

REPORT TITLE: CNAP REPORT: RENEWABLE ENERGY

5 DECEMBER 2023

REPORT OF CABINET MEMBER: Cllr Kelsie Learney, Cabinet Member for the Climate Emergency

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WARD(S): ALL

PURPOSE

In September this year the council approved the revised Carbon Neutrality Action Plan in which is a set of five pathways. The third of these is “Increase renewable energy generation and or/purchase” with a target carbon saving of at least 251 kt Co2e by 2030. There are several interventions and actions proposed to help achieve this, such as through new large scale renewable energy generation schemes and roof top solar on domestic and commercial property.

The purpose of this report is to set out the work of the council to date to increase renewable energy generation for its own assets and in the district. It provides information on measures to increase the renewable energy generation capacity within Winchester district including commercial, domestic and community energy schemes and outlines the approach to further renewable energy generation by the council.

RECOMMENDATIONS:

The Health and Environment Policy Committee are asked to note:

1. Data on the current and future energy (electricity) consumption and renewable energy generation.
2. The existing and emerging policy framework for the delivery of renewable energy projects.
3. The council’s delivery since the declaration of a climate emergency in 2019 on renewable energy generation.

1. RESOURCE IMPLICATIONS:

1.1. Financial considerations

1.2. There are no financial implications of this report which sets out the activity to date that the council has delivered, enabled or influenced to increase renewable energy generation.

1.3. To support the Carbon Neutrality Action Plan, the council allocated in 2020 a one-off revenue budget of £840k to fund the delivery of carbon neutrality projects. To date £699,364 has been spent. In 2023 a base budget of £200k was established to ensure resources continued to be available for carbon neutrality programme delivery.

1.4. The capital expenditure on carbon related projects providing roof mounted solar PV totalled over £6M in 2021/22 which was mainly the Vaultex site decked car park and 400 solar PV panels funded by Enterprise M3 Local Enterprise Partnership. Other sources of funding that have been used for solar PV installations are Community Infrastructure Levy (CIL), the Football Foundation and Public Sector Decarbonisation Scheme.

1.5. Expansion of the council's roof mounted solar PV programme will continue to come from the £1m Energy Management Budget with external grant funding sought where opportunities arise. The Energy Management Budget is funded by prudential borrowing and is intended for schemes where the savings and/or income generated exceed (or match) the cost of borrowing.

1.6. It is proposed to spend £45m over the next eight years up to 2030-31 to be funded from in the Housing Revenue Account capital programme for "retrofitting" of energy measures to council homes. Further investment has been made in the new homes programme to provide high standard green energy schemes and to test and deploy green design and technologies including renewable energy.

1.7. In considering development of a larger scale renewable energy project within the district, a full business case will determine the delivery and operating model together with the financial case for investment. It is expected this will be brought forward for consideration, with the appropriate due diligence and governance review in early 2024.

1.8. Procurement and Legal considerations

1.9. This report sets out an overview of the renewables approach for the Winchester district and deployment of solar PV panels in the council estate for which there are no immediate procurement or legal implications.

1.10. Officers will work closely with colleagues in the legal, procurement and finance teams to ensure all procedures are followed and appropriate legal agreements are entered into.

1.11. Workforce considerations

1.12. There are a number of teams across the council currently active in delivering, supporting or promoting renewable energy generation projects and schemes. This includes:

- a) Asset Management – for council owned and occupied buildings and leased assets.
- b) Housing - new building and Retrofit Ready programme.
- c) Economy – business carbon audits programme and grants, green skills.

1.13. The Sustainability team takes a coordinating role and also leads on projects including of Go Greener Faster Grants; the UK Shared Prosperity funded Community Solar Support Scheme and Winchester Climate Action Network (WeCAN), feasibility research on large scale renewable generation schemes.

1.14. No additional staffing resources arise from this up-date to policy committee.

2. SUPPORTING INFORMATION:

2.1. District electricity consumption and renewable generation.

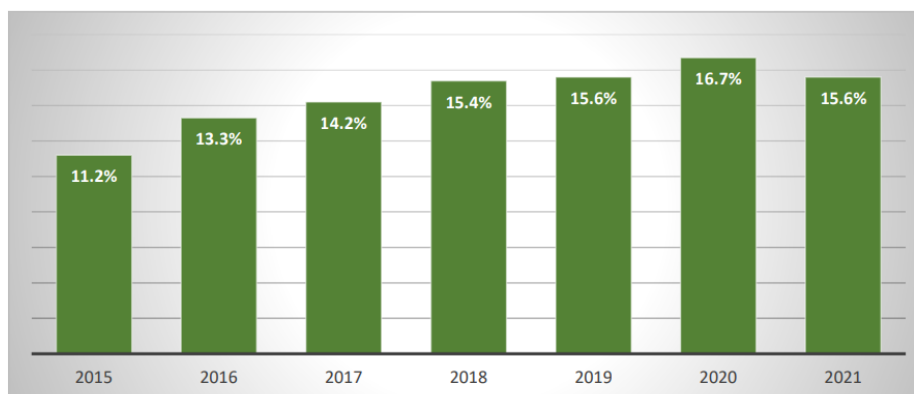
2.2. In 2023 Winchester Action on Climate Crisis (WinACC) produced a Renewable Energy in Winchester District 2023 report, setting out a picture of energy (electricity) consumption and generation both in terms of past and future trends. Extracts and data from this report provide a useful context for renewable energy interventions.

2.3. Renewable electricity accounted for 15.6% of consumption in 2021 (latest data available) with no discernible change this over the past five years.

Electricity Consumption	GWh	Share of total
Domestic	235.9	41.9%
Non-domestic	326.6	58.1%
Total	562.5	

Electricity Generation	GWh	Share of total
Photovoltaics (PV)	87.9	99.9%
Hydro	0.12	0.1%
Total	88	

Contribution of local renewable generation to local use of electricity



Source: Renewable Energy in Winchester District 2023

- 2.4. The data are a useful metric as a function of reduced energy (electricity) consumption (CNAP Pathway 1) and increased supply of renewable energy (CNAP Pathway 3).
- 2.5. Increased demand for electricity.
- 2.6. Future consumption of electricity will be affected by:
 - i. increased demand from new housing and commercial development in the district;
 - ii. existing premises moving from gas or oil to electric heating sources e.g. Air Source Heat Pumps; and
 - iii. decarbonisation of transport e.g. electric vehicles.
- 2.7. As a priority, measures that reduce consumption still need to be supported (CNAP Pathway 1) through improvements to building fabric (insulation and glazing), behaviour changes, reducing car travel etc.
- 2.8. WinACC has assumed a 50% increase in demand between 2020 and 2035. This date is the government's target for the decarbonisation of the electricity grid and the increase adopts the national assumption of the Climate Change Committee.
- 2.9. Consumption in 2019, the best last reference point pre-covid was 586.4 GWh so by 2035 the estimated consumption would be 880 GWh. Installed capacity as at the end of 2022 was 1 GWh generating 94.4 GWh; indicating a requirement for a nine-fold increase in generation to meet potential future demand.
- 2.10. Working with WinACC the assumption in local growth will need to be refined and scale and number of installations quantified to meet demand through a mix of the various options. This should also include accounting for carbon emission reductions given it can lead to double-claim carbon savings on locally installed renewable energy installations, feeding the national grid,

which is becoming decarbonised over time. Targets for roof top solar installation by 2030 have been included in the CNAP 2023, so alignment with this is also needed. Further, because consumption of electricity is variable, it is important that the targets for renewable electrical generation are annually reviewed, to monitor progress in reaching the targets.

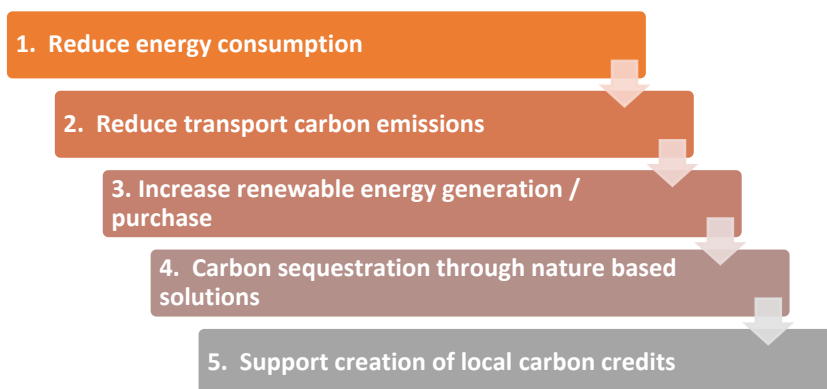
- 2.11. It will be important to understand the amount of land area, that may be required to support renewable energy generation (most likely as solar farms) to a level where it is broadly equivalent to local consumption (i.e., within the range 586 GWh per annum to 880 GW hours per annum).
- 2.12. The CNAP targets for Pathway 3 Increase renewable energy generation / purchase is 203 MW of additional generation.

Option	Capacity assumptions	No. by 2030	No installed p.a.
Solar Farm	12 MW (mid-size)	14 = 168 MW	2 = 21 MW
Domestic – rooftop PV	3kW	9,000 dwellings = 27,000 kW / 27MW	1,285
Commercial - rooftop PV	80 kWp (mid-size) 160 kWp (Large)	50 -100 installations = 8000kWp / 8MWp	7
Total		203 MW	

- 2.13. Policy Framework: Council Plan and Carbon Neutrality Action Plan 2023
- 2.14. The Council Plan acknowledges that "dealing with the climate crisis and reaching carbon neutrality is the city council's overarching priority". Its vision for a climate resilient district includes is that it is "broadly self-sufficient in renewable energy". This is to be achieved through reduced energy demand and an increase in locally generated renewable energy which will require utility scale capital investment in order to achieve this. There are four main areas of activity which include reducing energy demand and increasing the generation of renewable energy.



2.15. The Carbon Neutrality Action Plan (CNAP) 2023 sets out five pathways to focus the interventions and targets that are needed to become a carbon neutral district by 2030.



2.16. The CNAP also notes that the council has a number of roles to take forward and support interventions. It also recognises that it cannot do this alone and needs others to act.



Lever	Priority		Supporting	
	Utility scale energy generation	Roof top solar	Community energy schemes	
Deliver	Consultant work to identify viable site and development business case for feasible site(s) Investment in development of local schemes	Investigate further sites for PV installation based on Biffa and Marwell model	Support through grants schemes. An example is communities working with Centre for Sustainable Energy's to deliver Future Energy Landscapes workshops.	
Collaborate	Share information and work with landowners on the potential of their sites for energy generation arise from the research feasibility work by consultants Buro Happold	HCC Solar Together scheme is providing low cost solar, ASHP, and batteries.	Support and work with WinACC's WeCAN project Work with HCC on the delivery of their funded programme.	
Influence	Awareness campaigns and information sharing on renewable energy generation options	Commercial properties that are rented will require co-ordination between landlord, tenant and supplier to install solar PV.	Support local networks, share information and case studies etc. Possible community energy forum	
Enable	Emerging Local Plan policies to support renewable energy generation schemes	Business support programme to guide and advice on options. Case studies on models that have been used. Facilitate access to external grants	UK Shared Prosperity Rural Fund and council green project funds to support development of schemes	

2.17. The emerging Local Plan contains policies that support the development of low carbon infrastructure and renewable energy within the district. These are contained within Chapter Four which includes Policies CN1-7. These policies were consulted on as part of the Regulation 18 Local Plan consultation. Officers from the Strategic Planning team are currently in the process of finalising their recommended changes to these policies and the other policies in the Local Plan.

Policy	Summary
CN1: Mitigating and adapting to climate change	Low carbon solutions which will include renewable energy but also site layout and orientation, building fabric and glazing and the choice of construction materials for the buildings
CN2: Energy Hierarchy	<p>Developers will be required to submit an Energy and Carbon Statement to which all new developments will need to adhere to. The Energy Hierarchy is:</p> <ol style="list-style-type: none"> 1. Maximise energy efficiency. 2. Utilise renewable energy. 3. Utilise low carbon energy. 4. Utilise other energy sources as a very last resort.
CN2. Energy efficiency standards to reduce carbon emissions.	<p>New residential dwelling should not burn any fossil fuels on site for space heating, hot water or used for cooking. Demonstrate net-zero operational carbon on site by ensuring that onsite renewables provide 100% of the required energy consumption.</p> <p>Non-residential development should meet the 'BREEAM Excellent' standard.</p>
CN 4 Water efficiency standards in new developments	Developments will be required to meet a high standards of water efficiency.
Policy CN5 Renewable and low carbon energy schemes	Development proposals for the generation of renewable and low carbon energy will be supported especially where it can be demonstrated that it is community energy scheme.
CN6 Micro energy generation schemes	<p>Supports an increase in micro energy generation schemes. This is systems under 50kW for electricity or 45kW in the case of heat.</p> <p>Micro energy generation includes heat and power generated from solar, ground source/air source heat pumps, hydro-electric schemes, small scale biomass schemes and other low carbon heat or power sources.</p>
CN7. Energy Storage	energy storage facilities used to store any excess power generated from low carbon energy sources

2.18. Delivery and enablement of renewable energy generation

2.19. The council has invested in its own solar PV arrays, on housing, owned and occupied estate, on leased assets and in support of local businesses. It is incentivising solar PV through a number of schemes such as the Solar Today consortium, Community Solar Support Schemes for community halls and for tourism and creative businesses. This report brings together this activity as an

up-date and look forward to further work planned and is collated in the following areas:

- a) Deployment on council assets: this covers housing and owned and occupied assets and leased assets.
- b) Power purchase agreements (PPAs): where the council installs solar PV panels and then charges the occupier of the building for the renewable electricity supplied, currently there are two such arrangements.
- c) Supporting district-wide renewable energy generation – enabling others to act across community, domestic and business.
- d) Larger renewable energy schemes: in terms of the council's direct opportunities.
- e) Transport decarbonisation: how to support the local, regional and national aims.

3. DEPLOYMENT ON COUNCIL ASSETS

- 3.1. The CNAP clearly sets out the council measures and targets for increasing renewable energy generation:

3. Increase renewable energy generation / purchase			
Pathway and Projects	Project action	Carbon saving tCo2e	Scope
Solar PV on council estate	Install further Solar PV on council property and register for Smart Export Guarantee payments and REGOs by exporting PV-generated electricity.	30	2
Transition leased assets to renewable energy	Work with contractors of leased assets where we have no direct control on electricity purchased to transition to renewable energy. 2021-22 Emission (location based) Winchester Sport & Leisure Park = 1216.3 tCo2e Target = electricity emissions = 287 tCo2e	287	3
	<i>Sub-total</i>	317	
Renewable energy scheme	Develop utility scale renewable energy scheme	-2440	Offset

- 3.2. The council has developed various Solar PV arrays on both its council and housing properties in recent years. These currently fall under different financial models as outlined in the table below.

Arrangements for council's solar PV panels deployment

Housing	Panels installed on housing properties. Smaller arrays may supply our tenants (e.g. 4 panels) with larger arrays supplying communal areas. Older arrays receive Feed-in Tariff (FIT) payments (income generating).	Communal areas – scope 2 Tenants - out of scope.
Commercial assets	Panels installed on council buildings that reduce our emissions through avoided grid electricity.	Scope 2
Leased assets	Panels installed on council buildings leased to tenant who benefit from the avoided grid electricity.	Scope 3
Power Purchase Agreement (PPA)	Panels installed on 3 rd party roofs leased by the council. Electricity generated is sold to the 3 rd party at reduced tariff rate. Generates income for council and provides green electricity for the 3 rd party.	Out of scope – export to grid can attract Renewable Energy Guarantees of Origin (REGO) certificates

3.3. Solar PV located on council housing stock

- 3.4. The council commenced installation of solar PV on its housing stock in 2012 with the programme gaining pace from 2016. In total, 835 solar PV panels are located on our housing properties. The largest arrays are listed below. Some of these supply electricity to communal areas (landlords supply) whilst those on individual houses are supply that property, with Feed-in Tariff (FIT) income going to HRA account.

Property	Location	Installation date	No. of panels
Block Matilda Place	St Bartholomew Ward	5/3/2012	40
48-66 Stanmore Lane	St Luke Ward	1/1/2016	155
5-8 New Queens Gate	St Luke Ward	2/8/2016	41
Symonds Close Nos 1-12	St Barnabas Ward	6/8/2016	130
Block Chesil Lodge	St Michael Ward	1/1/2018	72
Block 46-56 Ashburton Road	Alresford & Itchen Valley Ward	6/1/2018	15
Block Victoria Court	St Bartholomew Ward	1/1/2018	45
Block 1-4 New Queens Gate Incl 70&72 Stanmore Lane	St Luke Ward	2/6/2017	48
Block 1 - 8 Kingsdale House	St Luke Ward	5/20/2021	17

Property	Location	Installation date	No. of panels
Other - Various Locations	Various	Various	272
Total			835

- 3.5. Generation meters were installed on the larger arrays in 2022, namely Chesil Lodge, Matilda Place, Queens Gate and Victoria Court which have generated 31,321 kWh since April 2023. The larger arrays supply electricity to the buildings and do not generate any surplus to export to the grid. It is not economic to meter the smaller arrays due to the cost of sub-metering. Some housing properties are registered for feed-in-tariff (FIT) payments with the majority of small arrays directly feeding communal areas or landlords supply.
- 3.6. Housing is investigating the possibility of installing solar PV and pairing it with infrared heating as part of its retrofit strategy, as well as the potential for larger housing sites to commission feasibility studies for Ground/Air Source Heat Pump Systems as part of a Post Retrofit Strategy. However, the main focus of the council's retrofit strategy remains improving the property's fabric and heating efficiency, with renewables considered once these have been achieved.
- 3.7. Recent new housing at North Whitely has not included solar PV as this was already past the design stage when it was acquired by the council, so it was not possible to influence the design. However six properties at Micheldever are under construction to PassivHaus standard will include solar panels.
- 3.8. Under the Retrofit Ready programme, solar PV panels are being considered if recommended by the Whole House Retrofit Surveys currently being undertaken. To date, Whole House Retrofit Assessments have been carried out for over 450 properties. The council's approach is 'Fabric First'. Once the fabric of the building is improved through better insulation and the heating strategy confirmed, the council will then consider installing solar PV. However, where pilots have allowed, the council has installed solar PV to evaluate the effectiveness when paired with new space heating technologies such as infrared heating and solar water heating (linked to immersion heater).
- 3.9. Housing will continue to evaluate the success of solar PV for communal heating in Sheltered and Extra Care Homes and consider possibilities to extend this programme.
4. SOLAR PV LOCATED ON COUNCIL ASSETS – OWNED & OCCUPIED ESTATE.
- 4.1. The council had a programme of installing solar PV panels on its own properties. It currently has 647 panels with generation capacity of 264 kWp and annual generation of 223.9 MW. Details are listed in the table below.

Array / Address	No. of panels	Generation Capacity (kWp)	Predicted annual generation (kWh)
Vaultex / Barfield 2 Extension Coventry House Barfield Close	399	161	147,890
City Offices Colebrook Street	162	48.6	47,400
Cipher House Moorside Road	22	7.26	6,737
Bishops Waltham depot Units 1-3, Quarry Business Park, Lower Lane	64	47.5	21,900
Total	647	264.36	223,927

4.2. Asset Management is conducting an appraisal of the potential to deploy solar PV on other council owned sites. Those under consideration include an extension of the City Offices array, Chesil Car Park and the F2 building (leased). The council owns, occupies and leases 745 properties, of these;

- a) 97 are cars parks, e.g. Chesil Multi Storey and Barfield P&R
- b) 40 are offices, e.g. city offices
- c) 38 are community buildings, e.g. The Guildhall
- d) 19 are warehouses, e.g. Bishops Waltham units and Biffa Depot
- e) 3 are storage, e.g. F2 at Bar End

4.3. In line with the council's Asset Management Strategy 2022-2027 carbon reduction and energy saving is a key focus of work. The approached adopted has been to start on corporate occupied buildings, followed by investigations into the extent of viable carbon reduction and energy saving measures on community assets (such as pavilions and public conveniences) and investment properties.

5. RENEWABLE ENERGY SUPPLIED TO LEASED ASSETS

5.1. The council installed 400 panels, with a generation capacity of 152 (kWp), on the Winchester Sport and Leisure Park which is leased to the operator Everyone Active. This array was funded by prudential borrowing. The array has generated a total 321.7 MW since installation in April 2021. A smaller solar PV array of 62 panels with 23.6kWp capacity estimated to generate is due to be installed at Meadowside Leisure Centre in Spring 2024, funded by a CIL contribution. Reduced energy drawn from the grid is reflected in reduced energy costs to the operator, Everyone Active. The benefit to the council of this arrangement is primarily in the reduced carbon emissions.

6. POWER PURCHASE AGREEMENTS (PPA)

- 6.1. The council has installed solar PV arrays on two large businesses within the district, these are at the BIFFA Depot (134 panels) and Marwell Zoo (250 panels). The installation of the panels was part-funded from a grant by Enterprise M3 LEP, with the remainder funded by prudential borrowing. The arrays became operational in January 2021.
- 6.2. Energy generated is sold to Marwell Zoo and BIFFA under a power performance agreement (PPA) whereby the businesses receives the renewable electricity at a discounted market rate. This creates an income stream for the council and supports the businesses in their own decarbonisation targets.

Array	Address	No. of panels	Generation Capacity (kWp)	Predicted annual generation (kWh)
Biffa Winchester Depot	Biffa Waste Services Ltd Barfield Close Winchester Hampshire SO23 9SQ	134	60.1	51,000
Marwell Zoo	Thompson's Lane Colden Common SO21 1JH	250	95	82,291
Total		384	155.1	133291.3

- 6.3. The community engagement on the council's approach to renewable energy generation in July 2023 indicated a strong preference for roof-mounted solar PV. The council should consider how it can support the further development of PPA agreements with local businesses and organisations with large roofs to meet our district decarbonisation targets and to support them in reducing costs and their own emissions. As it has now developed the legal framework for PPA supply and gained experience in installing large solar PV arrays, the council would be well positioned to explore further PPA agreements as part of its aim for the district to become largely self-sufficient in energy generation.
- 6.4. Funding grants for the installation of solar PV arrays have become less available in recent years. Public Sector Decarbonisation Grants, for example, are linked to removal of gas boilers within the building and only open once a year. Therefore further PPA agreements may need to be funded either directly by the council or via Community Infrastructure Levy (CIL) funding, however as they are income generating the financial case can still stack up.

7. SUPPORTING DISTRICT-WIDE RENEWABLE ENERGY GENERATION.

7.1. Community schemes

- 7.2. The council has a number of schemes running to support the development of community energy, including the Community Solar Support Scheme, supporting larger scale community energy projects and promoting the Solar Together scheme.

- 7.3. The Community Solar Support Scheme (CSSS) is a UK Shared Prosperity Fund (UKSPF) project running from October 2023 until end March 2025. As part of the UK Government's Levelling Up agenda, Winchester City Council has been awarded funding to spend on local investment. The Community Solar Support Scheme (CSSS) is aligned with both the Levelling Up agenda and Winchester City Council's commitment to reach carbon neutrality as a district by 2030. Winchester Action on the Climate Crisis (WinACC) has been appointed by the council to deliver the project and support owners of community buildings in the district to install solar PV panels. Communities supported may be Parish Councils but also community groups such as churches, sports pavilions or scout huts.
- 7.4. The council recognises that many parishes and communities wish to install renewable energy measures on their buildings but do not have the technical expertise, resources or capacity to do so. The project aims to support them through the process, from identifying suitable buildings, obtaining quotations, building a business case and sourcing funding. By building capacity for renewable energy, it will reduce parish carbon footprint and energy costs. The project milestones are for four community buildings to have low or zero-carbon energy infrastructure and a further six buildings to have business plans approved for installation of roof-mounted solar PV by the end of the project.
- 7.5. The council has also supported community groups in developing their own community energy schemes through our Project Grants. A recent project grant to [South Wonston Sustainability](#) allowed that community to put on a Future Energy Landscapes workshop, facilitated by the Centre for Sustainable Energy (CSE). Held in October 2023 and attended by around 30 local residents, the event provided information on types and suitability of different renewable energy sources and where these might be located within the Parish. The outcome was a short list of sites suitable for solar and wind energy generation and the council will continue to support South Wonston Sustainability with moving forward with these sites if the development is feasible.
- 7.6. The council has been asked to fund three further 'Future Energy Landscapes' workshops in partnership with the South Downs National Park Authority (SDNPA) in Hambledon, Upham and Sustainable Waltham Chase and Swanmore to identify sites for community energy in these parishes. The council's Go Greener Faster Grant and Rural England Prosperity Fund are both suited to fund this type of activity and the applicants have been advised to submit grant applications. It is hoped from this process that community energy schemes may emerge.
- 7.7. Domestic schemes
- 7.8. The Solar Together scheme supports the wider deployment of solar PV panels on domestic properties and is a reverse auction scheme run annually by Hampshire County Council (HCC). New suppliers were appointed in 2022

to provide additional install capacity with Infinity Renewables covering the Winchester district. Also that year the scheme was extended to include electric battery storage which was again included in 2023. Analysis by HCC suggested residents benefitted from a 30% cost reduction but this is sometimes hard to evidence with residents comparing different types and qualities of panel.

- 7.9. As of 16th October 2023 there were a further 764 registrations from Winchester residents for the 2023/24 scheme. The dropout rate is usually quite high between registration and accepting the offer and then around a third after an offer is accepted. The main reasons for this being given are that the resident has changed their mind, the roof is not suitable or due to additional mandatory costs (e.g. scaffolding).

Take-up of Solar Together Scheme in Winchester District

	Registrations	Accepted	Installed
2023	784		
2022		344	117
2021	1079	343	343

Figure showing take-up of Solar Together scheme across Hampshire.

		# Accepted	# Paid	% Paid	# Cancelled	% Cancelled	# Installed	% Installed
September 2022	Borough of Basingstoke and Deane	292	283	97%	88	30%	153	52%
	Borough of Eastleigh	229	222	97%	76	33%	95	41%
	Borough of Fareham	214	204	95%	56	26%	91	43%
	Borough of Gosport	62	60	97%	21	34%	10	16%
	Borough of Havant	112	110	98%	34	30%	38	34%
	Borough of Rushmoor	73	70	96%	22	30%	40	55%
	Borough of Test Valley	247	236	96%	73	30%	130	53%
	City of Winchester	344	328	95%	115	33%	117	34%
	East Hampshire District	301	293	97%	93	31%	23	8%
	Hampshire County Council	0	0		0		0	
	Hart District	238	226	95%	76	32%	121	51%
	New Forest District	259	250	97%	87	34%	94	36%
	Portsmouth (unitary)	12	10	83%	3	25%	2	17%
	Southampton (unitary)	70	65	93%	22	31%	26	37%
	Total	2,453	2,357	96%	766	31%	940	38%

Source: Hampshire County Council

- 7.10. The council has also developed a GIS analysis of land parcels and roofs throughout the Winchester District to provide insight into suitability for future solar energy projects. A training session for officers was run in Spring 2023 on this tool. Some details are provided on the council's website [Renewable energy - Winchester City Council](#) and this data can be shared with community groups by approaching the Sustainability Manager.
- 7.11. Business schemes
- 7.12. The CNAP identifies as an important supporting activity to the three priority interventions the need to address carbon in commercial and industrial

business. Stimulating business investment in energy efficiency and green energy generation aligns with actions in the Winchester District Green Economic Development Strategy and has a potential total carbon saving of 113 ktCO₂e by 2030. The council's economy team will lead on approaches and ways to enable and influence business to act.

- 7.13. Regarding support for businesses, the economic development team is providing a support and advice programme by funding 15 energy audits (by March 2024) for creative and tourism businesses. It is expected that these will include recommendations to extend renewable energy including Solar PV. To facilitate this a grant fund will also be available for up to £5,000 so that business to take forward the recommendations from the audits. As part of reporting on the delivery of programme, the recommended measures and potential carbon savings will be measured for each business. The learning from the energy audits and grants programme will be shared to encourage others to make changes and invest in improvements. The Sustainable Business Network provides an excellent route to promote and report on this work.

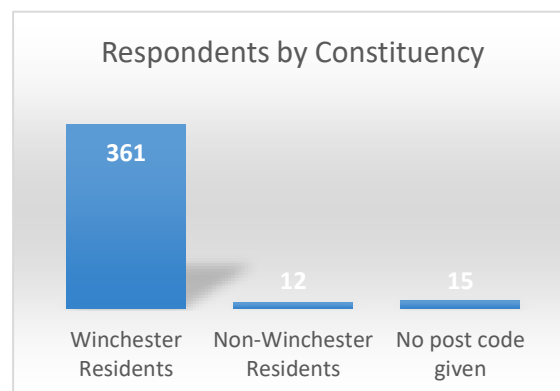
8. THE DEVELOPMENT OF LARGER SCALE RENEWABLE ENERGY

- 8.1. In line with the council plan and CNAP the council has a clear intention to enable the development large scale renewable energy projects. The CNAP sets a minimum target of a further 50 MW of installed large scale solar and 54 MW of wind power by 2030 to reach a medium trajectory for carbon neutrality. The council acknowledges that across the district there needs to be a far greater scale of installed capacity to meet demand and for it to be broadly self-sufficient in renewable energy.
- 8.2. The council is currently exploring the potential to take forward the development of larger scale renewable energy generation and is working with consultants to identify potential sites, delivery mechanisms and investment and funding options. The next stages, subject to the appropriate approvals, will be to complete the design of a scheme to optimise energy generation potential, biodiversity enhancements and return on investment and wider community benefits. A detailed business case will be prepared including delivery programme, carbon impact and budget to include relevant legal and tax advice.
- 8.3. There will be a need to raise awareness for the need for renewable energy scheme development and to understand and address potential the issues and concerns of local communities. The provision of information, supporting evidence and facts responding to concerns raised or believed about renewable energy scheme development will be required, so that residents feel informed and meaningfully engaged with.
- 8.4. Two Open Forum meetings were held in June and July 2023 to explore the public's attitude towards renewable energy generation. An online engagement was held via Citizen Space which asked a number of questions about how the council could take forward renewable energy. This received 388 responses

from residents, organisations, businesses and from councillors in the district. Of these, the majority (363) were council residents with the remaining being councillors (parish, county and city council), businesses or local sustainability organisations. The highest response rate was from St Barnabus, St Pauls and St Michael wards.

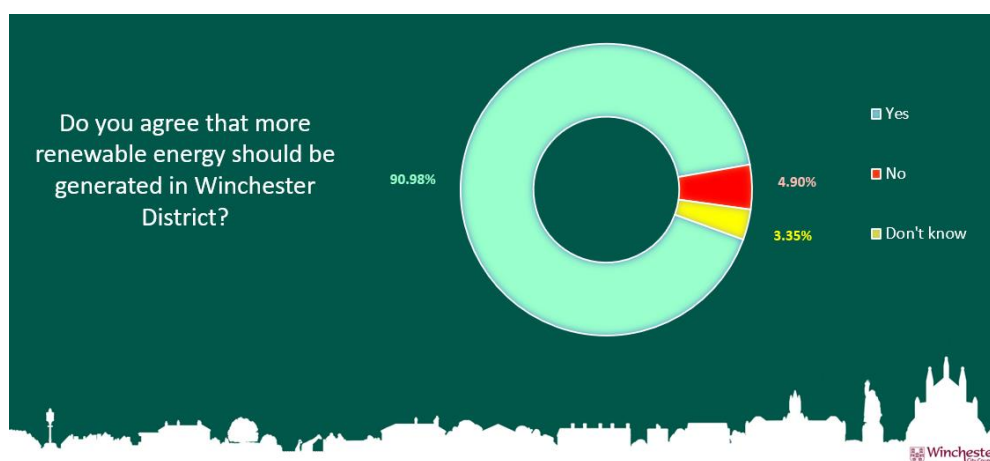
8.5. Respondents by organisational type and location

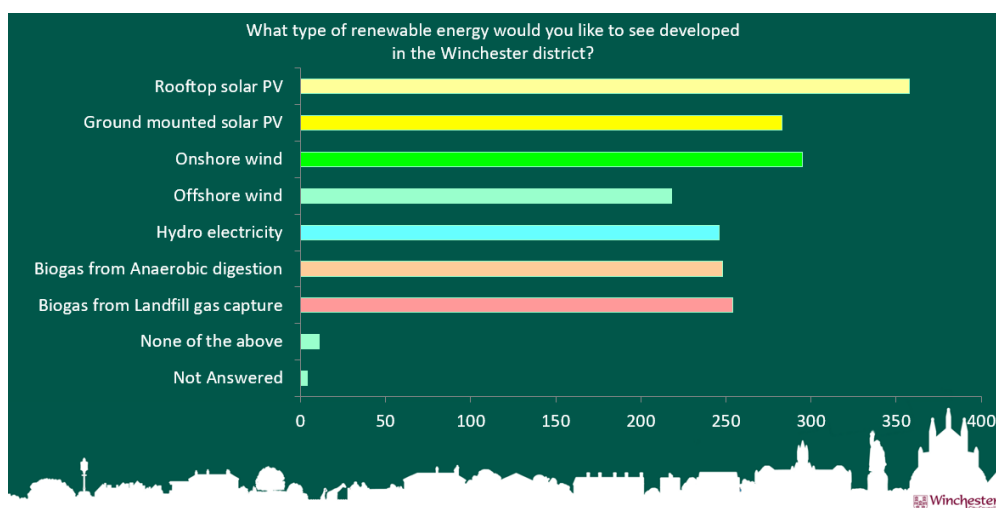
Type	No. of respondents
Residents	363
Councillors	9
Business	3
Organisations	2
Not stated	4



8.6. Findings from the engagement showed there was overwhelming support for the development of further renewable energy. Overall,

- 82% of respondents supported Winchester City Council's target for the district to become carbon neutral by 2030.
- 91% of survey respondents also agreed that more renewable energy should be generated in the Winchester District.
- 97% of respondents appeared well informed, as they were aware the role of generating renewable energy has in reducing carbon emissions.





- 8.7. A large number of respondents expressed the urgency and importance of doing as much as possible, as soon as possible in terms of widescale renewable energy developments in Winchester. When asked about types of renewable energy, roof mounted solar PV was the most popular option followed by onshore wind and then ground mounted solar.



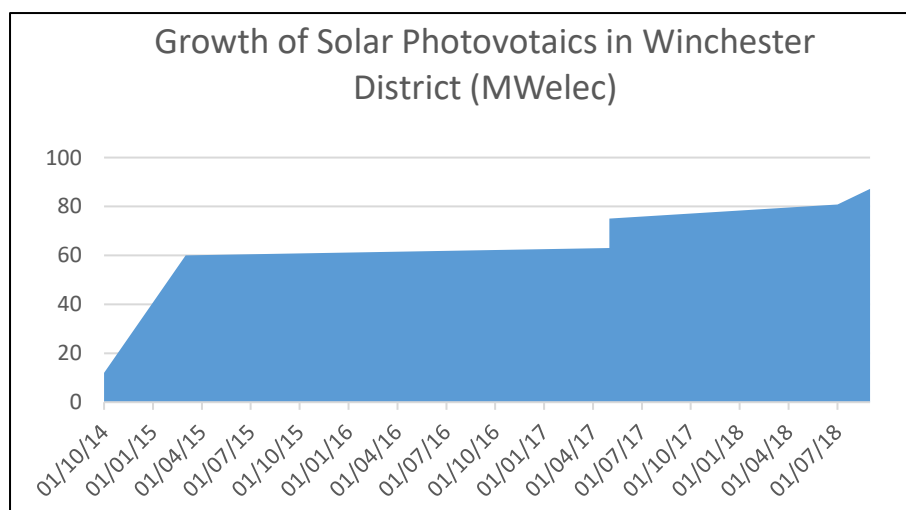
- 8.8. The outcomes of the engagement can be found on the council website [here](#).
- 8.9. The council intends to build on this initial engagement once potential sites have been investigated and a short list determined. The aim is to have a pipeline of potential sites within the district that may be suitable to be taken forward as community energy schemes or by private investors. Further engagement and communications work in support of the preferred project will also be undertaken. This may include presentations to Parish meetings, consultations and or Open Forum meetings with local and district residents.

9. RENEWABLE ENERGY GENERATION ACROSS THE DISTRICT.

9.1. The following extract from the National Renewable Energy Planning Database shows that Winchester district has six operational large scale solar farms with a total installed capacity of 87.2 MWp, and a further 54MWp with planning permission granted awaiting construction and 20 MWp in the planning pipeline. In addition, the "Embedded Capacity Register" appears to show several SEN consented connections which have not come forward as planning applications and may be as much as 295 MW of "zombie" capacity in the system.

Operator (or Applicant)	Site Name	Technology Type	Installed Capacity (MWelec)
Operational			
Lightsource Renewable Energy	Bishops Sutton	Solar Photovoltaics	12.00
Bluefield Solar Income Fund	Southwick Estate	Solar Photovoltaics	48.00
Foresight	Field House Solar / Hursley Road	Solar Photovoltaics	6.40
Solafields U/Bishop's Waltham Renewables Ltd	Bishop's Waltham Solar Farm	Solar Photovoltaics	12.00
NESF (formerly Earthworm/Waltham Solar)	Forest Farm	Solar Photovoltaics	3.00
NextEnergy Solar Fund (NESF)	Raglington Farm	Solar Photovoltaics	5.80
		Total installed Capacity	87.20
Planning Granted - Awaiting Construction			
Jardin Smith International	Fontley House Farm	Solar Photovoltaics	10.00
Winchester Power	Stockbridge Road	Battery	10.00
Environmental Asset Management	Three Maids Hill Solar Farm	Solar Photovoltaics	25.00
Nextpower Spv 12 Limited	Locks Farm - Solar Farm	Solar Photovoltaics	18.00
Thompson Brothers (Esher) Limited	Garsons Garden Centre, Fontley Road - Solar Panels	Solar Photovoltaics	0.21
Axis Real Estate Management Tarn Crag Limited	Fusion, Parkway - Solar Panels	Solar Photovoltaics	0.22
Axis Real Estate Management Tarn Crag Limited	Fusion, Parkway - Solar Panels	Solar Photovoltaics	0.19
Solar Advanced Systems T/A SAS Energy	Concorde Way, Segensworth - Solar Panels	Solar Photovoltaics	1.04
Balanced Grid Solutions	Titchfield Lane	Battery	49.00
		Total Capacity (PV)	54.65
		Total Capacity (Battery)	59.00
Planning Application Submitted			
Novus Renewable Services Limited	South Lynch Farm - Solar Farm	Solar Photovoltaics	20.00
Botley Energy Reserve 2 Limited	Ash Farm, Titchfield Lane - Battery Storage	Battery	15.00
Environmental Asset Management	Three Maids Hill Solar Farm	Battery	
		Total Capacity (PV)	20.00
		Total Capacity (Battery)	15.00

Source: <https://www.gov.uk/government/publications/renewable-energy-planning-database-monthly-extract> (October 2023 DESNZ Renewable Energy Planning Database).



Source: <https://www.gov.uk/government/publications/renewable-energy-planning-database-monthly-extract> (October 2023 DESNZ Renewable Energy Planning Database).

- 9.2. It is known that that grid constraints in the area are preventing large scale renewable schemes from obtaining permission to connect to the grid. Scottish and Southern energy Networks (SSEN) has advised the council that connections cannot be guaranteed for renewable energy projects over 1MW in size until 2036. This apparent lack of guaranteed available capacity and ability to connect to the grid will potentially constrain and impede the attainment of the 2030 carbon neutral target for the district. However, the November 2023 budget statement from the Chancellor of The Exchequer, announced a reform to the grid connection process to cut waiting times, including “freeing up over 100GW of capacity so that projects can connect sooner”. Also in November, Ofgem announced that it is introducing rules to remove “zombie” energy projects from the grid connection queue.
- 9.3. It is clear that future demand for electricity will require a well-planned upgrade of the electricity supply grid. As identified in the WinACC report this demand will be driven by an increase in electric vehicles (EVs), air source heat pumps (ASHPs) linked to the removal of gas boilers and an increase in domestic and commercial electric batteries linked to Solar PV generation.
- 9.4. A Local Authority Energy Plan (LAEP) sets out the change required to transition an area’s energy system to Net Zero in a given timeframe. This is achieved by exploring potential pathways that consider a range of technologies and scenarios, and when combined with stakeholder engagement leads to the identification of the most cost-effective preferred pathway and a sequenced plan of proposed actions to achieving an area’s Net Zero goal. A LAEP does not provide additional renewable electricity to power the new demands but does provide clarity on where new renewable energy generation might best be sited.
- 9.5. The council is proposing to develop a LAEP. The benefit of working with the DNO (electric supply network operator) to develop a strategic approach, it is hoped, will facilitate a smoother and faster transition to achieve the 2030 actions. The council has initiated the process through initial meetings with SSE via the Greater South East Net Zero Hub. It is proposed to further explore what is required to create a LAEP, including liaising with SSEN, UK Power Networks, Hampshire County Council and other bodies.

10. RENEWABLE ENERGY SUPPORTING TRANSPORT DECARBONISATION

- 10.1 There is a role for renewable energy to support other priorities within the CNAP, in particular supporting our aims to decarbonise transport emissions by 2030.
- 10.2 Installation of solar PV canopies at the South and St Catherine’s Park and Ride sites facilitate electric vehicle charge point (EVCP) use for cars and for bus services. Solar PV canopies although an expensive technology have the potential to provide electric charging for the Winchester Park & Ride buses to transition to electric. Also for National Express bus services using the St

Catherine's Park & Ride site to meet its own net zero strategy through electric bus charging infrastructure. It also supports the national aim to transition to electric vehicles.

- 10.3 The council made an unsuccessful bid to develop Solar PV canopies at the Park & Ride sites linked to electric bus charging to the Enterprise M3 LEP's Future Fund in the summer 2023. However, it is proposed that further work is undertaken in consultation with Hampshire County Council as owner of these sites to explore this opportunity further. This will assist the council to be prepared and in a good position to bid should other funding streams open.
- 10.4 There is also the opportunity to investigate other opportunities in the local area to create a solar hub that could support a number of decarbonisation opportunities. For example, in addition to St Catherine's P&R, there are several large industrial roofs nearby including the Stagecoach Depot and Hampshire Cultural Trust buildings as well as the WSLP car park. These could combine to support electric bus and coach charging, electric waste vehicle charging or further PV to supply WSLP.
- 10.5 The council would be well placed to initiate and lead such discussions and it is proposed these are also explored further with appropriate officers to investigate opportunities in addition to those on council land and roofs.

11 CONCLUSION

- 11.1 The council has invested in its own solar PV arrays, on housing, owned and occupied estate, on leased assets and in support of local businesses. It is incentivising solar PV through a number of schemes such as the Solar Today consortium, Community Solar Support Schemes for community halls and for tourism and creative businesses. The council is working towards developing its own renewable energy schemes and in supporting community solar PV.
- 11.2 To build on this work and achieve the targets set out in the CNAP 2023-2030, it is considered that a statement of intent / strategic approach on renewable energy development would be useful in setting out a timetable, pathways and funding opportunities to deliver the required capacity to achieve a position of the district being broadly self-sufficient in renewable energy to assist the decarbonisation of the grid whilst also contributing to carbon reductions. It is proposed, therefore that officers drawn from the relevant teams across the council come together to scope how to produce such a statement. Consideration will also be given as to how best to report on the energy demand and local generated electricity supply to demonstrate change and to stimulate action by everyone with a role to play in achieving the targets.
- 11.3 This same group could also assist with the next steps needed to develop a Local Area Energy Plan. This will include consideration of the funding and resources required with the ambition to have a LAEP in place for the Winchester district by early 2025.

- 11.4 It is suggested that the council investigates how it can support the development of renewable energy hubs to support wider electric charging infrastructure as set out in Hampshire's emerging Local Transport Plan and the Government's Net Zero Transport strategy, such as that required for electric coach and bus travel, electric waste collection vehicles and for the taxi and delivery network. Discussions with the county council will be undertaken and with transport operators to further develop this proposal so the council can be in a good position to bid for funding as and when funding opportunities open.
- 11.5 It will be important that the council consults with stakeholders on the district wide approach and targets relating to renewable energy and on what levers are required to boost renewable energy generation.
- 11.6 Finally, to boost the roll-out of larger roof mounted solar PV, future exploration be done on opportunities to initiate further PPA offers to businesses and organisations within the district in possession of suitable roofs.
- 12 OTHER OPTIONS CONSIDERED AND REJECTED
- 12.1 There is an option not to explore further renewable energy generation, either roof mounted on council assets or larger scale. It is recommended that this is discounted as it would not be in line with the council's Climate Emergency Declaration, Council Plan 2020-2025 and Carbon Neutrality Action Plan.
- 12.2 In addition, wind and hydro power generation within the district have been explored but are not currently being taken further forward due to the cost of the infrastructure.

BACKGROUND DOCUMENTS:-

Previous Committee Reports:-

[Carbon Neutrality Annual Report and Action Plan](#) (HEP027) 5th July 2022

[Carbon Roadmap and Actions](#) (HEP030) 6th December 2022

[Adoption of the Carbon Neutrality Action Plan CAB3423](#) 13th September 2023.

Other Background Documents:-

[Climate Emergency Declaration](#)

[Council Plan 2020-2025](#)

[Carbon Neutrality Action Plan.](#)

[Carbon Neutrality Roadmap for the Winchester District](#)

[Renewable Engagement Survey Results July 2023](#)

[Renewable Energy in Winchester District 2023 \(winacc.org.uk\)](#)

Local plan - [Carbon neutrality chapter.pdf](#)

<https://www.ssen.co.uk/our-services/tools-and-maps/embedded-capacity-register/>

APPENDICES:

None