Improving Local Renewable Generation Potential

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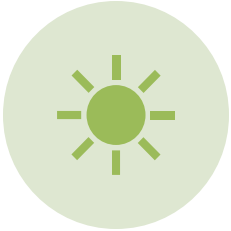
Background

Circa 1MW of solar photovoltaic (PV) installed on Southampton City Council rooftops, which offsets £180k energy costs per annum

Solar Feed in Tariff income £1.8M to date, >£1M expected over the coming decade.



Payback on investment in rooftop solar photovoltaic (PV) now commonly less than 5-7 years

Onshore wind turbines now feasible due to changes in planning rules – local supply

Southampton energy cost rose >£6M per annum during energy crisis

Protected partially via flex procurement route

Need to reduce energy costs risks moving forward

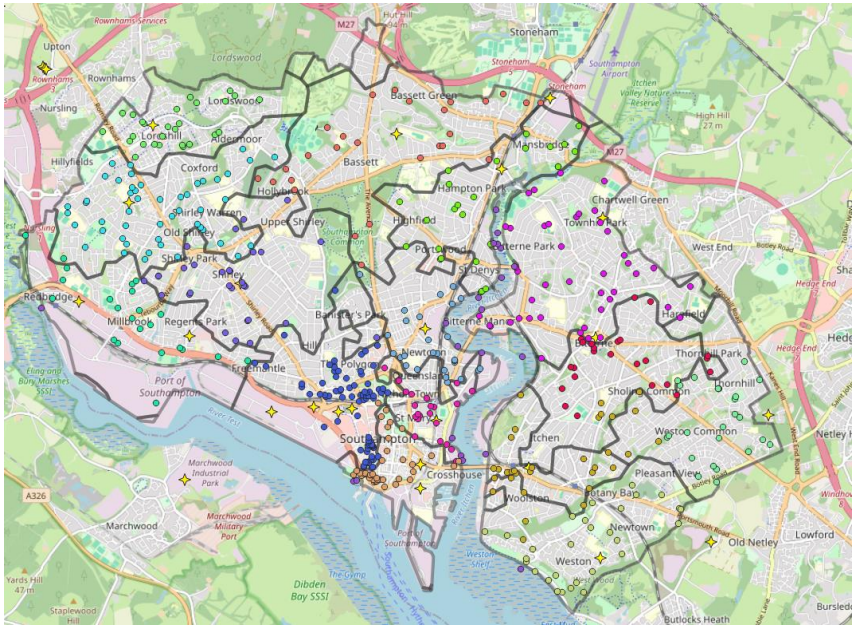
Procurement options

Reduce demand

Generate locally

Potential Opportunities

- City Solar potential >300MWp
- Define Southampton CC Ownership & investment
- Overlay Primary sub station data



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Investment Option 1 - own sites

- Install solar to match on site demand, with minimal export to grid
- Limited to properties where self investment in solar is feasible
- May be additional roof space available for solar generation
- Standard solar investment and installation route

Option 2 - third party assets PPA

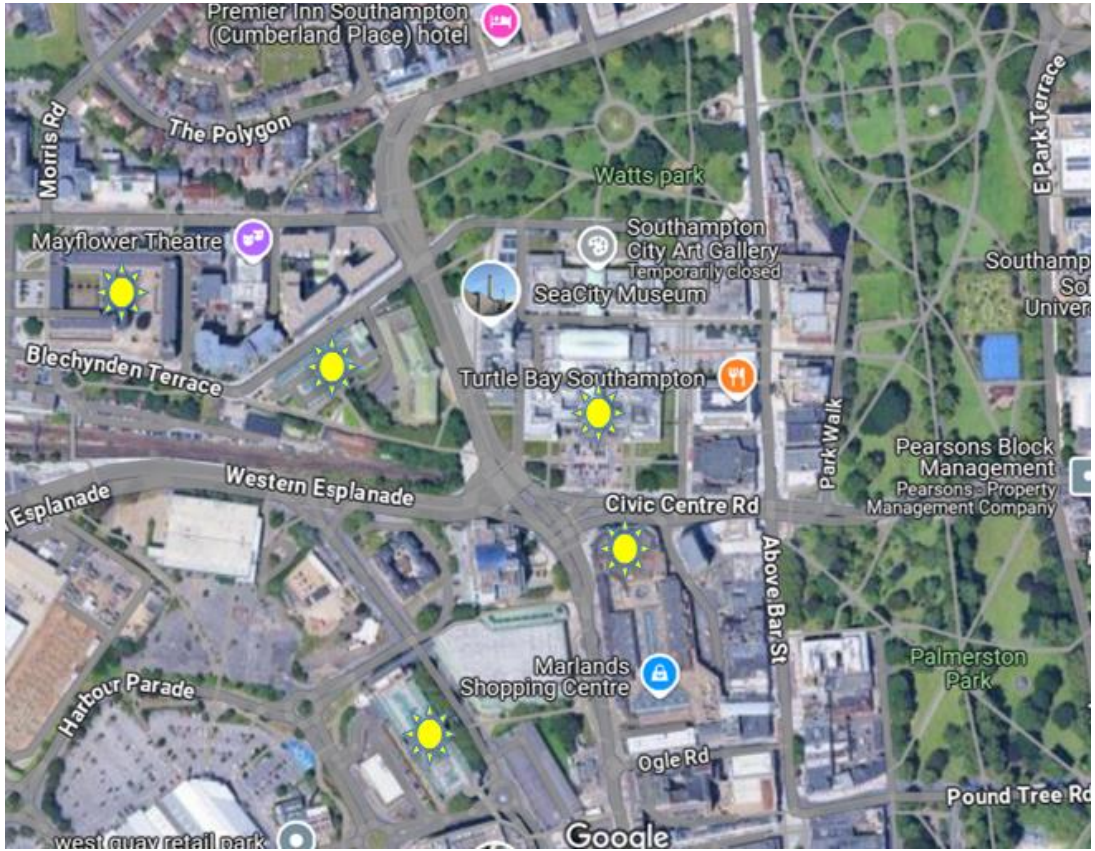
- A PPA is a long-term contract that is utilised by electricity generators (which in this case would be SCC) and its users (in this case Schools or under an extended programme, Leisure Centres, housing and other leased out SCC assets).
- Electricity generated is purchased by the end user (a school) at a pre-defined discounted rate.
- The installed Solar PV system (and all its ancillaries) would be wholly owned and maintained by SCC.
- The income generated pays for borrowing, admin costs and O&M
- May be additional roof space available for solar generation
- The current cost of electricity purchase by SCC is 21 p/kWh, the electricity generated from installed Solar PV systems can be charged at a price that SCC & 3rd party deems fit to allow a financial business case

Option 3 - add Complex Site

Upcoming Changes	• Elexon P441 Modification will provide formal clarification on complex sites metering.
Complements Existing Agreements	• Enhances owner occupier and third-party Power Purchase Agreements (PPA).
Operating in Current Market	• Complex sites are already active at the community level – Energy Local
South West Net Zero Hub Project	• Bath and West Community Energy, Energy Local, & Southampton Complex sites and local electricity supply - SW Net Zero Hub
Local Electricity	• Encourages local generation and supply.

What is a standard solar portfolio?

- Individual sites operate independently – solar generation, consumption and export/spill
- Use investment option 1 and/or 2
- Generation based on onsite generated power consumption plus any spill to wider electricity grid
- Some sites with significant roof space can't max solar generation due to business case constraints and minimal term export guarantee market conditions.



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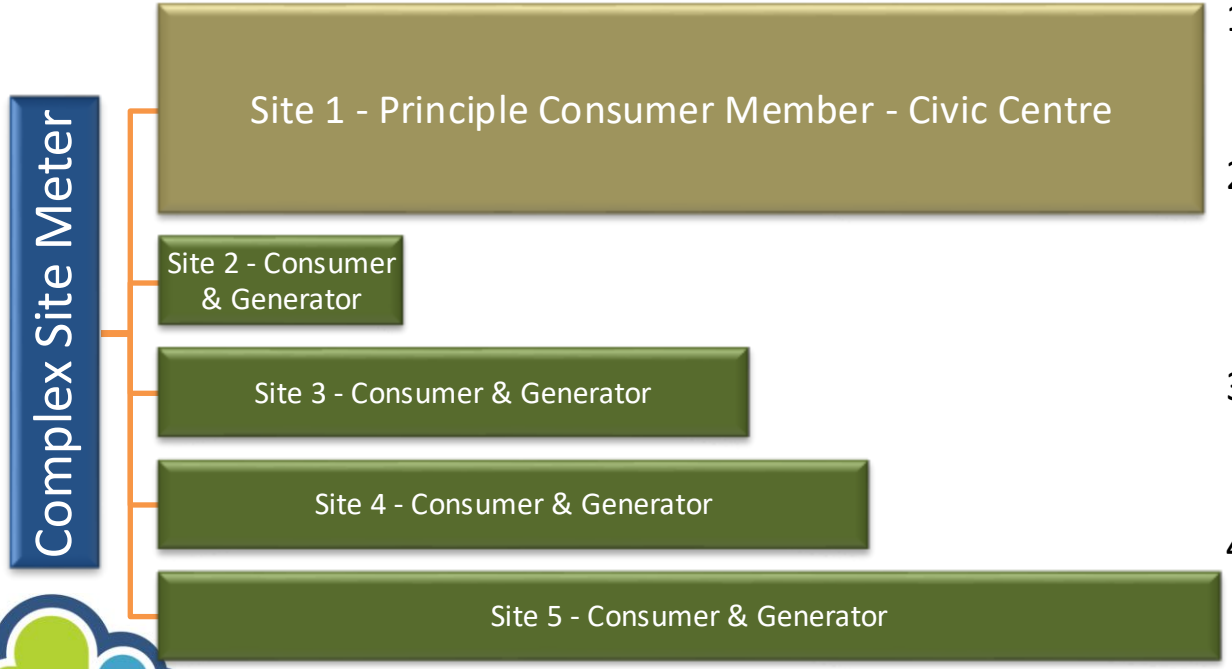
What is a complex site?



1. Complex site meter – imports electricity from grid & exports any excess
2. Aggregates separate sites demand and renewable generation – treated as a single supply
3. Consumer & Generators – over size solar to generate export per site
4. Civic – consumes ‘generated export’

Complex Site case

Total Cost of project	Standard under roof plus SEG	Standard under roof plus Complex Site	**Difference Using Complex Site**
£600,000	£65,600	£99,500	**£33,900**

- Clear added value for complex sites
- Utilise appropriate roof space and supply locally
- Local government or third party funded to expand renewable investment

Questions?

- Further info:
  - Complex sites and local electricity supply - SW Net Zero Hub
  - Elexon P441 Modification

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