



**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

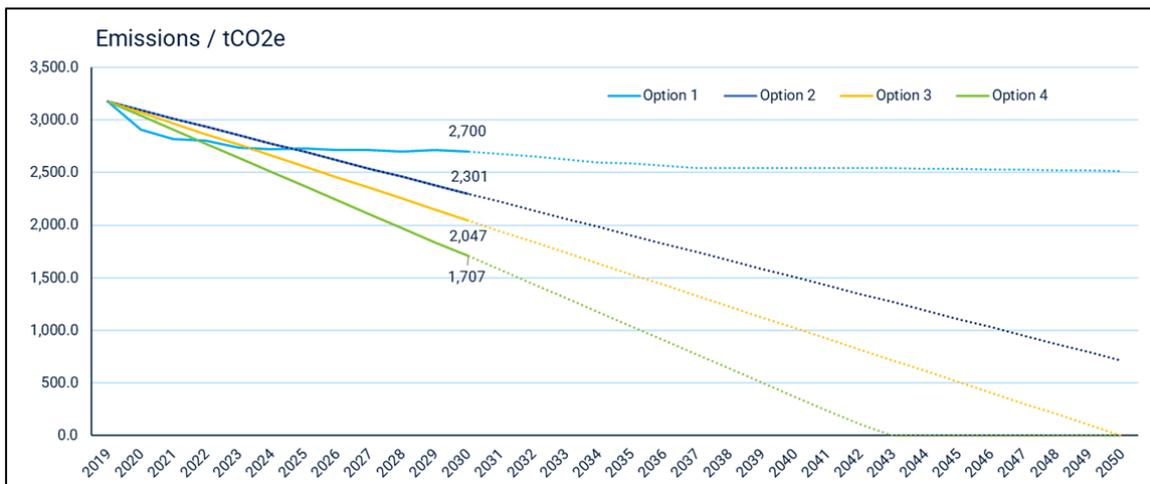
7. HIWFRS has historically taken a proactive approach to reducing our environmental impact, not just in response to the Government's Climate Change Act but predominantly to protect our communities and reduce the consequences of inaction, since the Service acts as a first responder to these extreme weather 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.

	<b>Annual</b>	<b>Total over 2022-2030</b>
<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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