the desktop survey. Where data gaps exist we have used reasonable assumptions to complete the data. This Action Plan and the figures presented should only be used as a high level guide; for any detailed business case preparation multiple quotes from suitably qualified suppliers/installers should be sought for specific suggested projects, and all suggested projects will require verification and detailed assessment prior to proceeding with implementation. All opportunities included have each been assessed independently in terms of their potential for saving energy and payback. The overall savings figures shown may not fully be achievable due to interactions between measures.

### General assumptions include:

- Natural gas and electricity prices of 3p/kWh and 12p/kWh respectively.
- Excluding fleet, any annual maintenance savings are not considered at this stage but increased maintenance costs (e.g. cleaning on solar panels) are incorporated.
- Costs provided are indicative figures for supply and install only. No cost allowance is included for measurement and verification and other on costs such as contingency, overhead and profit, asbestos removal, design, project management, VAT, business rates etc.
- Life Cycle Cost Analysis was undertaken with a 0.035 discount rate and energy cost escalation in line with a Fixed 0% scenario.
- It has been assumed that site data provided (e.g. building condition reports) are accurate and no significant changes have been implemented since.

### Project-specific considerations include:

#### Double glazing

- Costs assume a typical glazing-to-floor area ratio of 10 - 15% and a capital cost of £550/m<sup>2</sup>. The CAPEX was based on a small sample of costs provided by HIWFRS and is higher than the market average due to the specification required. The costs and paybacks are therefore higher than would be deemed 'typical'.
- Energy savings assume that 26% of heat loss occurs through windows and U-values of 4.8 W m<sup>-2</sup> K<sup>-1</sup> and 2.0 W m<sup>-2</sup> K<sup>-1</sup> for single and double glazed windows respectively.

## Assumptions

### Boiler replacement

- Boilers were sized based on a like-for-like replacement with the current installation, and reductions in boiler sizes can be expected if fabric upgrades are performed prior to installation.
- Cost data has been taken directly from SPONS and is reflective of standard industry estimates (<https://www.priceguidesdirect.co.uk/spons/all-spons-titles>)

### Heat pumps

- Heat pumps have been sized according to the current heat demand, which will likely decrease as fabric improvements are made. The heat pumps are assumed to operate at coefficients of performance (COP) of 2.5 for air-source, and 4 for ground-source. This condition assumes the efficient operation of the heat pump that will require a low-temperature heating system and likely require fabric upgrades and/or larger heat emitters. The costs of these ancillary requirements have not been included, and the costs presented are specific to the heat pump only.
- Costs data is a combination of SPONS and soft market testing conducted by the Carbon Trust.
- The displacement of any supplementary heating is not included. A detailed feasibility study should account for the required heat load of the whole site, and displacing any supplementary electric heating is expected to improve the presented financial case.
- Due to the heat load of SHQ, a ground-source heat pump (GSHP) has been modelled. An air-source heat pump (ASHP) has been modelled for all the remaining sites.

### LED

- Existing light fittings were assumed from qualitative condition survey reports. Baseline annual lighting hours were estimated for wholetime (2,236 hours) and retained sites (728 hours) and adjusted on a site-by-site basis in alignment with expected consumption benchmarks for lighting (~20-30% of total electricity consumption).
- The costs include replacement of whole luminaire and therefore represent conservative capital costs. Paybacks are expected to be lower if the fitting can remain in-situ and lamp replacement is conducted only. Savings and costs have been calculated on a per m<sup>2</sup> floor area basis, which has a large associated uncertainty and should be verified with in-person site audits. The payback for LED lighting is accepted to be 2-3 years in most scenarios.

## Assumptions

### Solar PV

- Solar capacity and generation were modelled using HelioScope software. Capital costs were estimated using an assumed cost of £900/kWp, and annual cleaning/service costs total £8.25/kWp.
- Retained sites assumed to consume 20% of generated electricity on-site, increasing to 100% for wholetime sites. Any exported electricity brings in revenue of 5p/kWh, whilst on-site energy usage displaces electricity at 12p/kWh.

### Fleet

- Prices and fuel economy figures were derived from a market review of mainstream manufacturers. Where there are a range of EV models available, the model with the highest range has been selected to better fit the requirements of the service. It should be noted that cheaper models are available, however interviews with the Service made it clear that there is a cultural barrier to uptake and procurement of high quality EVs was prioritised to encourage their uptake.
- All costs assume outright ownership and sell-on income at the end of the vehicle lifetime (estimated from an annual depreciation of 5%). The lifetime use of cars and vans was assumed to be 6 and 8 years respectively. The annual mileage of the vehicles was estimated from typical consumption of the vehicles in the baseline data.
- HIWFRS procure vehicles through approved 'blue light' frameworks that provide capital discounts. From soft market testing these were assumed to be: ICE vehicles, 22.5%; hybrid vehicles, 17.5%; fully-electric vehicles, 6.5%. These were applied in addition to the plug-in grants available for eligible cars and vans.
- The cost of charging infrastructure has not been included. All costs are presented as counterfactual to the procurement of an equivalent ICE model.
- Where actual fuel data was not available the average fuel consumption for the given vehicle type across the service was used as an approximation.

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**Hampshire  
& Isle of Wight**  
FIRE & RESCUE AUTHORITY

## HIWFRA Full Authority

Purpose: **Noted**

Date: **27 JULY 2021**

Title: **PROPERTY MATTERS**

Report of **Chief Fire Officer**

### SUMMARY

1. This report summarises property related matters where action has already been taken under delegated authority. These actions are reported in accordance with the Authority's Scheme of Delegation. The Authority are asked to note these actions.

### BACKGROUND

2. The Hampshire & Isle of Wight Fire and Rescue Authority (HIWFRA) Constitution states that HIWFRA must:
  - (a) *'Consider and approve the sale and purchase of land or buildings with a value greater than £250,000, or the disposal of land or buildings by way of lease or licence for a period greater than 10 years or at a value greater than £100,000 per annum'.*
3. Any proposed property transactions falling within these parameters are reported to HIWFRA for approval to proceed.
4. Any property transactions which fall outside of these parameters are approved under the HIWFRA Scheme of Delegation and are included herein for information and noting by Members.

## PROPERTY MATTERS

5. The following actions have been undertaken by Officers under delegated authority:
  - (a) The Office of the Police and Crime Commissioner (OPCC) have taken additional space at Service Headquarters (SHQ) for their vetting teams in room F60 on the first floor at SHQ, a previously unused resource room. The room was occupied by the Police on 3 December 2020 on a 20-year term at £10,000 per annum (pa).
  - (b) The OPCC have taken a supplementary lease at Ringwood Fire Station in room 17 from May 2020 on a 12-year lease at £1,500pa.
  - (c) SERV Wessex blood runners are a charity that have worked closely with local operational crews in Andover and Romsey fire stations for many years. A short-term licence, with a notice of three months, was granted to store one motorbike and a small cabinet in the appliance bays. Given the short-term nature of this use, this was agreed on a peppercorn rent of £1pa.
  - (d) G Fit PT & Boxing have signed a short-term licence at Grayshott Fire Station for £2,600pa with a 28-day notice period to terminate the licence. This company is owned and run by an On Call Firefighter, by providing this space, we are further supporting local On Call availability by having this firefighter at station whilst operating their business activity; thus increasing their availability for the Service while also generating an income.
  - (e) A telecoms mast lease was renewed at Hamble Fire Station for £1,750pa. The level of this rent is determined by the statutory Telecommunications Code.

## SUPPORTING OUR SAFETY PLAN AND PRIORITIES

6. One of the Authority's priorities is to manage assets, including buildings, land and equipment in a cost-effective way. The proposals and actions taken in this report support this.
7. The Safety Plan identifies Public Value as a key priority, our estates strategy supports this by maximising returns from property assets and making the best use of our estate. The proposals outlined within this report support this aim.

## CONSULTATION

8. Consultation is necessary where there is a statutory duty to consult. It is also necessary where there is a significant decision and where we have said that we will have consulted on similar matters in the past.
9. For the property matters outlined within this report no public consultation has taken place since the activities are deemed as business as usual functions of effectively managing our property estate.
10. Consultation has taken place at all fire station premises with local teams and partners based there before any decision has been made in relation to extending or establishing a new lease/licence with a third party.

## COLLABORATION

11. The granting of leases to partners to enable shared occupation of HIWFRA property supports and furthers our current collaborative partnerships.

## RESOURCE IMPLICATIONS

12. All property related matters in this report are considered to be cost effective and are met from within existing resources.
13. The income from sharing premises will contribute to offset operating costs which would otherwise be a direct cost to the Authority.

## IMPACT ASSESSMENTS

14. The contents in this report are considered compatible with the provisions of equality and human rights legislation.
15. Where there are local impacts, Impact Assessments have been undertaken in line with the Service Change Framework.

## LEGAL IMPLICATIONS

16. There are no legal implications arising from the matters contained within this report. Legal advice is routinely sought for all lease and licence Agreements.

## RISK ANALYSIS

17. There are no identified risks associated with the activities listed within this report.

## EVALUATION

18. Co-location with partners is monitored through regular liaison meetings and formally reviewed in line with the timetable set out in each lease/licence.

## CONCLUSION

19. The activities outlined within this report enable the Authority to manage assets, including buildings, land and equipment in a cost-effective way.

## RECOMMENDATION

20. That Hampshire and Isle of Wight Fire & Rescue Authority note all items outlined within section 5.

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