

ENERGY DEVELOPMENT OPPORTUNITIES FOR LANDOWNERS

SUBSIDY-FREE SOLAR

Martin Williams

Associate, Energy Team

Carter Jonas

SOLAR SECTOR BACKGROUND

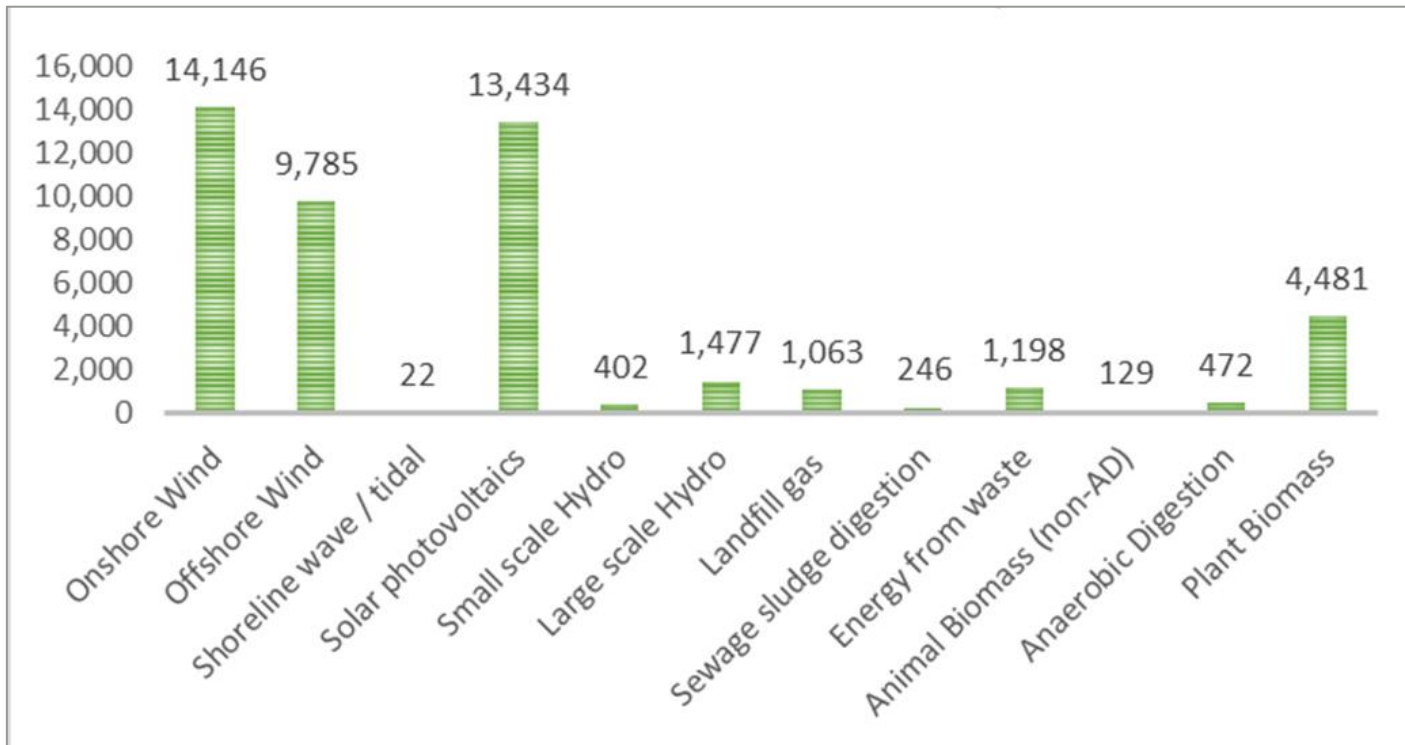


One of the largest renewable energy sectors in the world

>**46,500 MW** installed

>**13.4GW** of solar

One of the cheapest form of renewables - **£44/MWh** compared to onshore wind at £46/MWh and offshore wind at £57/MWh (by 2025)



SUBSIDIES

Subsidy payments by Ofgem to the operator in the past

- Renewable Obligation (RO)
- Feed-in Tariff (FiT)

Technology	Closure Date
All Technology except Onshore Wind & Solar	31/03/2017
Onshore Wind	12/05/2016
Solar PV ≤5MW	31/03/2016
Solar PV >5MW	31/03/2015

- Contract for Difference (CfD)
- First CfD auction was held from Oct 14 to March 15



MOVING FORWARD

So where is the future for solar and can solar work without subsidy?

Reduction in technology costs

Increase in the efficiency

Length of planning permissions

Economies of scale

Other countries

Public perception



WHAT ARE DEVELOPERS LOOKING FOR?

What sort of site are developers looking for?

No environmental constraints

Grid connection

Acreage

Topography

Planning



LANDOWNER BENEFIT



Initial option period and payments

Up to £1,200/ac, index linked with a % of revenue

30-45 year lease term

Income

Net Zero Targets



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ELECTRIC VEHICLE (EV) FORECOURTS

Clare Davey

Associate, Energy Team

Carter Jonas

EV SECTOR BACKGROUND



32.5 million UK cars

From 2035, all new cars and vans will have to be zero emission capable

Five-fold increase in market share from 2019 to 2020

Charging infrastructure needs to be improved

- 60-70% charging at home
- 20-30% at work or visitor attractions
- 10% en-route

EN-ROUTE / EV FORECOURT TECHNOLOGY

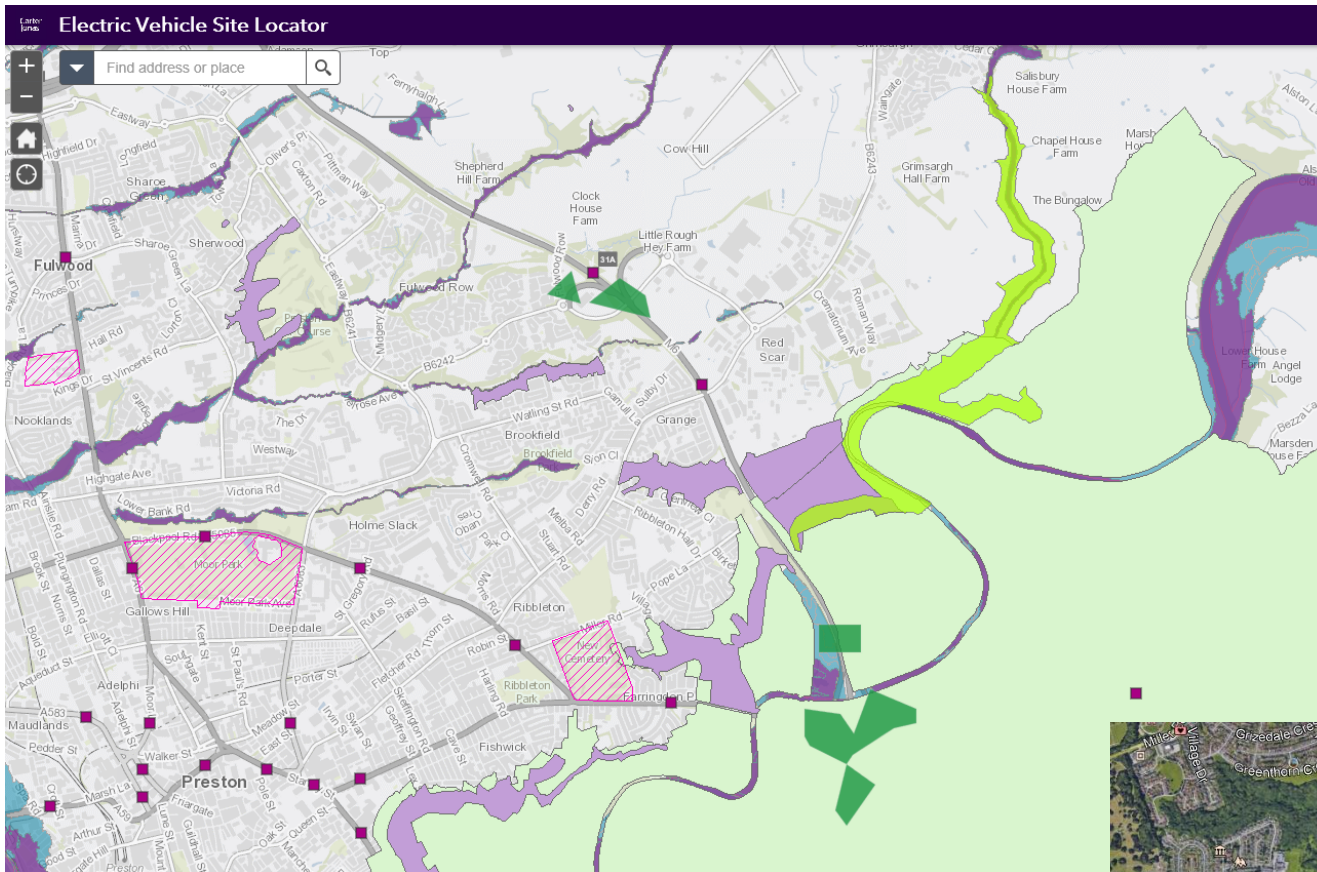
Rapid, Ultra-Rapid and Supercharger charging facilities, up to **350kW per charger**

Mix of renewables and battery storage

Food and drink, groceries, meeting space and EV showrooms



SITE SUITABILITY



Developer builds, owns and operates development (short dwell time)

Adjacent to strategic highway (access and road frontage ideal)

Grid connection

0.5-2.5 acres

Land slope

Limited site constraints



LANDOWNER BENEFIT

Up to **£100,000/annum**, index linked

20-30 year lease term

Contribution to Corporate Social Responsibility goals

Futureproofing road network

Diversification of income



FIRST MOVER ADVANTAGE



Suitable locations are finite

Competition for space and grid connection

First sites most likely to be successful

Select the right technology and developer

Co-locate with renewables

Impact on land values and tax



ENERGY DEVELOPMENT OPPORTUNITIES FOR LANDOWNERS

BATTERY STORAGE

Tom Hilton

Senior Energy Specialist

Carter Jonas

BATTERY STORAGE TECHNOLOGY



>**1GW** of installed battery storage projects, **4GW** in planning

Containerized deployable ~1MW units

Combined with other of renewables

Feed electricity into grid or batteries

Multiple complex revenue streams

Capacity market

Power arbitrage

Frequency response

Balancing services

BATTERY STORAGE SITE SUITABILITY



Close to infrastructure, overhead power line or substation

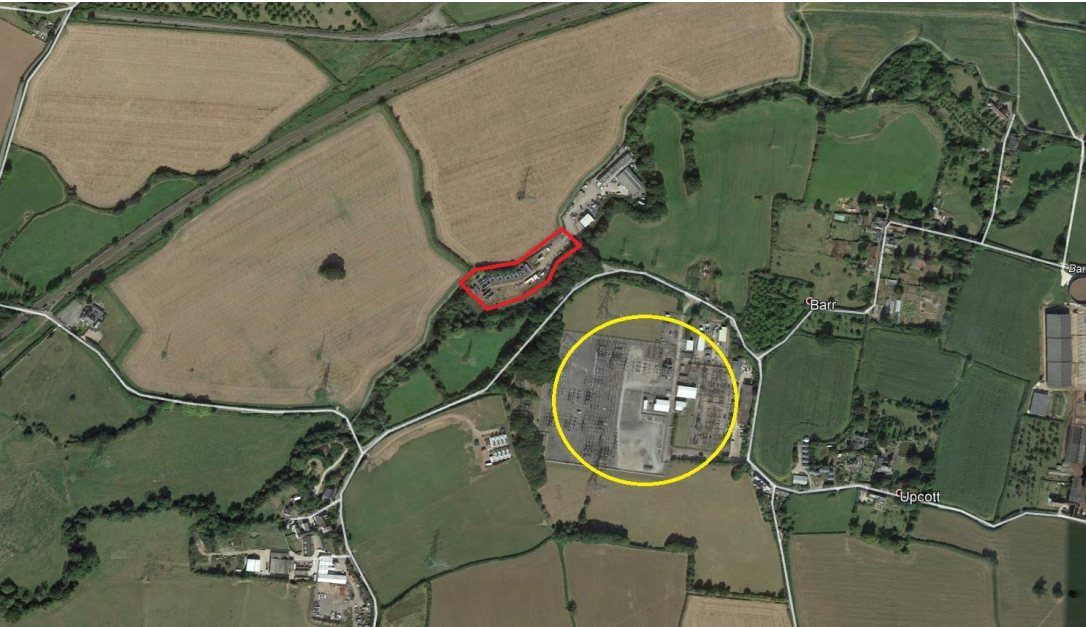
Natural screening

No constraints or environmental designations

Flat, with good access

Area

- 0.2 acres for 5MW**
- 0.8 acres for 8MW**
- 1.5 acres for a 30MW**
- 2.5 acres for a 50MW**



EXAMPLE BATTERY STORAGE PROJECTS



Fideoak Mill, Taunton

30MW

22 units

~ 1.5 acres, including access

Adjoins primary sub-station

Installed in stages

Balancing services to National Grid

Estimated rental at
£2,000/MW/year

LANDOWNER BENEFIT



Smaller area of land

Long term leases (20-30 years)

Rental income per MW

Project specific, scope for different project sizes

5MW - £5,000 per MW

30MW - £2,000 per MW

100MW - £750 per MW

Generation linked uplifts or revenue share

Infrastructure investment

