



---

# Solar Car Park Proposal

To Dorset Council from Lyme Regis One Planet Working Group  
with Simon West





## The idea...

To build “solar carports” over all suitable Dorset Council controlled car parks, generating renewable electricity to help achieve the council’s net carbon zero target as detailed in their declaration of a climate emergency



---

## Possibilities - Lyme Regis

Lyme Regis has two large, South facing car parks; Holmbush to the West and Charmouth Road to the East.

Holmbush car park has nearly 3,000 m<sup>2</sup> of car parking bays which could be covered with solar panels.

Charmouth Road has a further 2,500 m<sup>2</sup> of bays on a gentle slope facing South.



## Holmbush Car Park

Only the areas marked in yellow have been included in the calculations





## Charmouth Road Car Park

Only the areas marked in yellow have been included in the calculations





# Why do we need much more than 100% renewable electricity

- Electricity usage in the UK peaks at around 40 Gigawatts
  - We currently generate 30% of this from renewables
  - We have a shortfall of 28 Gigawatts to be made up in the next 10 years
- Gas usage peaks at around 80 Gigawatts
  - Hardly any is (or can be) produced from renewables
- Taken together, we *could* have a shortfall of 85%
  - ...but this is over-simplifying...



## ...it's not all doom and gloom

- The best gas boilers are only around 85% efficient
- The best air source heat pumps are around 350% efficient

This means that to replace all our gas boilers with air source heat pumps, we would need an extra 20 Gigawatts (on top of the 28 Gigawatts of non-renewable electricity

# 48 Gigawatts!



---

## What does this mean for us?

- The UK has a population of 68.9 million
- Dorset's population is 376,480 (0.54% of UK)
- In Lyme Regis there's 3,612 (0.0052%)

This would put Dorset's share of the extra 48 Gigawatts at 262 Megawatts and Lyme Regis' share at 2.5 Megawatts

...so how would the car park scheme fare?



## 5,500 m<sup>2</sup> of solar canopy

At 20% efficiency achieving an average of 3.6KWh / m<sup>2</sup> / day \*

5,500 m<sup>2</sup> of solar panels would produce 7.2 million kWh / year

That's an average of 825 kW throughout the year

(or 33% of the total need for Lyme Regis)

\* Source [pwwatts.nrel.gov](http://pwwatts.nrel.gov)



---

## Example - York

Plans have been submitted for the first hyper hub in York – featuring solar panels and rapid charging points for electric vehicles.

The £1.5m scheme to build two hubs – at Poppleton Bar and Monks Cross Park&Ride sites – were given the go ahead by councillors in April.

Under the proposals solar canopies will be installed at both car parks, with the energy they collect used to charge vehicles or stored in batteries.



# Thank you.

