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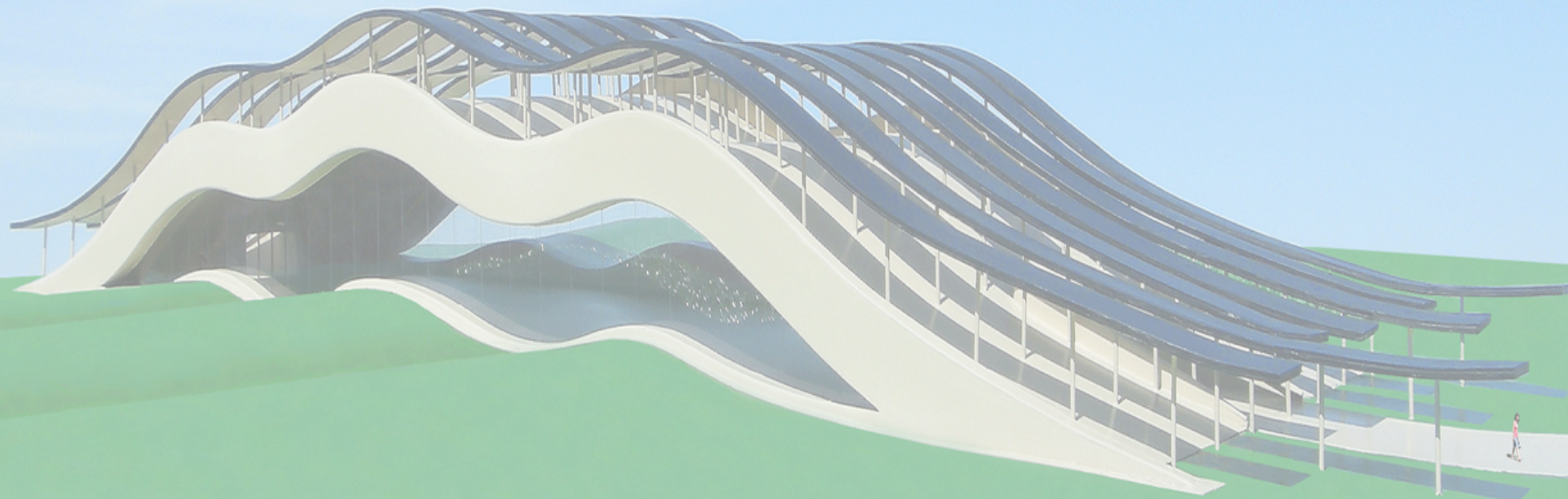
Sheffield Solar

Welcome to Sheffield Solar!



— FINALIST —

Green IT project of the Year



Dr Lisa Clark - lisa.clark@sheffield.ac.uk - www.shef.ac.uk/solarfarm



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AGENDA

11:00 am Introduction

11:15 am Talks

12:30 pm Lunch

1:30 pm Tour of Sheffield Solar Farm

2:15 am Talks:

3 pm Open discussion

4 pm FINISH



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Solar Farm Team

Dr Alastair Buckley – PI Sheffield Solar

Dr Lisa Clark – manager Sheffield Solar

Julian Briggs – Systems Administrator

Jamie Taylor – Database Analyst

Aldous Everard – Engineer

Huw Birch – PhD student

Dr Lisa Clark - lisa.clark@sheffield.ac.uk - www.shef.ac.uk/solarfarm



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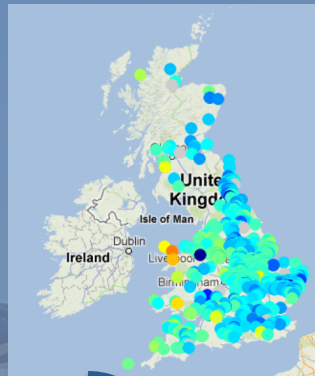
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PV testing and dissemination project

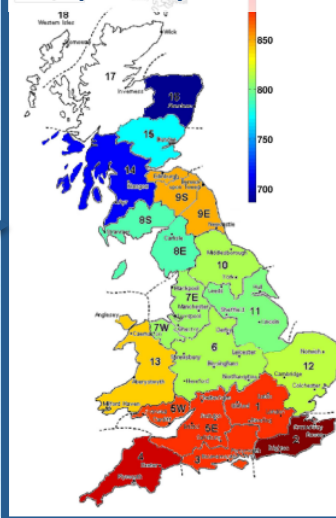
Sheffield Solar Farm



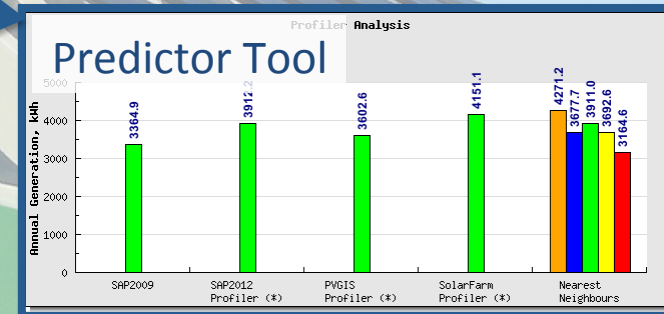
Microgen Database



Capacity Factor



iPad app

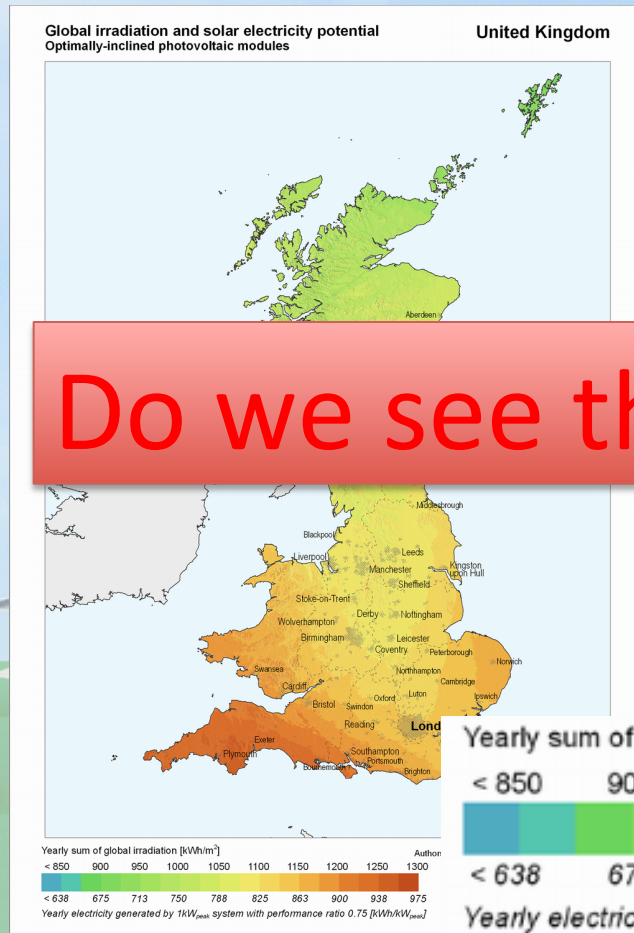




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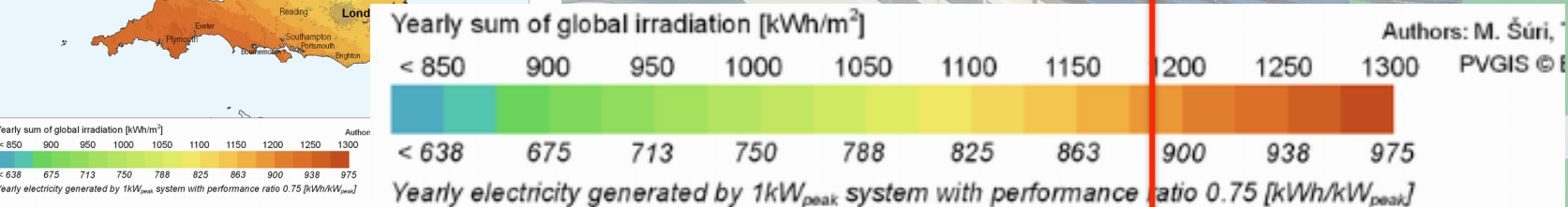
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PV opportunity in the UK



Sheffield:
PVGIS: 894kWh/kWp
SAP: 926 kWh/kWp

Do we see this performance?



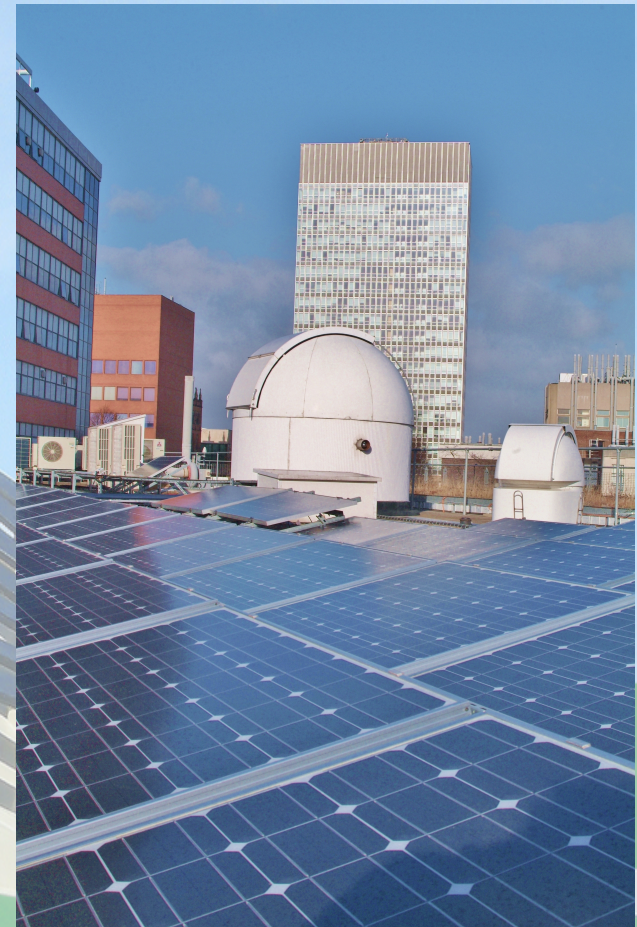


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The Sheffield Solar Farm

1. Two 4 kW_{peak} c-Si installation
(feeding two 4kWh batteries)
2. A technology testbed
a-Si, p-Si, c-Si, hybrid Si, CdTe, CIGS, OPV
temperature, humidity, wind speed logging etc...





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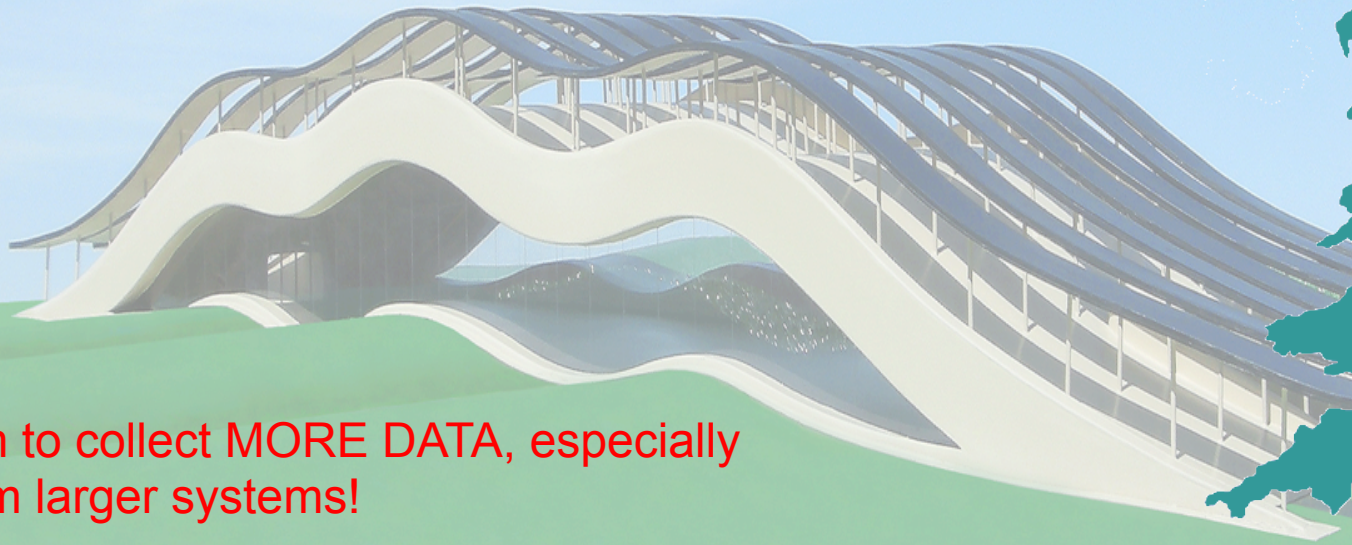
Microgeneration Database

- 6500+ installations across the UK
- Small and large scale (<4kW, ... , > 1MW)
- 98% of installations are <4kWp

Jamie will talk about analysis later today

Aim to collect MORE DATA, especially
from larger systems!

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Predictor tool (beta version)

www.microgen-database.org.uk/home/predictor-tool

Home Maps Reports Gallery Forums FAQs About Us Predictor Tool

Welcome to the Sheffield Solar Farm Installation Predictor Tool

This tool compares the annual generation predicted by SAP, PVGIS and the Sheffield Solar Farm's database.

Please enter your installation information:

Array size (kWp) *

Search

Search for your address

Enter a query

Latitude *

Longitude *

Postcode *

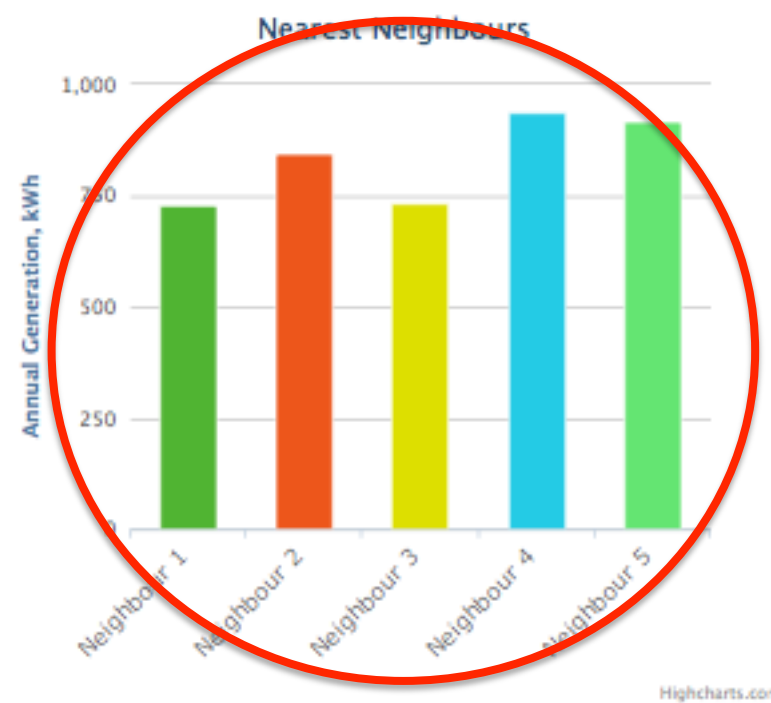
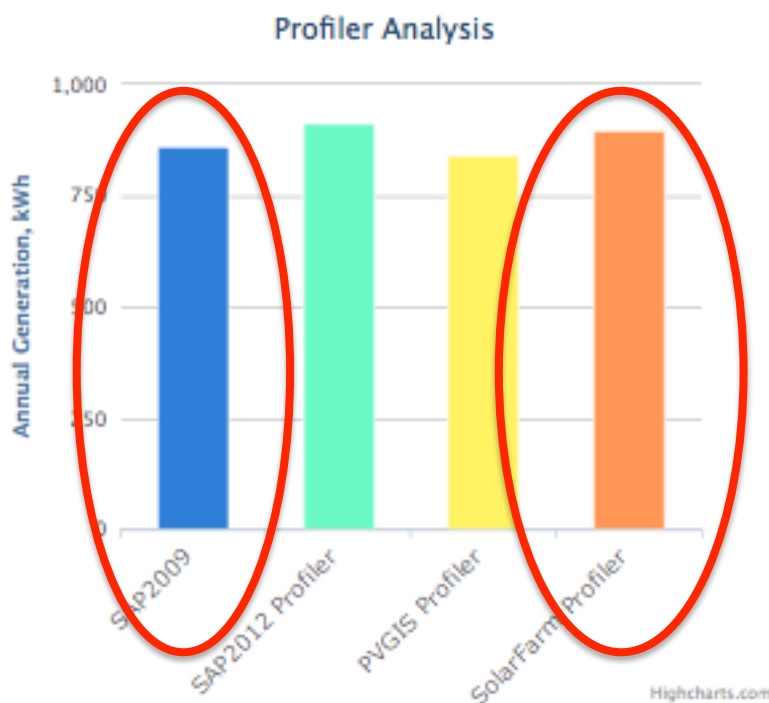
Orientation/A

Elevation *

Shading *

<20% shading (None)

Submit



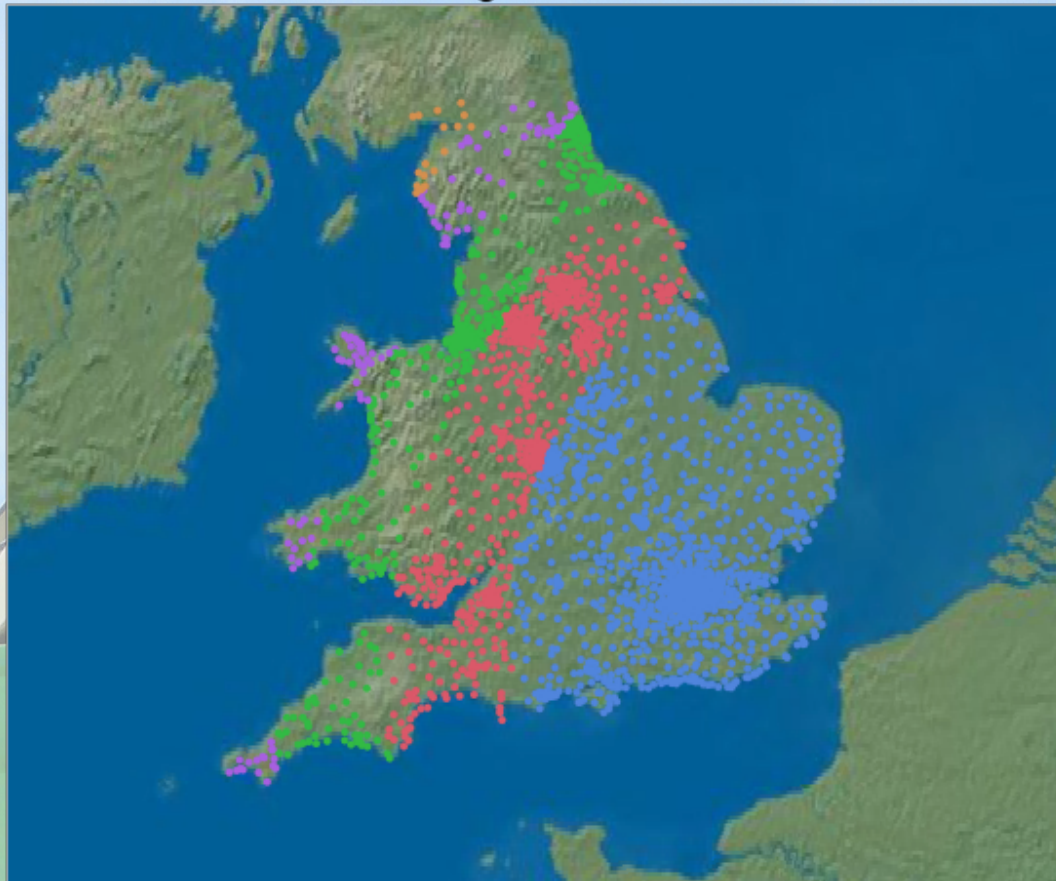


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Comparison to PVGIS Classic

Difference between real generation and PVGIS Classic



% diff from PVGIS Classic

- -20 - -10
- -10 - 0
- 0 - 10
- 10 - 20
- 20 - 30

Blue region: PVGIS
Classic under predicts
between 20% and 10%

Red region: PVGIS
Classic under predicts
to 10%

Green region: PVGIS
Classic over predicts to
10%



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Comparison to PVGIS CMSAF

Difference between real generation and

SAP2012: 830 (91%)
PVGIS Classic: 834 (92%)
PVGIS CMSAF: 937.2 (103%)
ACTUAL GEN: 908

SAP2012: 869 (112%)
PVGIS Classic: 836 (108%)
PVGIS CMSAF: 833 (107%)
ACTUAL GEN: 776

SAP2012: 876 (94%)
PVGIS Classic: 834 (90%)
PVGIS CMSAF: 866 (93%)
ACTUAL GEN: 928

SAP2012: 1000 (107%)
PVGIS Classic: 905 (97%)
PVGIS CMSAF: 924 (99%)
ACTUAL GEN: 934

SAP2012: 959 (92%)
PVGIS Classic: 877 (84%)
PVGIS CMSAF: 1034 (99%)
ACTUAL GEN: 1046

Red region: PVGIS
predicts



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- Collation of UK PV data
- Disseminate analysis to UK industry
- Feedback free analysis to all donors
- Forum of users – “voice of the community”
- Localized reports / consultancy



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The Future of Sheffield Solar and Microgen Database

- Research funding ends June 2015
- Aim to attract more funding from industry and research
- Basic performance analysis will remain FREE for donors!
- Microgen database is very important for future policy