



# TOTTENHAM'S SUSTAINABLE GOALS

Tottenham Hotspur FC is committed to becoming net zero by 2040. We look at the sustainable policies and practices in place at the stadium and training site that ensure the club reaches its goal **BY COLIN HOSKINS, FREELANCE WRITER**



**Left: Nick Phillips (left) and Gary Lee have been instrumental in introducing Spurs' green initiative**  
**Top: One of two ponds that promote biodiversity**  
**Above: The sustainability drive extends to the training centre grounds**

**M**uch has been written about the success of Tottenham Hotspur FC's commitment to the environment in the wake of the club's stadium opening in 2019 and, more recently, when it joined the UN Race to Zero by committing to halve its carbon emissions by 2030 and become net-zero carbon by 2040.

This followed its alignment in 2021 with the UN Sports for Climate Action Framework, which supports and guides sports organisations to achieve climate change goals.

Core ongoing policies of the club include recycling waste products and increasing waste diversion away from landfill, reducing single-use plastics across all club operations, and promoting

alternative forms of transport that have a reduced environmental impact for fans and staff to and from the stadium and training centre. In December 2021, the club staged the world's first net-zero carbon match at the north London stadium against Chelsea FC (through emission reductions and by offsetting the remaining carbon footprint through reforestation projects).

PHOTOGRAPHY: LEO SOCHOR-GRETHE



The wildflower meadow attracts a variety of pollinating insects  
Above: The organic vegetable garden supplies the First Team restaurant

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### GRANDSCAPE POLICIES

The club's grounds team is also playing a key role in the quest for biodiversity and sustainability. Led by Darren Baldwin, head of playing surfaces and estates, and actioned by stadium grounds manager Gary Lee and training centre grounds manager Nick Phillips, the team responded to a request by a task force that asked all club departments for ideas on what they could do to encourage biodiversity and sustainability.

"As a result," says Gary, "ongoing initiatives at the stadium include a living wall outside the ticket office and, on top of the Lilywhite House office block, a 'secret' rooftop garden with laurels and silver birch." These are complemented by a host of similarly applaudable policies (see 'Stadium sustainability', page 27).

Gary adds that, specifically in terms of the stadium pitches, the programme

focuses on the use of water and grow lights. Five attenuation tanks collect rainwater from rooftops for pitch irrigation. Any liquid that passes through the pitches flows to a tank and is isolated from any watercourse before being treated for reuse for irrigation.

In terms of grow lights, the power consumption of running six lighting rigs is akin to powering 312 kettles all night, so the club is changing from HPS to LED bulbs, which is estimated to reduce carbon emissions by 66 tonnes.

Furthermore, the hybrid turf surface sits above an artificial pitch, which is recycled every time it is replaced.

### GREEN TRAINING

The training centre can also lay claim to a long list of initiatives that take the rewards of a sports site's biodiversity and sustainability achievements into

the premier league. For example, its renewable energy comes from solar panels and air source heat pumps, waste management includes a nearby green-waste recycling facility and the sedum 'green roof' on the main building captures rainwater.

In addition, a water drainage and extraction system based on an attenuation pond and two boreholes (one at 100m deep, the other at 80m) feed the pitch irrigation supply from tanks holding 500,000 litres. Chambers beneath the playing surfaces collect excess water (irrigation and rainwater), which is filtered and reapplied.

With 17 grass and hybrid pitches, there are, of course, enormous evapotranspiration issues with the free-draining, nutrient-leaching, sand-based pitches, particularly in the warmer months, says Nick. "On the other hand,

## SPORTS SITES OF EVERY SIZE CAN INSTIGATE OTHER LOW-COST MEASURES TO MITIGATE CARBON EMISSIONS AND ENCOURAGE BIODIVERSITY AND SUSTAINABILITY

the undersoil heating is thermostatically controlled to maximise its efficacy.”

He adds that pop-up sprinklers in the landscaped areas – including a rockery that surrounds alpinas and herbaceous borders, plus a wildflower meadow – enable manageable control of irrigation. In addition, the site has an organic vegetable garden and small orchard that supply fresh fruit, herbs and vegetables to the First Team restaurant.

While the grounds team was already committed to electric cylinder mowers before the start of the 2022/2023 season, electric work vehicles are also in place for movement around the site. And in terms of biodiversity, there are two ponds for great crested newts, bat boxes, bug hotels (for bees, wasps, ladybirds etc) and log piles for worms and insects.

### NATURAL CARBON SINKS

Both Gary and Nick say that playing surfaces naturally help sports clubs play a role in reducing their carbon footprint, as each square metre of turf absorbs 0.38kg of carbon each year. For example, the club’s stadium removes just over three tonnes of carbon per year, while the 75-acre training centre removes 115.3 tonnes per year.

They suggest that sports sites of every size can instigate other low-cost measures to mitigate carbon emissions and encourage biodiversity and sustainability. These include installing movement sensors for clubhouse lighting – or switching it off when not occupied – using water-saving features in toilets, composting grass cuttings and providing bug houses or log piles.

Tottenham Hotspur’s commitment to net zero and sustainability is certainly worth talking about – and hopefully the club’s initiatives will be an inspiration to many other sports venues, both large and small.



Gary and Nick at the entrance to the vegetable garden  
Inset: Grass cuttings are sent to a green-waste recycling facility

### Stadium sustainability

**Here are some of the carbon footprint-reducing and sustainability initiatives at the Tottenham Hotspur stadium. Many of these initiatives are also in place at the training centre**

- 100 per cent certified renewable energy and zero scope 2 emissions (the building design includes insulation, solar shading and building fabric thermal performance, which reduce energy needs). CO<sub>2</sub> emissions are around 50 per cent less than a stadium built 10 years ago.
- LED lighting, including floodlights.
- The club is close to achieving its target of no more than 23 per cent of supporters (around 14,000) travelling by private car on match days. This is a significant reduction compared with those who travelled by car to the old White Hart Lane (on average 22,500 out of a total of 36,000).
- Fans are encouraged to consider cycling on match days – bike racks are provided – and staff can take part in a cycle to work scheme. Employees can also access a pool of electric cars for day-to-day business use, with charging stations available across all club sites.
- Reduction/removal of single-use plastics, including rolling out fully digital ticketing; use of wooden stirrers and cutlery, and paper straws; the use of carton water by the team on home match days; switching to reusable beer cups; and returning the plastic caps on beer kegs to the supplier for reuse.
- A zero-to-landfill waste management policy is based around dry mixed recycling being taken to a nearby material recovery facility.
- Where possible, all food produce is locally and sustainably sourced, and any food remaining from events is given to a charity for local distribution.
- Water consumption is minimised with the installation of waterless urinals and low-flow fittings and fixtures.