

ADUR & WORTHING COUNCILS

Joint Strategic Committee
7 October 2021
Agenda Item 6

Key Decision: No

Ward(s) Affected: all

Carbon Neutral 2030: Working towards the councils' carbon neutral target: progress update

Report by the Director for Digital, Sustainability and Resources

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Executive Summary

1. Purpose

- 1.1. On 9 July 2019 Joint Strategic Committee (JSC) declared 'Climate Emergency'. As part of the declaration, Members committed to *work towards becoming carbon neutral by 2030*.
- 1.2. This report presents the second annual update on progress towards this target. When compared to the previous year, emissions from the councils' buildings and fleet reduced by 7.4%, including variations as a result of the Covid-19 pandemic.
- 1.3. An update on current carbon reduction projects is presented and it is estimated that the councils will deliver projects to save 188 tonnes of carbon this year.
- 1.4. A new project for delivery in 2021/22 at Tollbridge House is presented. This replaces the previously approved project at Marsh House, which has had to be paused due to unforeseen costs.

1.5. A trajectory of future carbon emissions to 2030 is presented in Section 8. This uses indicative pipeline projects to map a potential route to meeting the 2030 target, subject to viable business cases being developed.

2. Recommendations

2.1. That the Committee notes:

- the councils' current carbon emissions and carbon reduction work programme
- the trajectory of future emissions reductions which aims to ensure the councils meet their carbon neutral 2030 target
- That further funding bids may be made, in consultation with the relevant executive member, and that if required further reports will brief members on the outcome of the bidding process

2.2. That the Committee approves:

- The publication of the carbon emissions report on the council website and the submission of these figures to external bodies where required by membership (e.g. UK100); and
- The changes to the carbon reduction work programme for 2021/22, specifically the replacement of the project at Marsh House with one at Tollbridge House;

2.3. That the Committee delegates to the Director of Digital, Sustainability & Resources the negotiation and letting of any contracts associated with the Tollbridge House heat replacement project providing the cost is within the approved budget.

3. Context

3.1. Adur & Worthing Councils declared a climate change emergency on 9 July 2019, simultaneously setting a target to be carbon neutral by 2030.

3.2. The councils' adopted: *Adur & Worthing Councils' Carbon Neutral Plan: Working towards the 2030 target* on 3 December 2019 and a Carbon Reduction Team was appointed in September 2020 to facilitate work to achieve the target and attract funding to contribute to the councils decarbonisation.

- 3.3. Platform 3 of *Platforms for our Places*, is *Tackling Climate Change and Supporting Our Natural Environment*. Platform 3 recognises the urgent need to act on climate change and commits to actions to decarbonise the councils' transport, buildings and services.
- 3.4. Strong commitments have been made in *Sustainable AW*, to reduce carbon emissions. These include signing up to the *UK100 Cities Pledge* and making the government's voluntary Emissions Reductions Pledge 2020
- 3.5. The councils have committed to report on their emissions annually. This report sets out the emissions for the year 2020/21 for the councils.
- 3.6. The 2030 carbon neutral target required the councils to deliver approximately 10% reductions in emissions annually through the decade. Some years may see lesser and some greater emissions reductions, depending on interventions delivered, climatic conditions and other unforeseen events. For the year ending March 2021, there have been a number of significant changes in the emissions profiles of certain sites due to their use throughout the Covid-19 pandemic.
- 3.7. For 2020-21, an emissions reduction of 7.4 % has been achieved.
- 3.8. A model of the future trajectory the councils intend to take in order to meet their 2030 carbon neutral target has also been developed, as outlined in Section 8.

4. Background

- 4.1. The councils report their emissions according to the following Scopes, as defined in the *BEIS Emissions Reduction Pledge 2020 guidance*,

Category	Description	Data analysed
Scope 1	Direct emissions from sources owned or controlled by the reporting organisation.	Metered gas data in properties owned and operated by, and where the councils pay for gas. Diesel and petrol consumption for council-owned vehicle fleet and mileage figures for pool cars
Scope 2	Indirect emissions from the generation of energy purchased by the reporting organisation.	Metered electricity data in properties owned and operated by, and where the councils pay for, electricity

Scope 3	Indirect emissions that result from other activities that occur in the value chain of the reporting organisation, either upstream or downstream.	Scope 3 emissions are those from indirect council operations, for example leisure or cultural sites not operated by the council. The council is not responsible for the direct payment of bills relating to this consumption and therefore they do not form part of the Emissions Reduction Pledge.
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Table 1: Emission scopes

4.2. As noted at JSC in November 2020, the councils' 2019/20 emissions were 3,021 tonnes of CO2 equivalent (tonnes CO2e), broken down as follows:

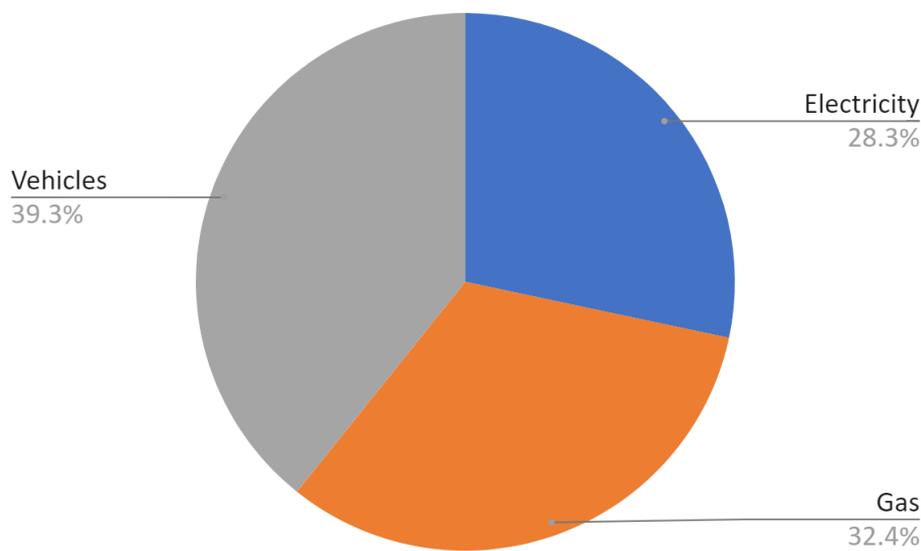


Chart 1: Adur & Worthing carbon emissions 2019/20

5. 2020/21 Emissions

Building Emissions

5.1. Analysis of the councils emissions associated with gas and electricity use in buildings between 2020/21 revealed that emissions reduced by 7.44%, broken down as follows:

	Emissions (tonnesCO2e)		% change
	2019/20	2020/21	
Electricity	856	577	-32.64%
Gas	979	1077	+10.07%
Total	1835	1654	-9.86%

Table 2: 2020/21 Building emissions

5.2. There are clearly some significant year-on-year variations in these figures. Of particular note are:

5.2.1. Electricity consumption was significantly reduced due to the closure of offices. An overall reduction in the emissions associated with the UK's electricity supply also contributed.

5.2.2. Reported gas emissions increased due to:

- Increased consumption at the majority of Adur Homes' sheltered housing schemes throughout the winter months, likely due to a cooler winter when compared to the previous year
- Improved accuracy of metering at Worthing Town Hall. It should be noted that does not mean that consumption at the site necessarily increased, merely that new monitoring equipment is providing the council with more reliable data. A like-for-like comparison, without this improved accuracy, would mean a 10% reduction in year-on-year gas emissions and a 13.9% reduction in emissions overall.

5.2.3. Reductions were also seen due to the council no longer being operationally responsible for a number of buildings.

5.3. Since 2019, the council has procured 100% renewable electricity for all council buildings and sites through it's corporate energy contract. This is an important signal to the market that the council wishes to utilise only renewable energy supplies, however according to the BEIS emissions reporting methodology, electricity generated by third-parties cannot be counted towards the councils' emissions reduction.

Vehicle Emissions

5.4. Based on the amount of fuel consumed by the councils' fleet and the number of miles driven by pool cars, emissions from vehicles reduced by 3.7%:

	Emissions (tonnesCO2e)		% change
	2019/20	2020/21	
Fleet	1186	1152	-2.87%
Pool Cars	11	0.5	-95.5%
Transport	1197	1152	-3.72

Table 3: 2020/21 Vehicle Emissions

5.5. Factors influencing this reduction include:

- 5.5.1. The replacement of three diesel vans with fully-electric models
- 5.5.2. The effect of remote working - particularly evident in the sharp decline of pool car use

Total Emissions

5.6. The councils' emissions for 2020/21 are broken down as follows:

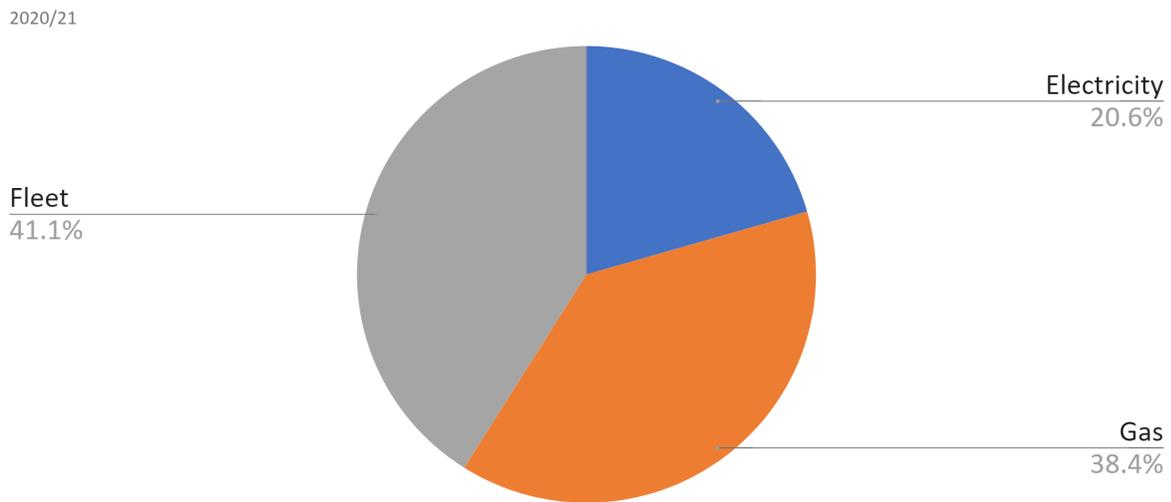


Chart 2: Adur & Worthing carbon emissions 2020/21

6. Amendments to Current Programme

6.1. At Joint Strategic Committee Meetings in February and March 2021, a number of projects were identified as having secured funding from the Public Sector Decarbonisation Scheme for delivery in 2021/22.

6.2. This has allowed the following projects to be developed - all are expected to be delivered by March 2021.

Project	Projected Savings (tCO2e/yr)
6 rooftop solar PV installations	10.9
LED lighting at Worthing Town Hall	7.4
Air Source Heat Pumps at the Shoreham Centre	24.0
Ground Source Heat Pumps at Shadwells Court	90.4
Energy Efficiency improvements to Civic Quarter Buildings	55.7
TOTAL	188.4

Table 4: Decarbonisation projects funded for 2021/22

- 6.3. To support the delivery of the above projects, £1.376m of grant funding has been secured through the Public Sector Decarbonisation Scheme (PSDS).
- 6.4. Since the funding was awarded, further project development has identified significant unforeseen cost overruns at Marsh House, principally due to the electricity grid reinforcement required by UK Power Networks prior to connecting the heat pumps for the building. As noted in the September Joint Strategic Committee Capital Investment Programme & Projects Monitoring Report, this project has subsequently been paused.
- 6.5. An additional round of PSDS funding opened on 6 October 2021 and officers are preparing a bid for funding for the Marsh House in this round.
- 6.6. The council still has access to the grant funding, providing it can be spent by 31 March 2022. An alternative project at Tollbridge House, another Adur Homes Sheltered Housing Scheme, is therefore proposed in place of the delayed project at Marsh House.
- 6.7. This project, like the one at Shadwells Court, would see individual ground source heat pumps installed within each flat - negating the need for gas at the building and providing residents with an affordable and reliable renewable heating system. A comparison between the two schemes is given at Table 5.

Project	Original Budget	Revised Cost	Carbon savings/year
Marsh House ASHP	£707,000	£1.15m	62
Tollbridge House GSHP	n/a	£350,000	34

Table 5: Marsh House/Tollbridge House project comparison

- 6.8. Officers have engaged with UK Power Networks, contractors, residents and funders and it is believed the project is deliverable within the timescales and budgets already identified. The projects now included within the 2021/22 programme are listed at Appendix 1.
- 6.9. As the Tollbridge House project is smaller than the original one for Marsh House, the council will be required to forgo some level of funding. A further round of Public Sector Decarbonisation Scheme funding opened on 6 October 2021 and a bid to this is currently being prepared by officers.

7. Project Pipeline

- 7.1. As discussed at previous Joint Strategic Committee meetings, the council has been working to progress the 'next steps' proposed in the 2019 Carbon Reduction Plan. The creation of the Carbon Reduction Team has significantly increased capacity to deliver on this and leverage in finance to support the capital programme.
- 7.2. Aside from the PSDS-funded schemes listed at 6.2, further progress is also being made on the following:
- The Worthing Civic Quarter Heat Network
 - Solar farm feasibility work
 - Additional rooftop solar PV installations on corporate, housing and commercial buildings
 - Further replacement of gas heating systems with renewable heating systems (heat pump based systems)
 - Insulation, energy efficiency and air-tightness works
 - Plans to switch council fleet and rental cars to full electric vehicles wherever possible.
- 7.3. The next round of PSDS opened on 6 October 2021 and the councils are preparing to submit another bid for capital funding. If successful, this will deliver projects to replace gas boilers in financial year 2022/23.
- 7.4. Updates will be provided to members and Joint Strategic Committee as appropriate to seek relevant approvals.
- 7.5. Whilst the projects listed at 6.2 are on site, or due to be on site, this year, it should be noted that as the next reporting period (April 2021 - March 2022) has already begun, it is expected that more significant reductions in the councils' carbon emissions will be seen in 2021/22 as the pipeline develops momentum..
- 7.6. Additionally, as working practices begin to resemble pre-pandemic patterns, the figures identified at 5.1. are likely to vary due to changes in working practices.

8. Forecasting for future years

- 8.1. As noted above, in order to become carbon neutral the councils need to average a 10% reduction in 2019/20 emissions until 2030.

8.2. These carbon savings will accrue from:

- Projects to reduce the amount of gas, electricity or vehicle fuel consumed in order to meet service needs
- UK-wide reductions in emissions associated with gas, electricity or vehicle fuel (for example, increased renewable electricity supplying the national grid)
- Offsetting of any residual emissions

8.3. Offsetting requires actions the councils take to be **additional** (i.e. not 'business-as-usual') and would typically involve either:

- the generation of renewable electricity to meet or exceed the councils' demand
- sequestering carbon, for example through tree planting

8.4. Based on many of the pipeline projects identified at 7.2, plus consultation with officers from across the council, a future emissions profile has been plotted, accounting for each of the three methods of carbon reductions listed at 8.2 (Chart 2).

Adur & Worthing Carbon Emissions 2019/20 - 2029/30

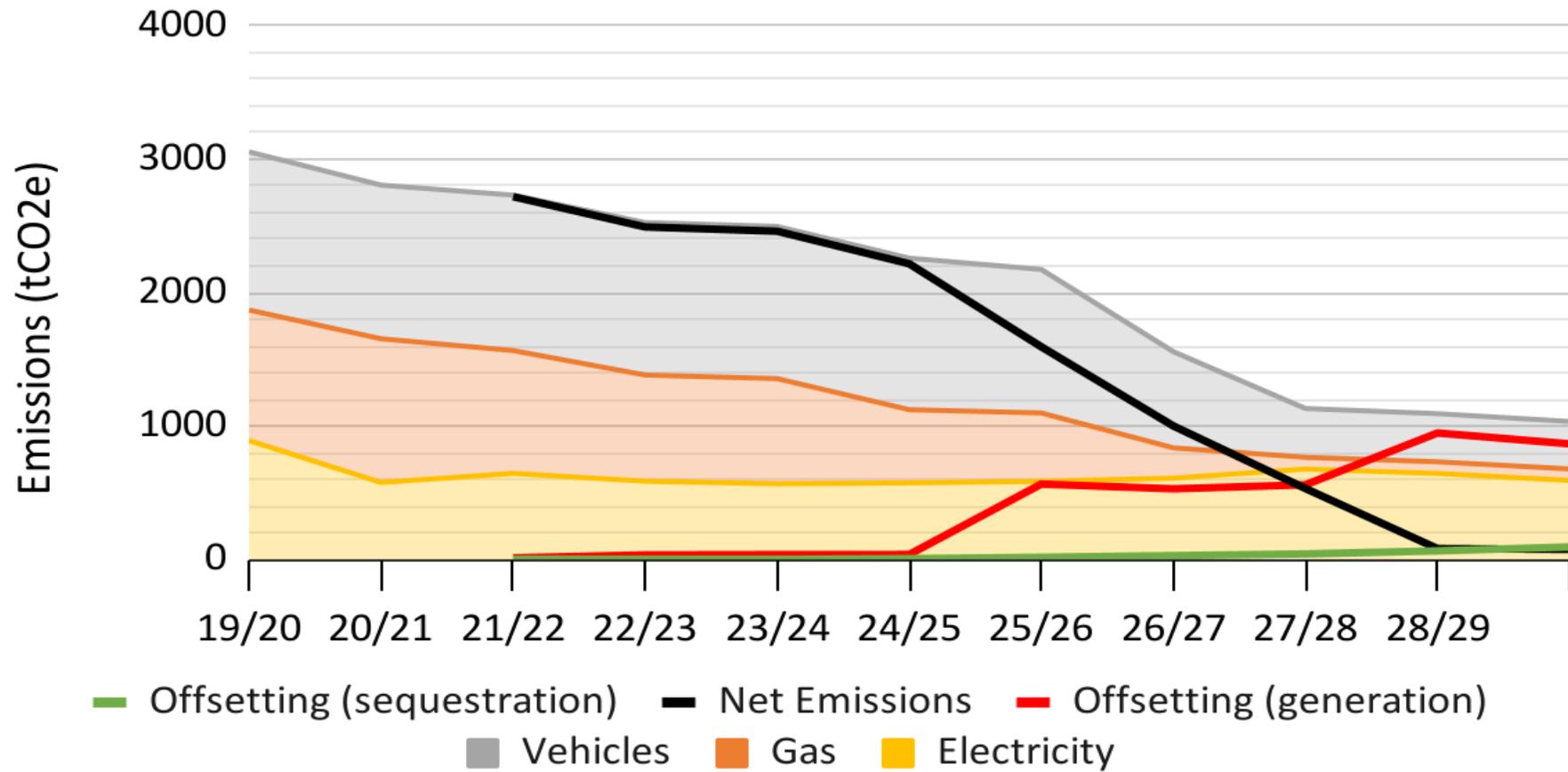


Chart 2: Adur & Worthing carbon emissions trajectory to 2030

- 8.5. The solid black line represents the councils' residual emissions from its ongoing operations, less its additional (offsetting) actions. In other words, this is the **net emissions line** that the councils are committed to being net zero (or better) by 2030. As the chart shows, additional projects are presently required to be identified and delivered by 2030 to achieve net zero.
- 8.6. The chart makes assumptions about large projects in particular, for example:
- Connections to the Worthing Heat Network are made in 24/25
 - The refuse collection fleet begins to be replaced with low carbon alternatives at the end of their operational life in 25/26
 - Investment in generation assets (e.g. a solar farm) occurs in 25/26
- 8.7. Due to the timing of projects coming online mid-year, the eventual profile is likely to be a smoother trajectory than the one presented in Chart 2.
- 8.8. Each of the large interventions necessary to ensure this trajectory is followed is subject to development of an appropriate business case and funding proposal being approved Joint Strategic Committee. The chart should therefore be read as 'a possible', rather than 'a definitive', however it gives a clear indication of the councils' potential trajectory.
- 8.9. It should be noted that the sequestration portion of the graph remains relatively small to 2030. This is because mature trees absorb more carbon than new plantations. Sequestration will place an increasingly important part in ensuring the council continues to be carbon neutral beyond 2030 as the impact of using renewable electricity generation (the red generation line in Chart 2) to offset emissions is reduced due to the continued decline in electricity emissions across the UK.

9. Engagement and Communication

- 9.1. The following internal groups and teams have been consulted in order to compile these figures and programmes of work: Carbon Reduction Delivery Group (a cross-departmental subgroup established to progress part of Platform 3); Technical Services & Facilities; Environmental Services; Housing; Waste, Recycling & Cleansing; Major Projects; Finance; Procurement; Legal; Democratic Services; Planning; Bereavement Services.

9.2. The following external groups have been consulted as part of various carbon reduction projects:

- BEIS (Heat Network Delivery Unit, and Heat Networks Investment Programme)
- West Sussex County Council
- Ministry of Justice (Worthing Law Courts)
- Worthing Theatres and Museums
- South Downs Leisure
- Sussex Police
- Goring Cricket Club
- Age UK
- Shoreham Community Trust

9.3. Consultation has also been undertaken with the following external groups relating to carbon emissions reporting:

- TEAM (energy management software supplier)
- BEIS (emissions reporting)
- UK100

10. Financial Implications

10.1. The Councils were originally successful at bidding for two tranches of funding £1.798m and £0.636m to support a range of initiatives as set out in Appendix 1:

Original programmes

	Programme cost £	Grant £	Council Resources £
Adur District Council			
General Fund	466,000	364,970	101,030
HRA	1,697,150	1,329,200	367,950
Project management funding	151,410	151,410	0
Total Adur programme	2,314,560	1,845,580	468,980
Worthing Borough Council			
Bid 1	103,850	103,850	0
Bid 2	485,000	485,000	0
Total Worthing programme	588,850	588,850	0
Total programme	2,903,410	2,434,430	468,980

10.2. Financial issues were identified with two of the proposed projects for Adur District Council:

- the air source heat pumps at Marsh House; and
- The air source heat pumps at the Shoreham Centre

In both cases additional reinforcement works to the electrical substations were the cause of the increase to the cost of the projects. The cost impact of the works at the Shoreham Centre could be accommodated within the programme with the release of some additional funding from reserves, however the increase was so substantial at Marsh House that it was decided to rebid for this particular project. The revised programme was considered by the Joint Strategic Committee in September as part of the regular capital monitoring report.

10.3. Subsequently a replacement scheme has been identified at Tollgate House at a lower cost of £350,000. As this will produce a lower carbon reduction, the amount of grant funding will reduce and the Council is waiting for confirmation of the level of grant that can be put towards this scheme.

10.4. As the level of carbon reduction that the Councils can deliver has fallen, the amount of funding from the PSDS has been reduced to £1.376m. We are awaiting confirmation of the final amount of funding that can be used to support the schemes.

10.5. The current expected programme for Adur is now as follows:

Scheme	Revised Cost £	Grant awarded £	Internal resources £
Adur			
General Fund			
Shoreham Centre - Airsource heat pumps	593,000	364,970	228,030
Solar panels	62,000	0	62,000
Total General Fund programme	655,000	364,970	290,030

Housing Revenue Account	Revised Cost £	Grant awarded £	Internal resources £
Shadwells Court			
- Heat pumps	900,000	675,820	224,180
- Solar Panels	34,900	14,550	20,350
- Insulation	11,560	11,560	0
Marsh House			
- Solar Panels	33,100	33,100	0
Tollbridge House - Heat pumps	350,000	276,000	74,000
Total HRA programme	1,329,560	1,011,030	318,530
Total investment in Adur assets	1,984,560	1,376,000	575,060
Project design costs	74,772	74,772	0
Overall cost of Adur programme	2,059,332	1,450,772	575,060

The Worthing programme remains unchanged.

10.6. Nevertheless, the amount of contribution required from the Adur Homes Programme remains within the £367,000 previously released.

10.7. Further updates on the progress in delivery of the programme will be presented within the regular capital monitoring reports to the Joint Strategic Committee.

11. Legal Implications

11.1 The Climate Change Act 2008 as amended by the (2050 Target Amendment) Order 2019 is the basis of the UK's approach to tackling and responding to climate change. The Act requires emissions of carbon dioxide and other greenhouse gases to be reduced from 80% to 100% by 2050 and the Council is committed to work towards this goal.

- 11.3 Section 1 of the Localism Act 2011 empowers the Council to do anything an individual can do apart from that which is specifically prohibited by pre-existing legislation.
- 11.2 In procuring for works goods or services to comply with its climate change proposals, the Council must have regard to the Public Contract Regulations 2015 and/or the Public Concession Contracts Regulations 2016 and take detailed legal advice as appropriate for each project.
- 11.3 Section 1 of The Local Government (Contracts) Act 1997 provides that every statutory provision conferring or imposing a function on a local authority confers the powers on the local authority to enter into a contract with another person for the provision or making available of assets or services, or both (whether or not together with goods) for the purposes of, or in connection with, the discharge of the function by the local authority.
- 11.4 When entering any arrangement with a provider, the Council is to ensure that it does not infringe the rules relating to Subsidies detailed in the Trade and Co-operation Agreement 2020, which are set out in Article 3 of that Agreement.
- 11.5 The Council is to remain fully compliant with any relevant grant funding terms and conditions; where there is an on-grant to an appointed provider, the Council is to ensure there are appropriate indemnities in place in favour of the Council for any potential breach of the funding terms, by that provider.

Background Papers

- [1st Quarter Capital Investment Programme & Projects Monitoring 2021/22 \(JSC 7/9/21\)](#)
- [Working towards the councils' carbon neutral target: progress update \(JSC 3/11/20\)](#)
- [Working towards the 2030 target - Adur & Worthing Councils' Carbon Neutral Plan \(JSC 3/12/19\)](#)
- [Carbon Neutral 2030 - Reporting on the success of funding applications to the Public Sector Decarbonisation Scheme](#)
- Adur & Worthing Councils [Carbon Neutral Plan](#)
- Adur & Worthing Councils [Platforms for our Places](#)
- Adur & Worthing Councils [SustainableAW](#)
- [UK100](#)
- [Public Sector Decarbonisation Scheme](#)
- [Climate Change Act 2008 \(2050 Target Amendment\) Order 2019](#)

Sustainability & Risk Assessment

1. Economic

Transition to a low carbon economy is vital to provide future energy systems resilience, and to address and reduce potential impacts of climate change. Improved energy efficiency across the councils' assets reduce ongoing revenue requirements for energy purchasing.

2. Social

2.1 Social Value

By securing affordable, low carbon energy into the future, the councils protect budgets from future energy price rises, drawing less budget into council operational costs away from services delivery that benefit local communities.

2.2 Equality Issues

The impacts of climate change are predicted to impact on all communities, but the greatest impact is predicted to impact the most vulnerable communities. It is imperative that all is done to mitigate climate change.

2.3 Community Safety Issues (Section 17)

No impacts identified

2.4 Human Rights Issues

The impacts of climate change are predicted to impact on all communities, but the greatest impact is predicted to impact the most vulnerable communities. It is imperative that all is done to mitigate climate change.

3. Environmental

The key driver for ongoing carbon reduction is to mitigate the predicted catastrophic impacts of climate change on the environment, economy and communities.

4. Governance

The reporting and management of carbon reduction emissions show leadership in response to our declaration of a climate emergency. This aligns with national legislation (the Climate Change Act 2008); national and regional policy, and the councils' own policy.

APPENDIX 1 - Summary of Projects Funded by the Public Sector Decarbonisation Scheme 2021/22

SUCCESSFUL BIDS - CAPITAL PROJECTS (Public Sector Decarbonisation Scheme)				
	Site	Projected Cost	Description	Carbon Saving
AH	Shadwells Court	£900,000 £34,900 £11,556	Installation of a Ground Source Heat Pump array, to replace existing aged gas boilers and provide of space heating and domestic hot water to tenanted flats Replacement of aged distribution pipework, radiators and control mechanisms Installation of solar PV array Installation of Insulation	110 tonnes/year
AH	Marsh House	£707,000 £33,100	Installation of an Air Source Heat Pump system and new gas-fired backup boiler to replace existing aged gas boilers and provide space heating and hot water to building Installation of a solar PV array	2 tonnes/year
AH	Tollbridge House (NEW)	£350,000	Installation of a Ground Source Heat Pump array, to replace existing aged gas boilers and provide of space heating and domestic hot water to tenanted flats Replacement of aged distribution pipework, radiators and control mechanisms	34 tonnes/year
ADC	Shoreham Centre	£593,000	Installation of an Air Source Heat Pump to run in parallel with existing gas-boilers	25 tonnes/year
WBC	Worthing Town Hall	£25,250 £38,200	Installation of solar PV array Installation of secondary glazing to all viable windows on ground and first floor	16 tonnes/year
WBC	Assembly Hall	£25,250	Installation of solar PV array	2 tonnes/year
WBC	Goring Recreation	£15,150	Installation of solar PV array	2 tonnes/year

	Ground			
ADC	Eastbrook Manor Community Centre	£20,000	Installation of solar PV array	1 tonne/year
ADC	Commerce Way Depot	£42,000	Installation of solar PV array	3 tonnes/year
WBC	Worthing Civic Quarter Buildings	£485,336	Multiple non-intrusive energy efficiency measures across Worthing Town Hall, Assembly Hall and Portland House. E.g. pipework insulation, Building Management System upgrades and secondary glazing Heat metering Installation of triple glazing at Portland House	63 tonnes/year

