

# Petersfield Climate Action Network

South Downs Local Plan Review

2<sup>nd</sup> September 2024



# What is Petersfield Climate Action Network?

- Environmental charity formed in Dec 2020 with the aim of protecting the local environment and lowering our carbon emissions
- Set up by local-residents in and around the Petersfield area
- Network of people who would like to help protect the local environment
- Made up of volunteers including trustees, more than 1600 supporters, plus a small part-time staff
- Funding sources include grants from South Downs National Park Authority, EHDC and PTC
- More info on our projects, annual reports etc at [www.petersfieldcan.org](http://www.petersfieldcan.org)



# Climate mitigation priorities for planning

## Key Recommendations

- Vision – include Climate Change mitigation prominently in the Local Plan vision
- Include stronger policies on climate change mitigation in key areas, especially buildings, transport, renewable energy and green infrastructure

## Context

- A great deal of additional national and international evidence has emerged on the scale and impact of the climate crisis during the last six years
- The 2nd Partnership Management Plan set a target for net zero National Park economy by 2040 and a reduction in emissions of 5% per annum
- The Future Homes Standard (FHS) will apply to new-builds from April 2025
- Need to prioritise GHG emissions reductions because:
  - Household electricity emissions in the National Park are around 27% higher than for an average UK resident
  - Emissions from driving are 26% above the UK average



# Contents

1. Care with carbon offsets and loopholes
2. Buildings – operational and embedded emissions in new and existing buildings
3. Transport – new and stronger sustainable transport policies
4. Renewable and community energy, microgrids, district heating
5. Green infrastructure - green ratio, avoid misuse of biodiversity offsets, Design and Build, biodiversity friendly location



# 1. Care with carbon offsets and loopholes

Some LAs require a highish (35%) uplift on Building Regs with residual carbon dealt with through payments to a carbon offset fund to pay for renewable energy and energy efficiency measures elsewhere. ***Watch out - this is not a zero-carbon home!*** In the National Park this is not appropriate.

Absolute emissions matter, offsets  $\neq$  license to emit GHGs.

Best practice is **not to count** purchased offsets towards net zero targets.

For the SDNP Local Plan:

- *Do not encourage carbon offsets in the policy wording, encourage lower emissions instead*
- *Restrict loopholes, such as allowable solutions where developers use carbon offsets to avoid environmental obligations*



Only permanent carbon sequestration can remove GHG emissions.

Renewable energy (solar PV etc) *avoids* emissions, it cannot *remove* them. It is important to be open about the carbon impact of new homes to avoid misleading claims being made about carbon offsets.

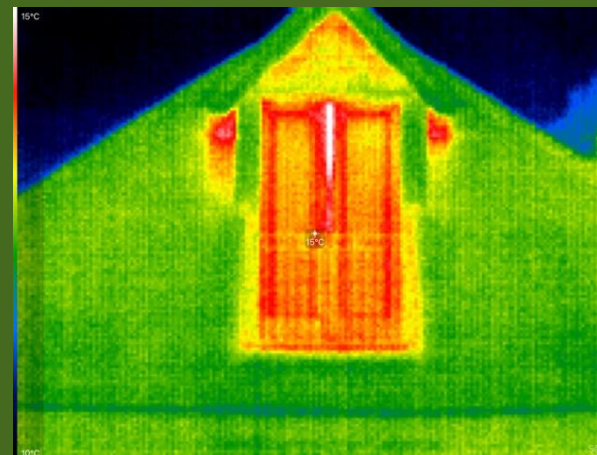
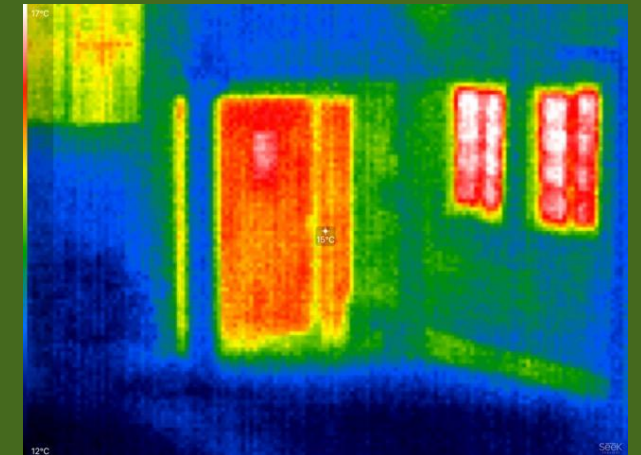
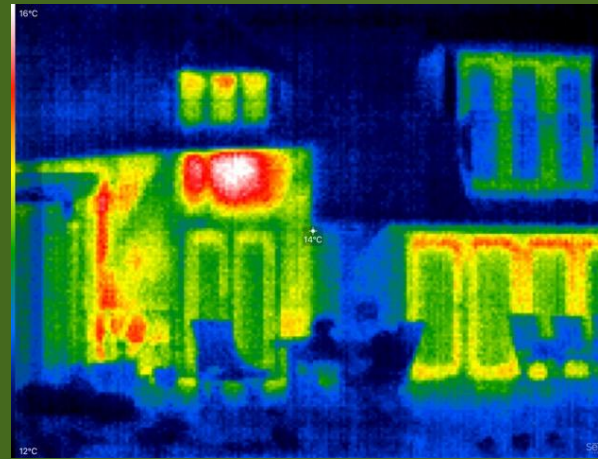
➤ *If the intention in the Local Plan is also to tackle residual emissions, the best way is to encourage additional permanent sequestration of CO2*

***NB: This is different from ‘Energy net zero’ or energy self-sufficiency concepts. For example, the Local Plan could encourage new developments to be self-sufficient for energy by maximizing onsite renewable generation and requiring new offsite renewables to make up the difference (see [EHDC draft Local Plan, Reg 18, CLIM 2](#)).***



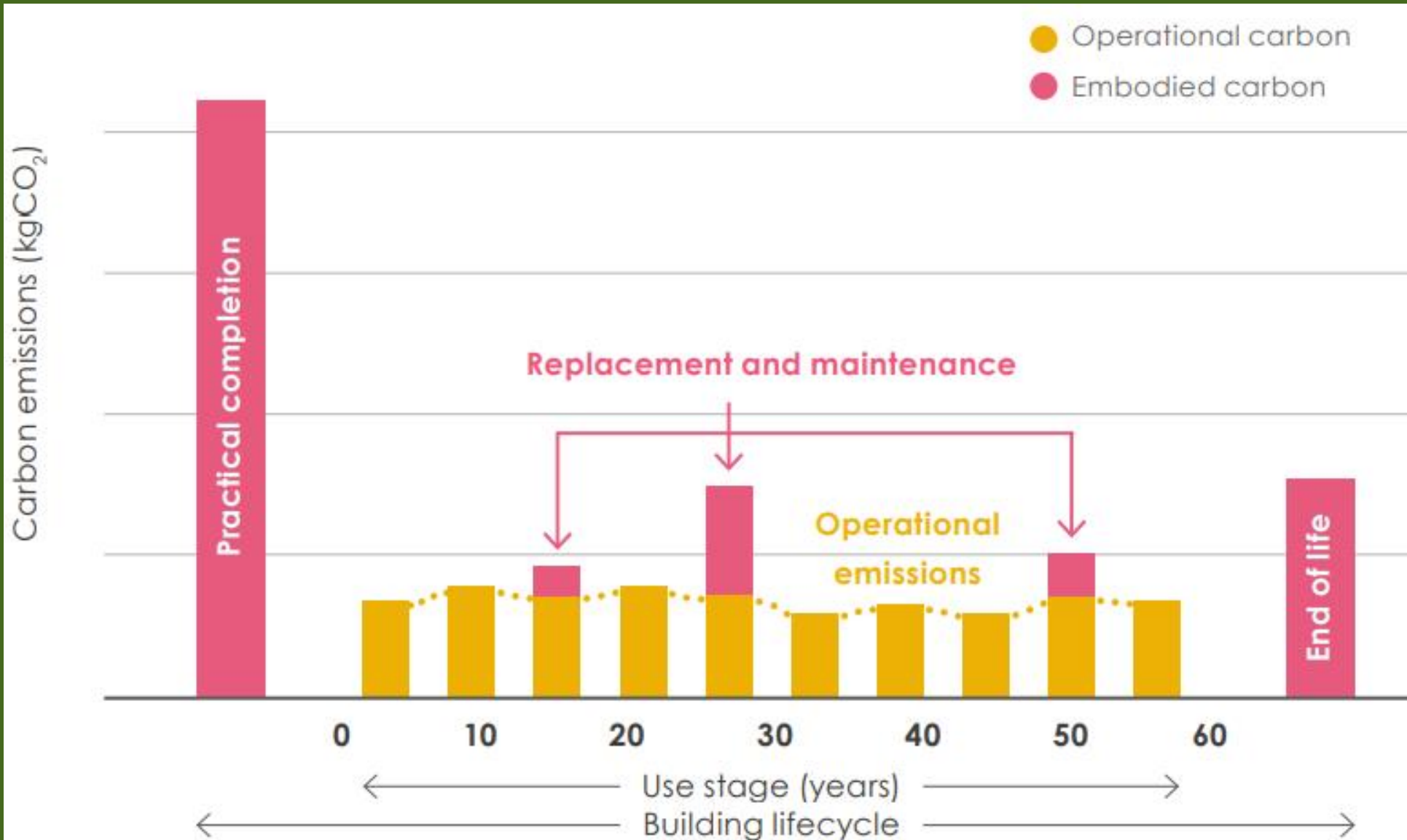
## 2. Buildings

- The UK has some of the most poorly insulated housing stock in Europe.
- *Almost 60% of private homes have substandard efficiency ratings (EPC of D or lower).*  
Department of Housing
- Tackle operational and embodied emissions as a way to manage the *Whole Life Carbon* emissions of housing





Whole life carbon = Operational carbon + Embodied carbon



Emission breakdown of a building's life cycle







## New buildings: operational emissions

- Reduce running costs for purchaser, avoid future retrofit costs.
- FHS will set minimum energy efficiencies. Local Plan policies should go beyond.
- Committee for Climate Change recommends new homes should have a space heat demand < 15 kWh/m<sup>2</sup> pa
- This is similar to Passivhaus standards. Passivhaus standards only add 4-8% more to construction costs => *not* a financial viability issue
- All new homes in the National Park should have low carbon heating (per FHS) and no gas grid connection. Designs must allow space for heat pumps etc.
- It can be done, *ilke Homes ZERO* (zero carbon, zero energy bills, zero extra cost)

<https://www.theccc.org.uk/publication/independent-assessment-the-uks-heat-and-buildings-strategy/>

[https://www.passivhaustrust.org.uk/guidance\\_detail.php?gld=41](https://www.passivhaustrust.org.uk/guidance_detail.php?gld=41)

<https://ilkehomes.co.uk/our-impact/ilke-zero-impact/>





## New buildings: operational emissions (cont.)

**Electricity self-sufficiency.** If new homes are designed to have low energy demand, why not require them to be self-sufficient through the year?

- Maximise onsite renewable generation (i.e. go beyond FHS)
- Require developers to create additional offsite renewable generation to make up the balance, including estimate for unregulated energy e.g. for EV charging

(NB this can be estimated on an annual basis, using the grid to balance peak and seasonal loads, see EHDC draft Local Plan Reg 18, CLIM2).

**District heating.** Larger developments should be encouraged to use district heating (not CHP) to reduce living costs





## New buildings: embodied emissions

As operational emissions fall, embodied carbon will become more significant

- Embodied carbon - c80 tonnes for new 2 bed house (Mike Berners-Lee)
- Two strategies for this: build less (limited scope for SDNPA to act here) and embody less

Embody less: the Environment Audit Committee\* recommended:

- Introducing a mandatory 'whole-life carbon assessment' for buildings.

This could be Implemented as part of a Local Plan policy for larger developers to disclose and reduce embodied carbon (see Whole Life Carbon Assessment policies at Manchester, Leeds, Bristol)

\*See May 2022 report, 'Building to net zero: costing carbon in construction'

<https://publications.parliament.uk/pa/cm5803/cmselect/cmenvaud/103/report.html>





## New buildings: embodied emissions (cont.)

### Embody less: Policy for larger developers to disclose and reduce embodied carbon

All larger developments should be required to forecast and minimise the life cycle embodied and operational GHG emissions at the design stage, so that the SDNPA and future occupants can track performance.

- Duty to disclose life-cycle carbon and environmental impacts
- Use a certification system e.g. life-cycle Environmental Product Declaration and Activity approach with Design for Deconstruction
- Promote sustainable materials: More recycled materials and timber frames. Less masonry, oil-based insulation, concrete/steel (and no gas heating)

For an example, see EHDC draft Local Plan Reg 18, CLIM3

Further references in PeCAN's Feb 2022 SPD [consultation response](#), LETI – Embodied Energy Carbon Primer - App.8, CIBSE TM65: Embodied carbon in building services





## Existing buildings: operational emissions

### Planning has limited reach with existing buildings

- But the SDNPA can use its policy on renovations and extensions to create incentives

### The target: thousands of domestic and non-domestic gas connections

- Average consumption per gas meter (south-east region, gov stats):
  - ~11,000 kWh gas = 2 tonnes pa GHG (domestic)
  - ~463,000 kWh gas = 84 tonnes pa GHG (non-domestic)
- Nearly half of gas boilers will reach the end of their normal service life and have to be replaced by 2030 – with what?





## Existing buildings: operational emissions (cont.)

### Policy requirements for renovations and extensions

- Use low carbon heating or show why it is not feasible
- Contribute where possible to a future switch to low carbon heating e.g. by providing heat-pump ready emitters (underfloor heating loops or larger radiators)
- Avoid creating lock-ins to existing fossil fuel systems e.g. don't renew existing fossil fuel heating systems
- Target minimum EPC rating C

### Policy for off gas-grid homes and those using oil

- Discourage the replacement of fossil fuel systems





## Existing buildings: operational emissions (cont.)

### Incentives for applications with high-climate ambition

- Exempt applicants with certified Passivhaus design status or similar from parts of the documentation requirements
- Reduce CIL on homes that switch to heat pumps or other low carbon heating

### Disincentives for low-ambition applications:

- Raise the burden on applicants seeking exemption from normal sustainability policy standards. If claiming “financially unviable or technically unfeasible”, require full evidence and professional calculations
- Require submissions to use only up-to-date prices and technologies.





# 3. Transport

Transport is the largest emitting sector of GHG emissions, producing 24% of the UK's total emissions in 2020. Cars and taxis accounted for 52% of these.

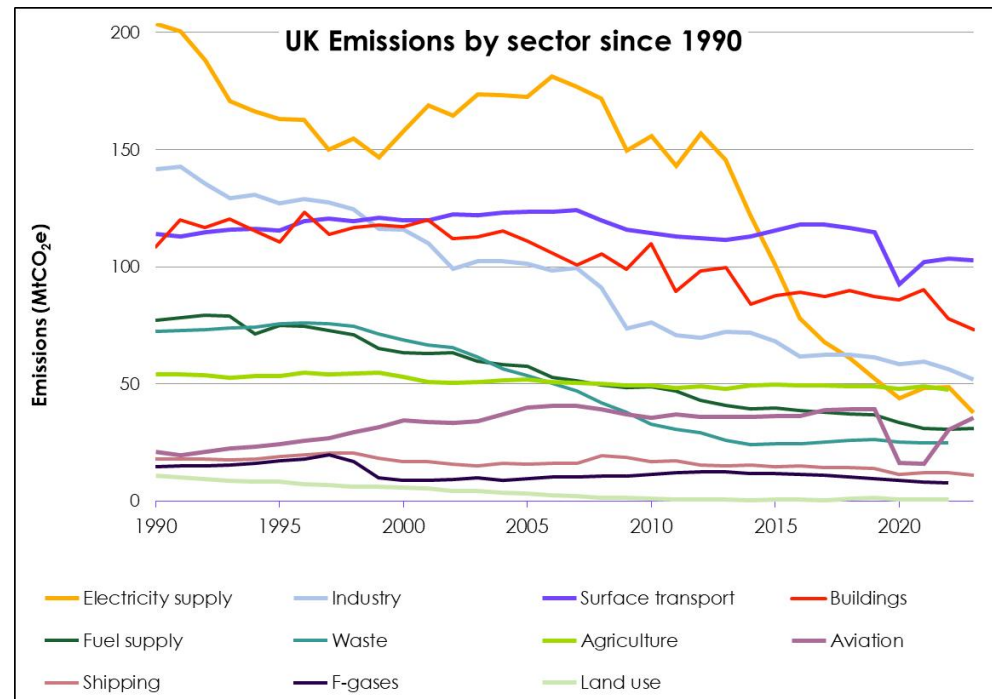
The move to electric will also require huge growth in publicly-accessible charging points.

- *Annual installation needs to treble by the end of the decade to reach the Government's goal of 300,000 charging points by 2030.*

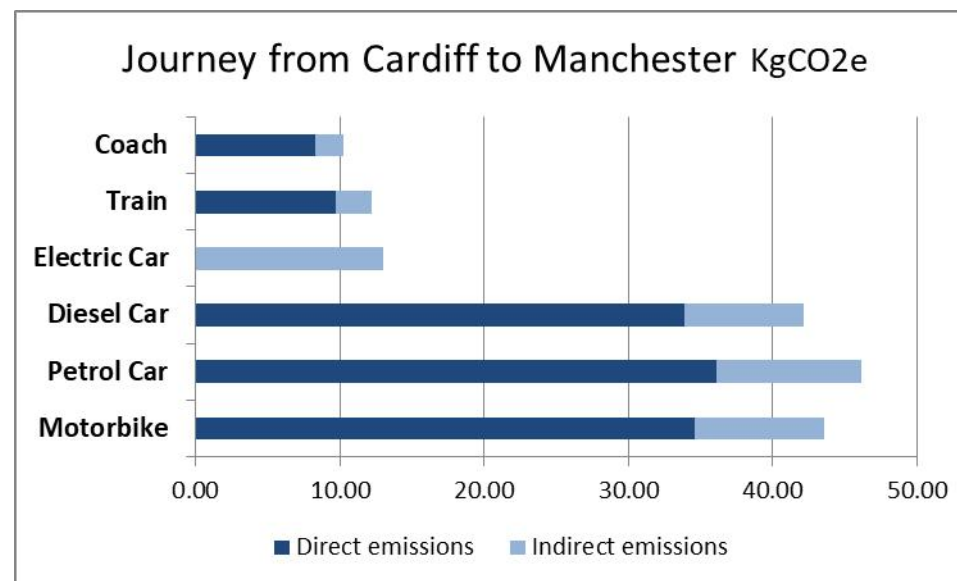
But relying on 'technofixes' is not adequate for many reasons: residual GHGs & particulates, embedded carbon in vehicles & roads, road safety, congestion, physical inactivity from car use contributes to poor health, the high cost of vehicle ownership, the high cost of the road network, vehicle dominated towns & villages are unattractive.

To reduce carbon emissions:

- *Avoid motorised travel in the first place.*
- *Shift travel to walking, cycling, e-bikes and public transport.*
- *Improve vehicular transport with electrification.*



Source: CCC 2024 Progress Report to Parliament



Source: DFT Stats for 2023 ENV0701





## Transport in the National Park – 1 of 2

The South Downs National Park (SDNP) is under pressure from car use

- The SDNP has the largest resident population of all UK National Parks
- Resident's travel (excluding flights) accounts for a fifth of the SDNP's GHG footprint
- 2 million people live within 5 km of the SDNP in neighbouring towns and cities
- The SDNP has 56,000 visits per day, with 77% of these journeys by car creating GHGs, air pollution, noise etc

### Car dependency in the SDNP

- The SDNP is largely rural - a few minor and car dependent developments may be needed in small villages which are distant from services
- Therefore the large majority of developments should be located where a proper choice of transport modes can reduce car dependence
- One third of the population of the SDNP live in towns, where there is significant potential to reduce car dependency





## Transport in the National Park – 2 of 2

### Planning and Development

- Some towns and villages in the SDNP are overly car dependant because of unplanned settlement growth patterns, together with under investment in public transport and active travel infrastructure
- Evidence shows that developers left largely to their own devices usually create car-dependent estates
- SDNPA policies therefore must help reduce people's dependency on cars

### Changes to Context

Improving public transport is outside the remit of the Local Plan, however changes to the NPPF and LTPs create opportunities to work together with Counties:

- **NPPF changes:** changes to recent versions of the NPPF (National Policy Planning Framework) emphasize sustainable transport
- **LTP changes:** LTPs (Local Transport Plans) have been updated by County Councils (Hampshire & East Sussex) to include policies to support modal shift in line with DFT guidance (LTP4)

*The Local Plan policies should be strengthened so that all opportunities for sustainable travel routes are fulfilled and to provide supporting facilities - see the next 4 slides*



# New and stronger transport policies - 1 of 4

## Strengthen Policy SD19

- *Development sites should be located to reduce car dependency through a genuine choice of transport modes to local services, except for a few small sites*
- Appraise the accessibility of each potential site in terms of the walking and cycling distances to a mix of key amenities (a food shop, park/green space, pub/ café/ church, primary school, bus stop/railway station, etc)
  - Take account of the usability of the route - riders and pedestrians must be physically separated from high speed/volume traffic
- Reject sites which lack the potential for sustainable travel in all but exceptional circumstances
- The site specific development requirements in the Local Plan should include access routes to and from the site, as well as walking and cycling routes to local amenities



## New and stronger transport policies - 2 of 4

### New policy for detailed travel planning at the Pre-app stage

- *Consider active travel from the earliest stages of design so that the spatial layout enables walking and cycling - as per NPPF (2023) Para 108*
- Give first priority to pedestrian and cycle movements, both within the scheme and within neighbouring areas - this policy has been added to the NPPF since 2018
- Routes for walking and cycling:
  - Shorter and more direct than routes for vehicles
  - More site access points than for vehicles
  - Demonstrate that facilities for daily essentials and for recreation are within a short distance from the site using high quality routes
- Consider the road safety of vulnerable users (pedestrians and cyclists), in addition to drivers



# New and stronger transport policies - 3 of 4

## SDNPA's existing initiatives

- SDNPA has recognised the shortage of “family friendly” multi-user routes off-road cycling/walking routes. The Centurion Way, Woodingdean/Falmer, and the Egret's Way are all excellent examples
- But more ambition is needed to provide a genuine choice of travel modes for those visiting the Park and travelling around it

## Policy SD20

- *Policy SD20 should be strengthened to better leverage new development to create a network of “family friendly” active travel routes, while improving and protecting existing on- and off-road routes*
  - Review and expand the list of potential routes safeguarded by SD20
  - Stronger incentives to provide urban/suburban feeder routes and stand-alone routes
  - Stronger protection from development impairing existing walking and cycling routes
  - Ensure walking and cycling infrastructure constructed by developers complies with national standards
  - Add Urban/suburban walking and cycling routes



# New and stronger transport policies - 4 of 4

## Support facilities for electric vehicles

- The ability to conveniently charge vehicles is a key driver to the successful adoption of electric vehicles. The following measures are recommended:
  - Developments to provide charging for private EVs at *each* parking space, including visitor charge points, universal sockets
  - Retro-fitting chargers for private EVs, including on-street parking in locations without off-street parking
  - Charge points for public transport vehicles and car clubs
  - Public charging points for private EVs at strategic sites



## Prioritise facilities for bicycles in residential developments, workplaces & town centres

- Electric bikes which use just 5% of the energy per mile of an electric car, while conventional bikes which use 0% of the energy. The following measures are recommended:
  - Secure bike storage with provision for e-bike charging for all developments that is fully accessible, convenient and secure
  - Town centres need covered and secure cycle parking for commuters & shoppers
  - Bike storage should be suitable for people of all ages and abilities and compliant with recognised guidance on cycling parking and storage





# 4. Renewable energy

The demand for electricity will need to increase dramatically to:

1. Replace gas in grid generation
2. Meet demand for electrified heating
3. Meet demand for EVs
4. Provide a surplus for intra-seasonal storage
6. Supply clean fuels and feedstocks (green hydrogen, green ammonia...)

Chart 5.2 Electricity generated, by fuel type (Energy Trends Table 5.1)

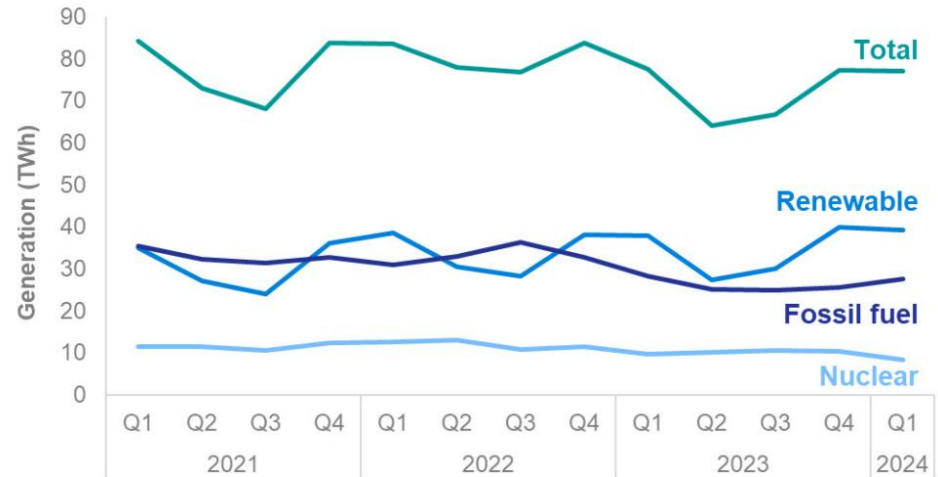


Chart 6.2 New capacity (cumulative) since 2021 for the leading renewable technologies (Energy Table 6.1)



## Supporting renewable energy in the Local Plan

Require new builds to *maximise* onsite renewable generation (not to achieve a minimum)

If onsite renewable generation is insufficient, encourage offsite production to enable energy self-sufficiency (supported through the year with grid access)

Develop clear Policies to support energy storage facilities, solar farms, including through Community Energy, plus wind farms, anaerobic digestors

Publish simplified planning guidance on rooftop solar for permitted development, listed homes, conservation areas



# 5. Green infrastructure

- Green Infrastructure is a vital component for both mitigation of and adaptation to climate change
- The Legal duty for LAs to “have regard to” conserving biodiversity when exercising their functions (Natural Environment and Rural Communities Act 2006, Section 40) can also be a powerful lever in this regard

For example:

- Use of green roofs to reduce overheating and passive solar gain alongside orientation, shading and other techniques
- Active use of planting, hedgerows and trees to reduce peak temperatures and deliver carbon sequestration
- Encourage more comprehensive use of Nature-based Solutions (see next slide)
  - SuDS, street trees, green roofs, green walls spaces etc



# Nature based Solutions

# IGNITION project

## Headline findings

The following illustrations provide a summary and comparison of the headline findings\* for each of the NBS researched.

\* Average cost data taken from IGNITION project cost collation database, containing technical reports and supplier information

### Sustainable drainage system (SuDS)

The management of surface water runoff within the urban environment to mimic the natural drainage processes, while supporting broader biodiversity and amenity aims



**60-72%**

Rainwater runoff retained



**60-80%**

Similarity in species richness to a natural pond



**79%**

Total suspended solids removed in filter strip/swale SuDS system



Common alternative terms: Drainage systems, natural drainage systems, Water Sensitive Urban Design (WSUDS)

Average CAPEX installation cost (£ per m<sup>2</sup>)

**£30**

Detention ponds/basin

**£366**

Soakaway

**£336**

Raingarden

Average OPEX maintenance cost (£ per m<sup>2</sup>-yr)

**£0.33**

Detention ponds/basin

**£0.12**

Soakaway

**£26**

Retention ponds/basin

**£23**

Swale

**£1.10**

Retention ponds/basin

**£0.10**

Swale

### Street trees

Trees located next to or within a public road



**30-50%**

Increased restaurant patronage



**3°C**

Air temperature reduction



**5.5kg**

Carbon sequestered per tree annually



### SuDS-enabled street trees

Street trees combined with a sustainable drainage system

Average CAPEX installation cost (£ per m<sup>2</sup>)

**£248**

per tree

Average OPEX maintenance cost (£ per m<sup>2</sup>-yr)

**£0.12**

per tree

**£7,477**

SuDS-enabled street trees

### Green roof

Vegetation growing on any structure's horizontal surface



**6.7%**

Total energy savings for the space directly below the green roof



**6.9%**

Uplift to property value by an accessible green roof



**11db**

Noise reduction by an extensive green roof



Common alternative terms: Living Roof, eco-roof, roof garden, brown roofs, green-blue roofs, biodiverse roofs

Average CAPEX installation cost (£ per m<sup>2</sup>)

**£126**

Extensive green roof

**£176**

Intensive green roof

Average OPEX maintenance cost (£ per m<sup>2</sup>-yr)

**£6**

Extensive green roof

**£11**

Intensive green roof

### Green wall

Vegetation growing on or against a vertical surface



**8%**

Total energy saving for adjacent space



**2.7°C**

Reduction in indoor temperature from green façade



**18-35%**

NO<sub>2</sub> removed in street canyons



Common alternative terms: Green façades, bio-responsive/bio reactor façade, living walls, vertical greening system, green screen, hedges

Average CAPEX installation cost (£ per m<sup>2</sup>)

**£282**

Green façade

**£702**

Living wall

Average OPEX maintenance cost (£ per m<sup>2</sup>-yr)

**£38**

Living wall

### Urban parks and green space

Areas that are naturally or artificially covered with vegetation (e.g. grass, bushes or trees). Can range from playing fields and highly maintained environments to relatively natural landscapes



**10%**

Increase in willingness to pay for products associated with green cover



**9.5%**

Increase in property value in direct or close proximity to a park



**84.2%**

Rainwater runoff retention



Average OPEX maintenance cost (£ per m<sup>2</sup>-yr)

**£0.71**

Urban parks and green space

Common alternative terms: Urban parks, urban green cover, amenity grassland and sports pitches



## Local Plans / Local Plan updates worth looking at

- East Hants <https://www.easthants.gov.uk/planning-services/planning-policy/local-plan/emerging-local-plan/previous-local-plan-consultation>
- Oxford <https://www.oxford.gov.uk/local-plan/oxford-local-plan-2040/4>
- Leeds <https://www.leeds.gov.uk/planning/planning-policy/local-plan-update/introduction-and-summary>
- Reading <https://takeclimateaction.uk/climate-action/how-reading-uses-planning-deliver-new-zero-carbon-homes>
- Merton  
<https://www.merton.gov.uk/system/files?file=0220climate20change20merton20local20plan20reg1920july21.pdf>
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Thank you