

**SOLAR POWER
IS COMING
TO WREXHAM!**





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**Predictions are very difficult; especially
about the future!**



GOVERNMENT POLICY

**Floundering with a large degree of
pointlessness!**





Wrexham's Green Credentials.....

2008

- Low investment
- Energy inefficient property portfolio
- Small Renewables budget
- Other Priorities (WHQS)
- Carbon Reduction not corporately significant

2014

- Largest domestic solar PV scheme in UK
- Commercial PV delivered
- Carbon Trust Standard
- High performing Welsh LA in CRC league table
- Established a recycling annual invest to save budget
- Annual renewable budget
- £4m CESP funding levered in
- ECO Procurement framework
- 3 MW solar farm
- Exploring RHI opportunities



Our solar journey.... Conditions for success

- Senior Buy in
- Strategic Priority
- Ambition & Drive
- Innovation & Creativity
- Circumstances / Fortune
- Strong Project Management ethos
- Sound Business Case development
- Prepared to take risks / Holding our nerve!
- Common sense
- The right people!

*In the midst of
massive FIT
uncertainty*

*Above not normally
synonymous with
LA's*

*Set against a
backdrop of worst
economic downturn
in living memory*



Summarising the benefits

The environment

Up to 3000 tonnes of CO2 saved pa

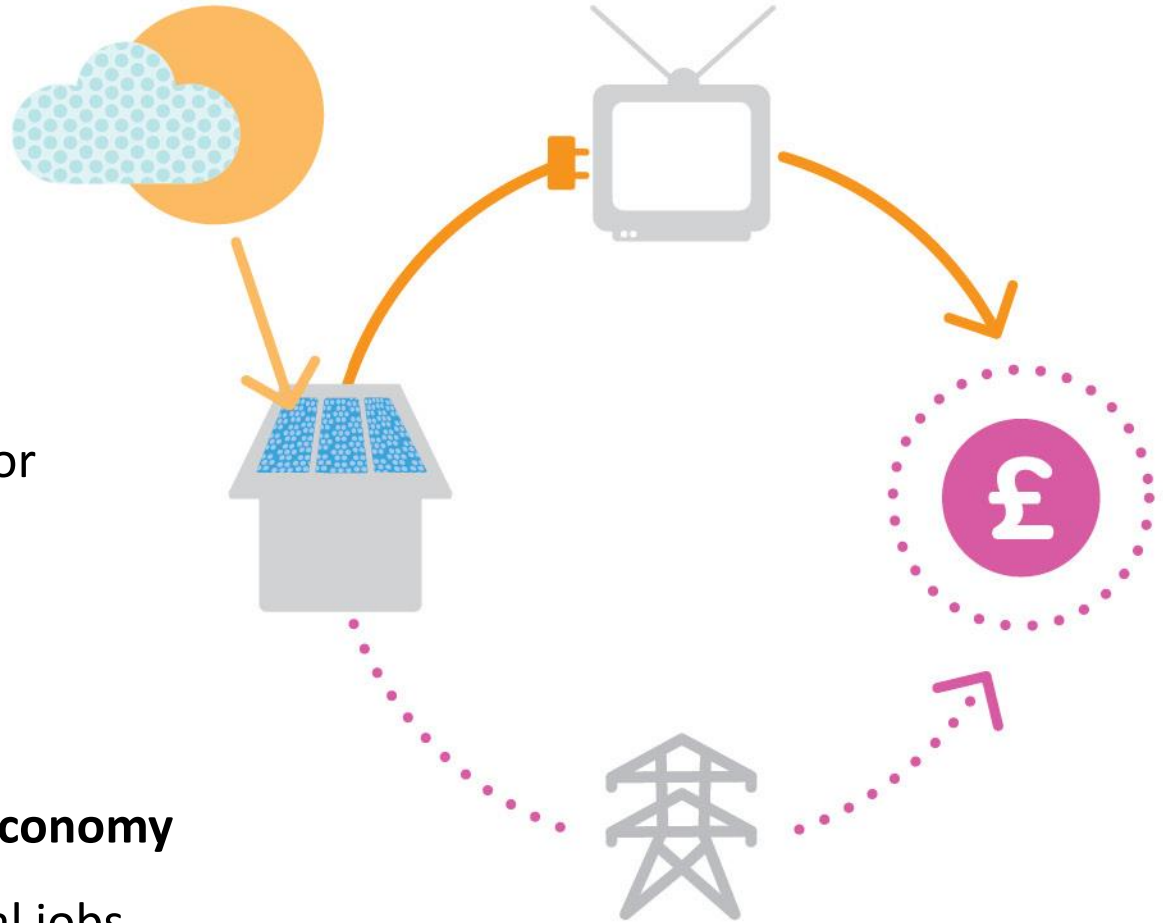
The Council

Up to £700,000 income pa for 25 yrs. Also reputation

The tenant

£100 - £300 pa saving

The economy
Local jobs,
training, skills etc



Stimulating the local economy & supply chains

- 47% of workforce recruited locally
- 75 people (jobs)



Panel installers x 15



Admin / TLO x 9



Electricians x 20



Local scaffold companies x 5



Warehouse staff x 10



Plus – panels sourced locally



Necessity of extensive comms and engagement!

Mae Cyngor Bwrdeistref Sirol Wrecsam yn mynd i osod paneli ffotofoltaidd ynni'r haul ar hyd at 3000 o eiddo y mae'r Cyngor yn berchen arnynt, ledled y fwrdeistref.

Cofreith gwybistu & ni
Os hoffech gwybys mwy am y prosiect paneli haul hwn, cofreith gwybistu & ni.
Llwyd Ffyn Ailgywneir: Tel: 08000 809 908
E-bost: solar@powerwrexham.gov.uk
www.ynni'rhaulwrecsam.org

Mae tai cymdeithasol ymblyth y pethau hynny sy'n gyflwynu am y gyfnewid hyspaf i'r troed carbon Wrecsam. A dyna pam y mae'r cyfnewid hwn, sef un o'r cyfnewidau'n rwydwaith fath yn y DU, mor brwydro ar manynt ein cyfnewid hwn i fynd i'r afael ag effeithiau newid yr ystod awyrol.

POWER PŴER

MAE WRECSAM AM DDEFNYDDIO YNNI'R HAUL!

www.ynni'rhaulwrecsam.org

POWER PŴER

**WHY SOLAR?
PAM YNNI'R HAUL?**

Because it's good all round...

...for the climate
Climate change is a serious issue that will affect us all. Solar power is a renewable energy that doesn't use fossil fuels, so this project will help Wrexham drastically reduce its carbon emissions. As a result, solar power is much better for the environment.

...for the council
Wrexham Council will be paid for each kilowatt of solar that is generated by the panels and the money will be reinvested into the delivery of council services, so everyone in Wrexham will all benefit from this solar power project.

...for the tenant
As the ground is not used to raise more and more electricity and housing for a further 25 years, being fully covered by solar means people don't need to live as much from the National Grid, so they'll be self-reliant, cover electricity bills and savings of £100,000 every year.

Oherwydd mae'n ilesol drwyddo draw...

...i'r hinsawdd
Climat ydych chi'n gwybod bod hwn yn ddigwrdd a dim hyspaf i'r troed carbon. Ffyni'r haul ydych chi'n gwybod bod hwn yn ddigwrdd a dim hyspaf i'r troed carbon. Ffyni'r haul ydych chi'n gwybod bod hwn yn ddigwrdd a dim hyspaf i'r troed carbon.

...i'r Cyngor
Bydd Cyngor Wrecsam yn cael i'w talu am bob kilowatt o solar sy'n cael ei gyflwynu gan y paneli a bydd yr arian hwn yn cael ei ail-lywodraethu i'r troed carbon. Ffyni'r haul ydych chi'n gwybod bod hwn yn ddigwrdd a dim hyspaf i'r troed carbon.

...i'r tenant
Wrth i'w talu am ynni'r haul ydych chi'n gwybod bod hwn yn ddigwrdd a dim hyspaf i'r troed carbon. Ffyni'r haul ydych chi'n gwybod bod hwn yn ddigwrdd a dim hyspaf i'r troed carbon.

POWER PŴER

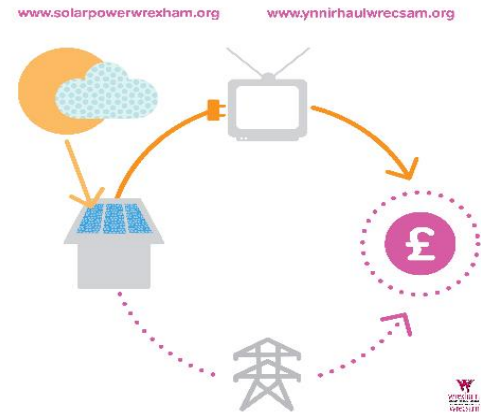
SOLAR POWER YNNI'R HAUL

Solar power is coming to Wrexham!

Mae Wrecsam am ddefnyddio ynni'r haul!

www.solarpowerwrexham.org

www.ynni'rhaulwrecsam.org



What else went well....?

- On time (almost)
- Under budget
- Putting Wrexham on the map / reputation
- Well received by tenants (buy in)
- Procurement
- Outcome of FIT review
- Partnership working
- Local employment
- Communications
- Weather
- Health & Safety



Not everything went to plan....



*What do you
want from a
Solar Scheme?*



Wrexham Solar Farm

Berthengron Farm, Legacy, Nr. Rhosllanerchrugog



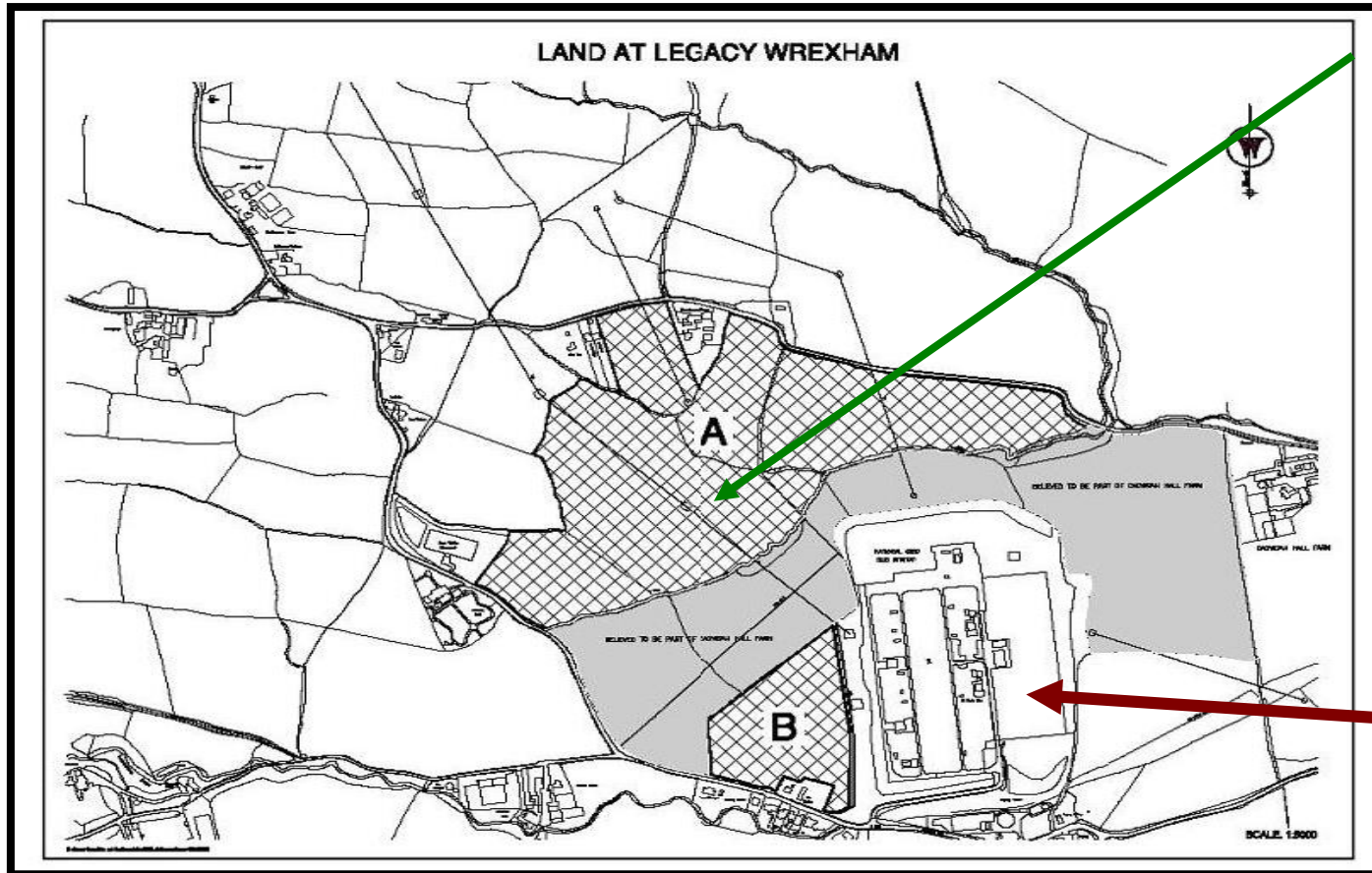
Wrexham's Solar Ambitions

- To establish a procurement framework to permit the delivery of multiple land based solar schemes
- 43.1 acre site of council owned land
- Proposed 5MW solar farm based on land close to the National Grid substation
- Planned 12,000-15,000 PV modules
- Site to retain agricultural use
- Good connectivity to the grid
- Favourable site topography



Site Map

Plot A and B:
Council owned
land

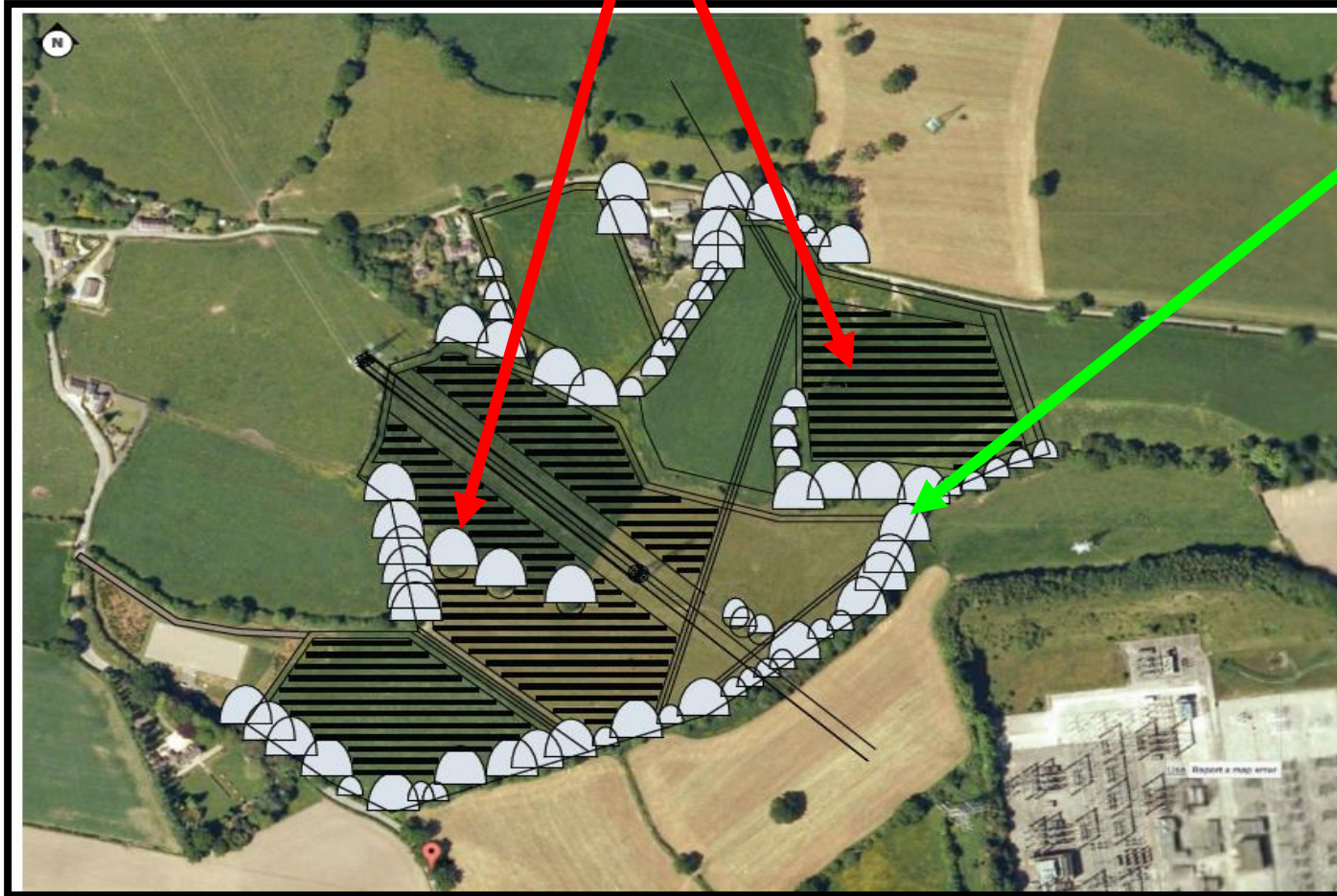


Legacy
Substation

Site Map

Proposed areas for development:
Location of panels

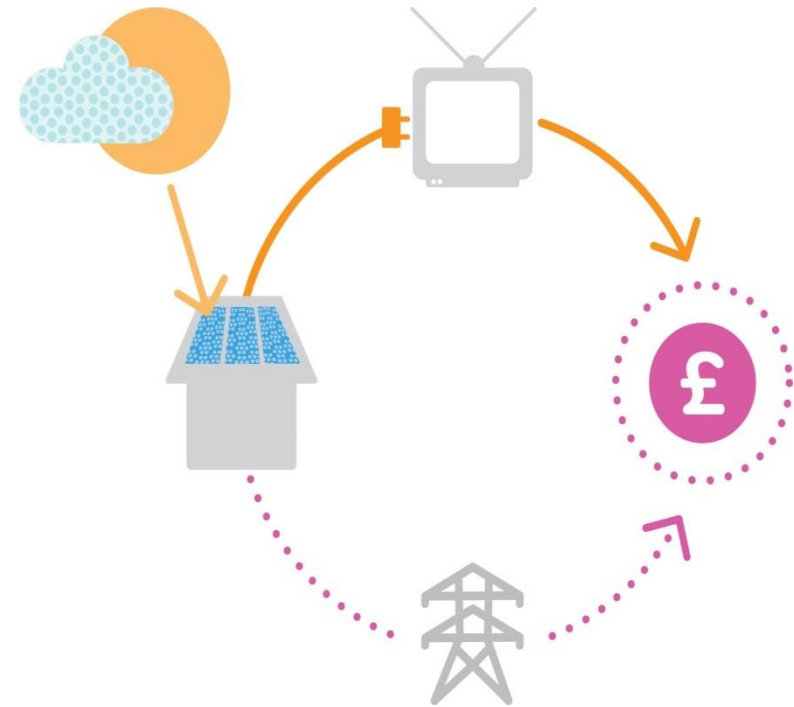
Half moon sections,
indicate areas of
potential
shading due to
hedgerows and
trees



Direction of
Solar
Panels

Developing a Solar Farm

- Tenders were issued out before planning permission was granted;
- LPA/Planning Committee postponed the decision and requested site visit;
- Once planning application granted the contract was awarded to British Gas
- Work commenced on site in January 2015
- Scottish Power witness tested the scheme on the 14th May



Lessons Learnt

- Construct a solar farm during the summer months to ensure that poor weather conditions do not affect the deadlines for the scheme
- Start early discussions with the DNO and LPA
- Apply for connection at the early stage
- Sign PPA agreement before you commence construction phase
- Ensure that the grid connection points are on land owned by the local authority and not in third party ownership
- Make sure Community Benefits are agreed before project is approved
- Project/Contract management is a full time job!

Lessons Learnt

- Project/Contract management is a full time job!
- Planning and connection offer to be incorporated into the contract
- Make sure all demands from the DNO are met/agreed with the contractor at the beginning of the contract
- Create OFGEM application early and keep chasing them
- When the construction phase starts approach MOP and Electricity Supplier so you can get meters installed in advance of the system energisation
- Keep chasing legal: wayleaves, easements and internal legal department
- Follow up changes with project Manager, Planning and DNO

Opening the Solar Farm

- The Legacy Solar farm was officially opened by Wrexham Councils Mayoress on the 17th June 2015
- The scheme will provide the Council with an income stream (£2.5M) for the next 25 years and is projected to generate over 57m kWh green electricity





Welcome to the Wrexham Legacy Solar Farm

This farm generates clean electricity which feeds into the National Grid to power the equivalent of 700 homes.

System size:	2.64MWp
No. of solar panels:	8,880
Elec. Generation/year:	2,342 MWh
CO ₂ emission/year savings:	1,272 tonnes

It started to generate green electricity in May 2015. It is the first solar farm owned by Wrexham County Borough Council and the first in Wales to be owned and operated by a local authority.

The farm was installed by British Gas

Croeso i Wrecsam Etifeddiaeth Solar Fferm

Mae'r fferm yn cynhyrchu trydan glân sy'n bwydo i mewn Grid Cenedlaethol i bweru gufwerth â 700 o gartrefi.

Maint y system:	2.64MWp
Nifer y paneli solar:	8,880
Trydan canhedlaeth / bliwyddyn:	2,342 MWh
Arbedion CO ₂ :	1,272 tunelli

Mae wedi dechrau i gynhyrchu trydan gwyrdd Mai 2015 ac roedd y fferm solar cyntaf eiddo ac a weithredir gan Awdurdod Lleol yng Nghymru.

Mae'r fferm solar yn eiddo ac a weithredir gan Wrecsam Roedd Cyngor Bwrdeistref Sirol a'u gosod gan Nwy Prydain.

