

Who Are IPV Flexgen?

IPV Flexgen is a Warwickshire based, renewable energy and sustainable development consultancy, who have been working with landowners and communities on renewable energy projects since 2010.

We design and develop solar photovoltaic, battery storage, electric vehicle (EV) charging and energy distribution installations.

Through this balanced and flexible approach, IPV Flexgen develop green energy solutions that reduce carbon emissions and help address the climate emergency.

The company focus on developing innovative energy projects through the UK but with particular emphasis on Warwickshire and the West Midlands, working closely with local authorities and enterprise partnerships.

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Background

- The West Midlands Region, incorporating Coventry and Warwickshire, has the lowest deployment of renewable energy generation in the UK outside of London, estimated to be 61% lower than the average for other parts of the UK. (Statista, 2021)
- This is to a great extent, a geographical issue with the broader area having limited scope for wind and hydro projects and being overlooked in the early days of solar deployments because of poorer irradiation data and grid constraints.
- Conversely, the region is one of the most power-hungry regions and in need of energy security as we progress to a more decentralized energy network reliant on renewable energy.
- With high levels of industry and energy demand comes higher than average levels of carbon emission, with the regional level of air pollution from transport calculated to be double the national average.
- North Warwickshire declared a climate emergency in December 2019.

- The region has identified that it needs to take significant steps to decarbonise to contribute to UK 2030 carbon reduction targets.
- Supporting the development of renewable energy projects in the region is one of the most positive ways in which this can be addressed.
- However, the challenge remains that the regional electricity network is heavily constrained making it harder to identify locations where energy projects can connect to the electricity infrastructure.
- Emphasis needs to be placed on projects where energy can either be utilized where generated or the power can be stored and distributed directly into the local distribution network during period of higher energy demand.
- Equal emphasis needs to be placed on projects that can contribute to growth in the local economy through employment and training opportunities.



The Development Proposal

Solar electricity generation combined with battery storage and the capability to export power to the local distribution network and to meet local power demands.

- 18MW Solar Farm.
- Vertical Farm creating 30 new mixed skill employment opportunities (Hydroponic agricultural growing unit).
- Access from Smorrall Lane
- Existing public rights of way will be maintained and improved.
- Existing woodland will be protected.
- Reinstating and planting new hedgerow and trees.

Ecological Gain

- Nitrogen-based fertilisers and spraying are not used in the solar farm. Native grasses and wildflowers are naturally
- Reinstating and planting new hedgerows and trees will create wildlife corridors, linking areas of local woodland. Far-reaching benefits including biodiversity and habitat provision, carbon storage, and pollination for food provision.
- Existing public right of way will be maintained and enhanced, allowing 5m of rough grassland either side of it as it passes through the solar array.
- Existing woodland will be protected.
- Rainwater that cannot be harvested for use within the vertical farm will feed into a wildlife/attenuation pond.



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Why This Site?

- Location selected due to good natural screening and low visibility from surroundings. Radius of 1km and 2km is shown
- Proximity to available grid connection.
- Potential to supply green power to the adjacent service station due to close proximity, resulting in decarbonization by the electrification of the highways.
- Potential on site green energy supply to a vertical farm helping to make this opportunity viable.
- Increase renewable energy generation in North Warwickshire to contribute to decarbonization targets. West Midlands is the 2nd lowest renewable energy generating region in England.



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| Benefits & Sust | ainability | | |
| <u>Economic</u> | <u>Environmental</u> | <u>Social</u> | |
| Vertical farm will provide around 30 new local employment opportunities of varying skill levels with associated training, assisting with the Covid green recovery. | Vertical farm: Uses green energy generated by the solar farm. 95% less water used compared to traditional farming Reduced food mile carbon footprint due to local production. | Continued agricultural use of land. | (A) |
| Distribution of green energy to the adjacent service station resulting decarbonization through the electrification of highways including HGVs. | | Existing public right of way to be maintained and improved. | ECONOMIC |
| Viable grid connection. | No emissions. | | |
| Opportunities for local green energy distribution with low transmission loss. | Locally produced renewable energy, enough to power 4500* homes. *BEIS - Electricity consumption statistics 2019 | | SOCIAL ENVIRON MENTAL |
| 95% less water yield from vertical farm used compared to traditional farming. | No spraying or fertilisers. Native grasses & wildflowers naturally re-established, supporting bees & insects. | Smorrall Lane access | |
| 20 times more yield from vertical farm compared to traditional land farming. | Biodiversity enhancements:Tree and hedgerow planting.Habitat corridors.Wildlife/attenuation pond. | | (Suctainability definition & guide - Suctainability III) |

