

Grid Connections : Solar PV Roof Mounted



Knowing how to play the game

Knowing who to speak to

Knowing which buttons to push

Knowing how to avoid the costs

Introduction

- Based in Cumbernauld
- Operating since 2007
- Made over 14,000 grid applications
- Saved clients over £15m
- Team of ex property developers



Question : If you were hungry and this was the only restaurant in town, would you eat there?



Question : How do you stop a boat from sinking?



Answer :



DNO's – understanding their challenges – Giving you the edge

Application Fees

Electricity	FREE	=
Gas - housing	£450	
Water - housing	£100 - £1500	



Busy ?

Busy – 18 applications

Often – 88 live jobs per engineer

Applicants – “who are ya?”

DNO treats (correctly) private developers and Local Authorities the same.

No preferential treatment – just an enquiry number.



Better to be put on a pedestal

- Have funding
- Renewable Strategy
- In public interest
- Protecting front line service.
- Securing jobs

Local Authority



Grid Application Strategy : Roof Mounted Solar PV

Stage 1 : Summary Strategy



Stage 2 : DNO Meeting



Stage 3 : Solar Map the Properties



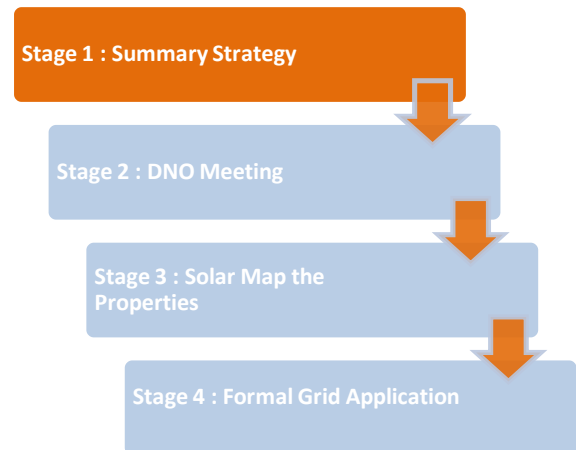
Stage 4 : Formal Grid Application

Grid Application Strategy : Roof Mounted Solar PV

Stage 1 : Local Authority Summary Strategy

Can simply be a set of drawings

- How many houses? [1,000 houses may deliver around 500 suitable roofs]
- How many commercial roofs?
- Which areas?
- Phasing?



Grid Application Strategy : Roof Mounted Solar PV

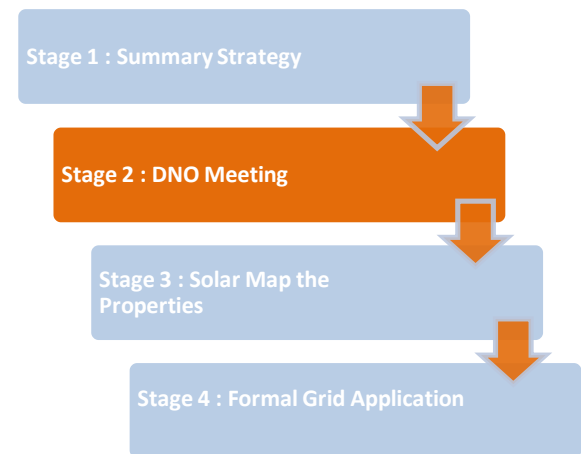
Stage 2 : DNO Meeting and Input

The DNO provides advice in the following areas :

- which areas or strategy phases have capacity issues?
- which phases should be installed first (least cost approach)

This may result in the Summary Strategy document being redefined.

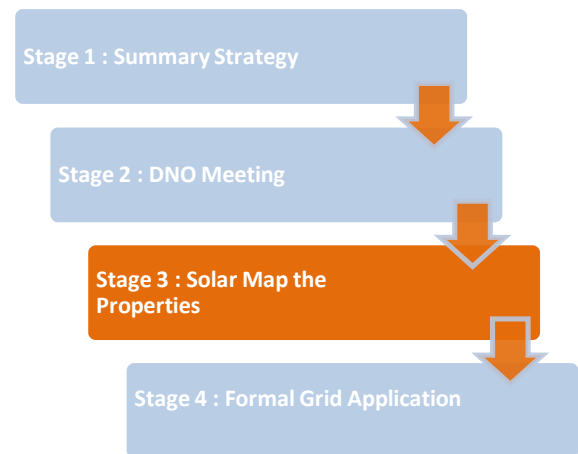
SSE and Scottish Power welcome this approach.



Grid Application Strategy : Roof Mounted Solar PV

Stage 3 : Solar Mapping

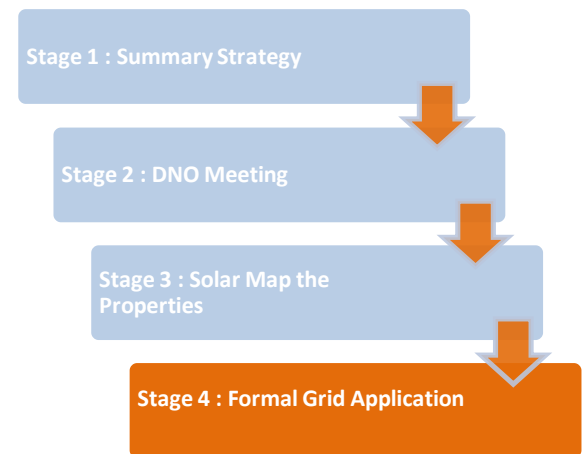
- The DNO needs to know the amount of generation for each roof. This is because each street(s) is connected to a substation and the amount of generation determines if there is an issue on a street by street basis.
- 1,000 houses may result in 500 suitable roofs.
This does depend on the Councils definition of a suitable orientation eg south facing only or east/west facing
- Typical cost £1.50 per roof
- Timescale 7-14 days
(depending on the number of roofs)



Grid Application Strategy : Roof Mounted Solar PV

Stage 4 : Grid Application

- SSE and Scottish Power both recommend a formal G83-2 application.
- Required information :
 - excel spreadsheet with addresses and generation per property (produced as part of solar mapping)
 - Mpan numbers
 - maps 1:500
 - letter of authority
- Timescale 65 working days (may be quicker)
- Cost : zero
- Formal offer is valid for 90 days (and can be extended for a further 90 days)



Grid Application Strategy : Roof Mounted Solar PV

Stage 4 : Grid Application

- If there is an issue with transformer(s) requiring replacement (circa £15,000-£25,000 per transformer), the offer can be revisited
- Should this happen, the offer may then relate to (say) 450 houses as opposed to the initial 500 to achieve a zero/low cost grid connection.

Important :

Accepting a formal offer protects against other (housing) developers securing capacity in the network.

Other Considerations

- Historically 8% of generation quotes are accepted
 - First come first served (Interactive) for connections
 - A formal quote only guarantees the capacity if it is accepted
 - The DNO might have other constraints upstream that might mean capacity is lost/withdrawn
-

Additional Slides

Case Studies : Improved Terms Are Possible

Local Authority client wanted to accept four formal offers for solar PV farms under a 'medium term strategy'.

The DNO had required 10% of the contract value, which was re-negotiated with just the design fee paid, as they were the local authority.

Project	Previous deposit Plus vat	New deposit Plus vat	Cashflow Saving
Solar PV Farm 1	£9,392	£1,977	
Solar PV Farm 2	£4,258	£1,977	
Solar PV Farm 3	£52,528	£2,199	
Solar PV Farm 4	£48,029	£5,134	
TOTAL	£114,207	£11,287	£102,920

Solar PV Farms - 'Hidden Value'



Contestable Works

Non Contestable Works



DNO Primary
Sub Station

The contestable works can be completed by an ICP (Independent Connections Provider) who holds the appropriate accreditations. The key is making the DNO know they are in a competitive situation.

Known as the POC
(Point of Connection)

The Local Authority may also complete the trench digging works, with the DNO laying the cable.

Residential Developments - 'Hidden Value'



eg Sub
Station

Who ever owns the pipes and cables from the meter to POC is entitled to a transportation income, known as an 'Asset Value.'

Known as the POC
(Point of Connection)

Independent utility companies capitalise the income and reduce the contracting value. This can reduce contracting costs by **up to 50%**.

Thank you for your time

.....and any other questions

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