



SOG Limited

Vertical Farming Briefing Note

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**HEATH
PARK**

GREEN INNOVATION

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The Heath Park project revolves around a ground-breaking Vertical Farming vision that captures everything that COP26 is about whilst being both practical and truly commercial.

A world-first trial, funded by SOG Group and carried out by a partnership between Dr Paul Myers' team at Farm Urban Liverpool (an active and operating vertical farm) and academics at The University of Liverpool, is testing the output of a mathematical model that the university has developed. SOG has built a pilot-sized vertical farm at The Heath, powered entirely by 100% renewable energy (in this case Hydrogen), to conduct this critical 'proof of concept' exercise. The aim is to ultimately confirm the technology and renewable power resources required to create the 'next generation' of vertical farms.

A large-scale vertical farm sits at the heart of the masterplan for Heath Park because the Food System is the largest contributor to Climate Change, through Greenhouse Gas emissions, soil erosion, water use and biodiversity loss. Vertical Farming presents an important part of the solution. This has been recognised by global players such as Google Ventures, Bezos expeditions, SoftBank, and brothers Elon and Kimbal Musk, each investing 100's Millions of dollars in the sector over the past 5 years with Kimbal Musk quoted as saying: *"Urban Farming is the new internet"*.

However, it is known that vertical farms have an Achilles heel. The focus on yield and technology means they are large power consumers, contributing to the Carbon problem. The model conceived by Dr Myers and his team predicts and demonstrates a new way for vertical farming with a solution to this problem. The new system of Vertical Farming, currently being trialled at The Heath, will consume more CO₂ than it uses; in effect being a sequestrator of CO₂.

In simple terms, a 5000 Square Metres farm - utilising this new technology - run for just ten years is the equivalent of planting 2.1 million trees. Just ten farms converted across the UK in this way would be equivalent to planting 21 million mature trees. This is not just PR hype. SOG is working with acknowledged and highly respected experts in the field and is funding the latest research. SOG feels the conclusions of the trial are very important messages that should be presented at COP26. This exciting and thought-provoking research will be validated by a bona fide academic conference paper.

There is however so much more to say beyond greenhouse gas reduction. Vertical Farming is not simply about producing food at scale in peri urban warehouses, this has been done and is being done and there is more to come. Vertical farms, using the new methods trialled at The Heath, will have a wide range of positive impacts on combatting the effects of climate change. These positive outcomes include:

- Cleaning a region's air
- Reducing carbon locally
- Giving agricultural land back to nature - increasing biodiversity and further reducing carbon globally
- Providing high tech meaningful jobs
- Providing green infrastructure
- Improving health outcomes by giving local people access to the freshest healthiest food on the planet (feeding thousands of families)
- Identifying a commercially viable but environmentally friendly package for Vertical Farming

Dr Myers concludes: "Vertical Farming developed in this way will deliver a financial, social and environmental return on investment. It is at the intersection of these three areas that vertical farms work best and it is this holistic approach that sets The Heath Park Project out from the rest of the world. Heath Park is a model for cities across the globe to follow, a world leader in hydrogen power and clean energy, vertical farming and urban design. When you combine these three together you have something very powerful, never done before - a world-first."

Heath Park Vertical Farming Consultants: Dr Paul Myers, John Firr – August 13th, 2021

FURTHER INFORMATION

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