RIBBLE VALLEY
BOROUGH COUNCIL

02 AUG 2011

FOR THE ATTENTION OF

For office use only
Application No. 3 2 0 1 1 0 6 2 0 P
Date received
Fee paid £ Receipt No:

Council Offices, Church Walk, Clitheroe, Lancashire. BB7 2RA Tel: 01200 425111 www.ribblevalley.gov.uk

Application for Planning Permission
Town and Country Planning Act 1990

Publication of applications on planning authority websites.
Please note that the information provided on this application form and in supporting documents may be published on the Authority's website.
If you require any further clarification, please contact the Authority's planning department.

1. Applicant Name, Address and Contact Details

Title: Mr | First name: Simon | Surname: Waller

Company name: Smiths Gore

Street address: 14 Eastway Business Village, Olivers Place, Fulwood

Town/City: Preston

County: Lancashire

Country: UK

Postcode: PR2 9WT

	Country Code	National Number	Extension Number
Telephone number:	[redacted]	[redacted]	
Mobile number:			
Fax number:			

Email address:

Are you an agent acting on behalf of the applicant? (•) Yes ( ) No

2. Agent Name, Address and Contact Details

Title: Mr | First Name: Simon | Surname: Stickley

Company name: Energi Installations Plc

Street address: 9A & 9B Hurstwood Court, Wheelton Lane

Town/City: Leyland

County: Lancs

Country: UK

Postcode: PR25 3UQ

	Country Code	National Number	Extension Number
Telephone number:	44	017727643900	
Mobile number:			
Fax number:			

Email address: simon@energiplc.com

3. Description of the Proposal

Please describe the proposed development including any change of use:

18 PV Panels on the South Facing Roof above the existing roof, inverter and wiring on the inside of the building.

Has the building, work or change of use already started? ( ) Yes (•) No

4. Site Address Details

Full postal address of the site (including full postcode where available)

House: Suffix:

House name: ROOT HILL ESTATE YARD

Street address: WHITEWELL ROAD

DUNSOP BRIDGE

Town/City: CLITHEROE

County:

Postcode: BB7 3AY

Description of location or a grid reference
(must be completed if postcode is not known):

Easting: 365930

Northing: 449842

Description:

5. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application? ○ Yes ◉ No

6. Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicle access proposed to or from the public highway? ○ Yes ◉ No

Is a new or altered pedestrian access proposed to or from the public highway? ○ Yes ◉ No

Are there any new public roads to be provided within the site? ○ Yes ◉ No

Are there any new public rights of way to be provided within or adjacent to the site? ○ Yes ◉ No

Do the proposals require any diversions/extinguishments and/or creation of rights of way? ○ Yes ◉ No

7. Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste? ○ Yes ◉ No

Have arrangements been made for the separate storage and collection of recyclable waste? ○ Yes ◉ No

8. Authority Employee/Member

With respect to the Authority, I am:

(a) a member of staff
(b) an elected member
(c) related to a member of staff
(d) related to an elected member

Do any of these statements apply to you? ○ Yes ◉ No

9. Materials

Please state what materials (including type, colour and name) are to be used externally (if applicable):

Others - description:

Type of other material: PV Modules

Description of *existing* materials and finishes:

Slate tiled roof

Description of *proposed* materials and finishes:

PV modules which have a glass covered front with dark blue PV cells behind, with aluminium frames, fixed to aluminium frame. Above existing slate roof.

Are you supplying additional information on submitted plan(s)/drawing(s)/design and access statement? ◉ Yes ○ No

If Yes, please state references for the plan(s)/drawing(s)/design and access statement:

Design and Access Statement, Existing Elevations (15260910C-EL-EX) Proposed Elevation ((15260910C-EL-PR) Proposed Module Layout 15260910C-PML, Site Plan, Letter of support from the Forest of Bowland, AONB Renewable Energy Position Statement.

10. Vehicle Parking

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Please provide information on the existing and proposed number of on-site parking spaces:

Type of vehicle	Existing number of spaces	Total proposed (including spaces retained)	Difference in spaces
Cars	0	0	0
Light goods vehicles/public carrier vehicles	0	0	0
Motorcycles	0	0	0
Disability spaces	0	0	0
Cycle spaces	0	0	0
Other (e.g. Bus)	0	0	0
Short description of Other			

11. Foul Sewage

Please state how foul sewage is to be disposed of:

Mains sewer ☐ Package treatment plant ☐ Unknown ☒

Septic tank ☐ Cess pit ☐

Other

Are you proposing to connect to the existing drainage system? ○ Yes ◉ No ○ Unknown

12. Assessment of Flood Risk

Is the site within an area at risk of flooding? (Refer to the Environment Agency's Flood Map showing flood zones 2 and 3 and consult Environment Agency standing advice and your local planning authority requirements for information as necessary) ○ Yes ◉ No

If Yes, you will need to submit an appropriate flood risk assessment to consider the risk to the proposed site.

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)? ○ Yes ◉ No

Will the proposal increase the flood risk elsewhere? ○ Yes ◉ No

How will surface water be disposed of?

☐ Sustainable drainage system ☒ Main sewer ☐ Pond/lake

☐ Soakaway ☐ Existing watercourse

13. Biodiversity and Geological Conservation

To assist in answering the following questions refer to the guidance notes for further information on when there is a reasonable likelihood that any important biodiversity or geological conservation features may be present or nearby and whether they are likely to be affected by your proposals.

Having referred to the guidance notes, is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, OR on land adjacent to or near the application site:

a) Protected and priority species

○ Yes, on the development site ○ Yes, on land adjacent to or near the proposed development ◉ No

b) Designated sites, important habitats or other biodiversity features

○ Yes, on the development site ○ Yes, on land adjacent to or near the proposed development ◉ No

c) Features of geological conservation importance

○ Yes, on the development site ○ Yes, on land adjacent to or near the proposed development ◉ No

14. Existing Use

Please describe the current use of the site:

Office space in the buildings.

Is the site currently vacant? ○ Yes ◉ No

Does the proposal involve any of the following?
If yes, you will need to submit an appropriate contamination assessment with your application.

Land which is known to be contaminated? ○ Yes ◉ No

Land where contamination is suspected for all or part of the site? ○ Yes ◉ No

A proposed use that would be particularly vulnerable to the presence of contamination? ○ Yes ◉ No

15. Trees and Hedges

Are there trees or hedges on the proposed development site? ○ Yes ◉ No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character? ○ Yes ◉ No

If Yes to either or both of the above you may need to provide a full Tree Survey, at the discretion of your local planning authority. If a Tree Survey is required, this and the accompanying plan should be submitted alongside your application. Your local planning authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to construction - Recommendations'.

16. Trade Effluent

Does the proposal involve the need to dispose of trade effluents or waste? ○ Yes ◉ No

17. Residential Units

Does your proposal include the gain or loss of residential units? ○ Yes ◉ No

18. All Types of Development: Non-residential Floorspace

Does your proposal involve the loss, gain or change of use of non-residential floorspace? ○ Yes ◉ No

19. Employment

If known, please complete the following information regarding employees:

	Full-time	Part-time	Equivalent number of full-time
Existing employees	0	0	0
Proposed employees	0	0	0

20. Hours of Opening

If known, please state the hours of opening for each non-residential use proposed:

Use	Monday to Friday Start Time	Monday to Friday End Time	Saturday Start Time	Saturday End Time	Sunday and Bank Holidays Start Time	Sunday and Bank Holidays End Time	Not Known
A1							☒
A2							☒
A3							☒
A4							☒
A5							☒
B1A							☒
B1B							☒
B1C							☒
B2							☒
B8							☒
C1							☒
C2							☒
D1							☒
D2							☒
Other							☒

21. Site Area

What is the site area? 30.00 sq.metres

22. Industrial or Commercial Processes and Machinery

Please describe the activities and processes which would be carried out on the site and the end products including plant, ventilation or air conditioning. Please include the type of machinery which may be installed on site:

PV cells convert sunlight to dc electricity, which is converted to ac electricity which is fed into the grid via the electrical installation of the property.

Is the proposal for a waste management development? ○ Yes ◉ No

23. Hazardous Substances

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Is any hazardous waste involved in the proposal? ○ Yes ◉ No

24. Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land? ◉ Yes ○ No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? (Please select only one)

○ The agent ◉ The applicant ○ Other person

25. Certificates (Certificate A)

Certificate of Ownership - Certificate A
Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12

I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which the application relates.

Title: Mr First name: Simon Surname: Stickley

Person role: Agent Declaration date: 02/08/2011 ☒ Declaration made

25. Certificates (Agricultural Land Declaration)

Agricultural Land Declaration
Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12

Agricultural Land Declaration - You Must Complete Either A or B

(A) None of the land to which the application relates is, or is part of an agricultural holding. ◉

(B) I have/The applicant has given the requisite notice to every person other than myself/the applicant who, on the day 21 days before the date of this application, was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below: ○

If any part of the land is an agricultural holding, of which the applicant is the sole tenant, the applicant should complete part (B) of the form by writing 'sole tenant - not applicable' in the first column of the table below

Title: Mr First Name: Simon Surname: Stickley

Person role: Agent Declaration date: 02/08/2011 ☒ Declaration Made

26. Declaration

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information ☒

Date 02/08/2011

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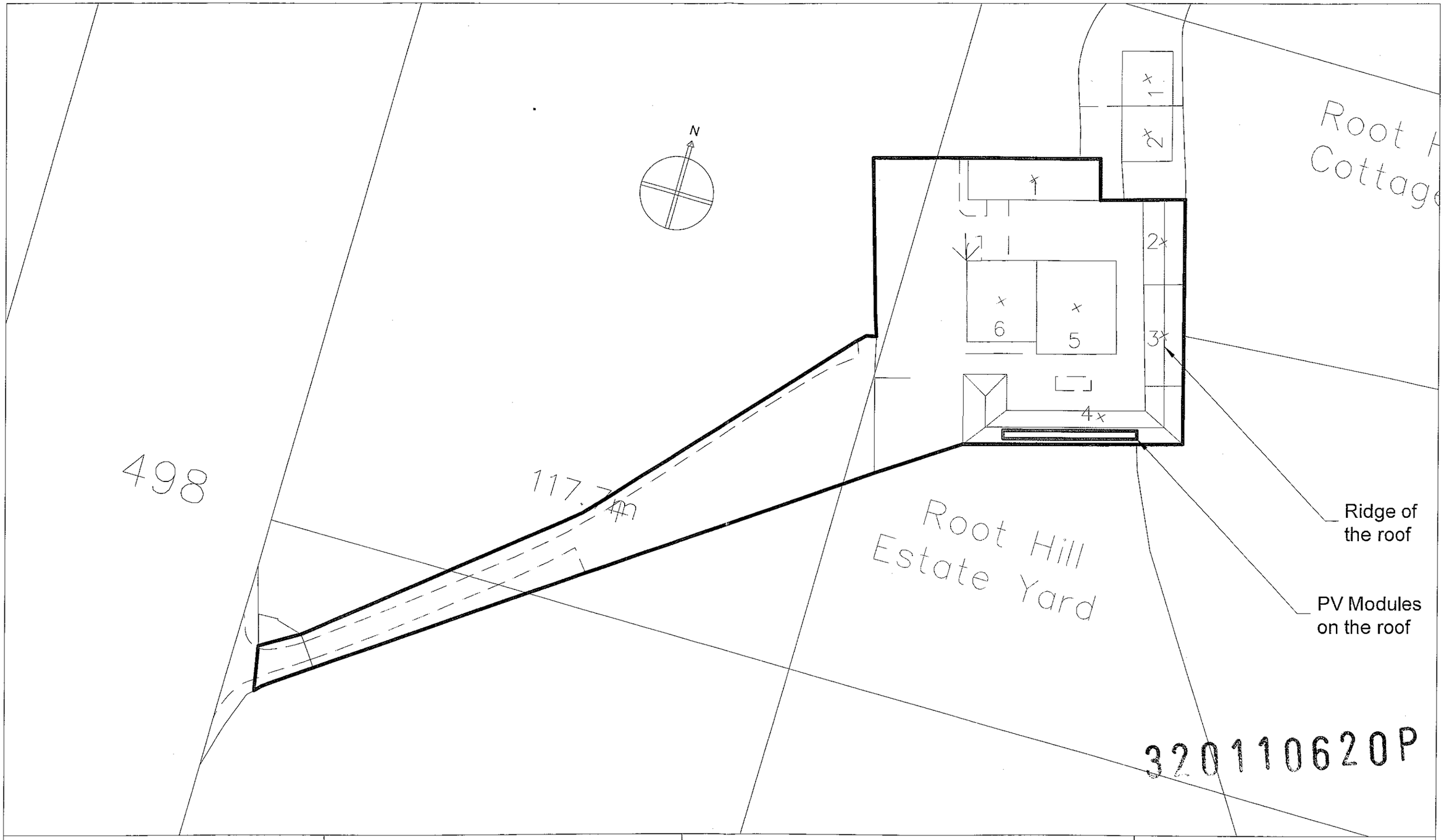
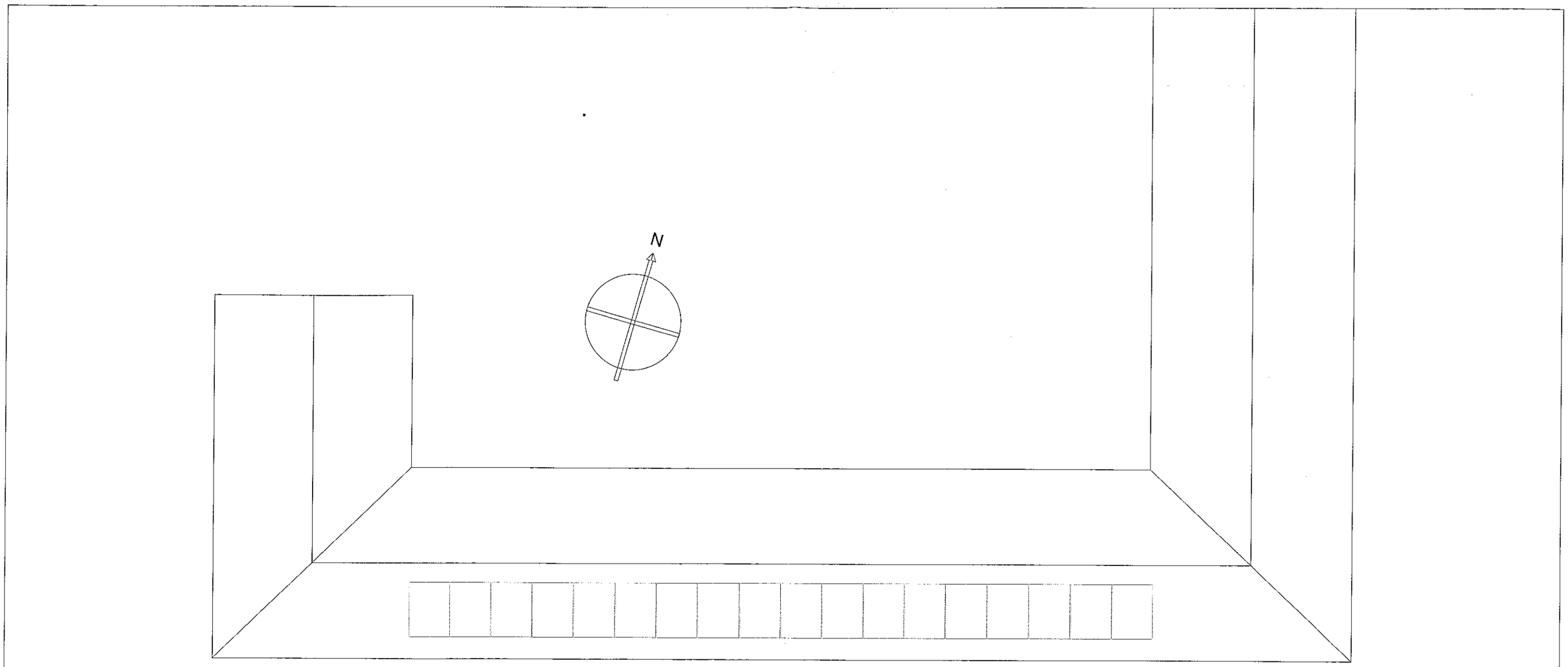
Energi plc www.energiplc.com Tel: 01772 643 900 9A - 9B Hurstwood Court Lancashire Business Park Centurion Way Leyland PR25 3UQ	Project: 15260910C	Client: The Duchy of Lancaster	Scale: 1:1250 @ A3
		Location: 4 The Stables, Root Hill Estate Yard, Dunsop Bridge, Lancaster	Rev:
	Title: Site Layout Plan	Drawn by: SS / Date: 02/08/11	
		Drawing number: 15260910C-SP	



Energi plc www energiplc com Tel: 01772 643 900 9A - 9B Hurstwood Court Lancashire Business Park Centurion Way Leyland PR25 3UQ	Project: 15260910C	Client: The Duchy of Lancaster	Scale: 1:500 @ A3
		Location: 4 The Stables, Root Hill Estate Yard, Dunsop Bridge, Lancaster	Rev:
	Title: Block Layout Plan	Drawn by: SS / Date: 02/08/11	
		Drawing number: 15260910C-BLP	



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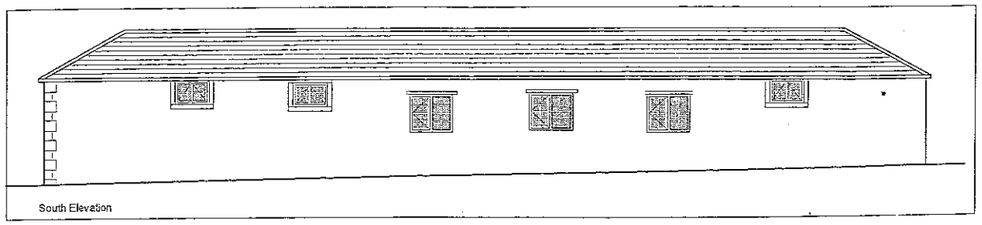
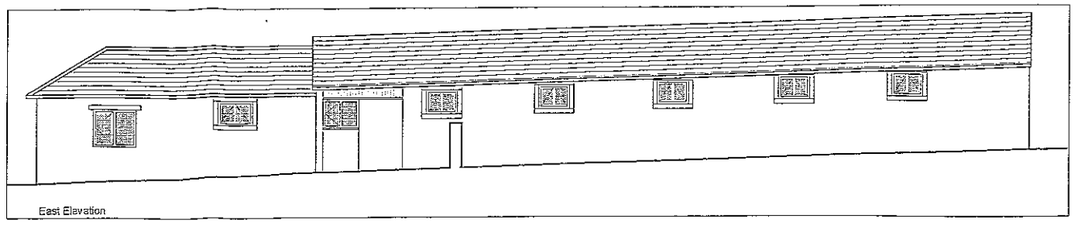
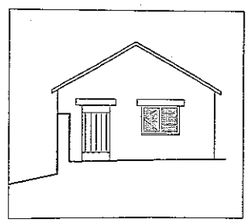
energi new energy pioneers **Energi plc** www.energiplc.com Tel: 01772 643 900 9A - 9B Hurstwood Court Lancashire Business Park Centurion Way Leyland PR25 3UQ	Project: 16390111C	Client: The Duchy of Lancaster	Scale: 1:100 @ A3
		Location: The Stables, Dunsop Bridge, Lancashire	Rev:
	Title: Proposed Module Layout in Plan View	Drawn by: SS / Date: 27/07/11	
		Drawing number: 15260911C-PML	



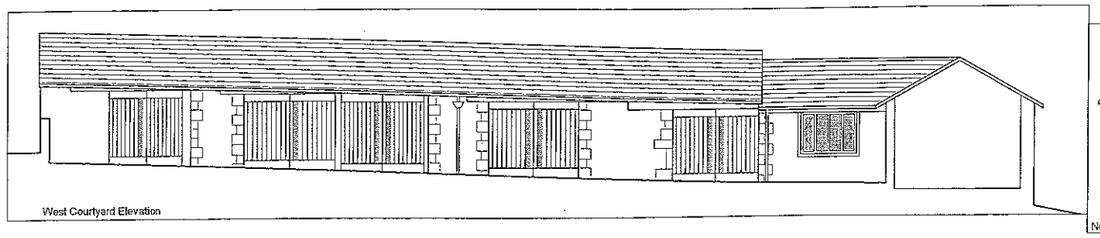
South Elevation



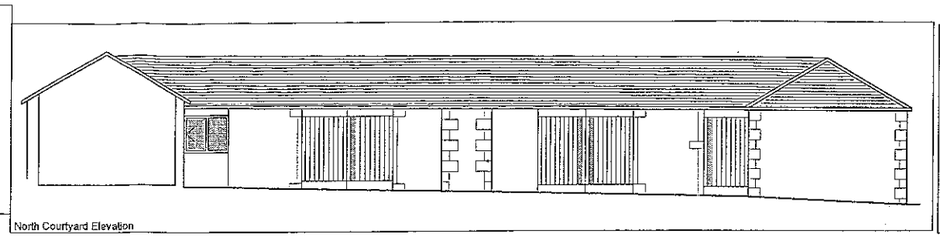
East Elevation



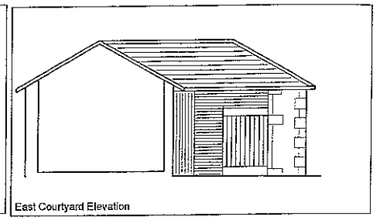
North Elevation



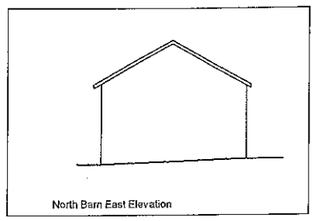
West Courtyard Elevation



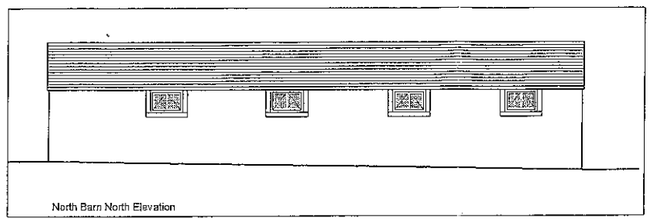
North Courtyard Elevation



East Courtyard Elevation



North Barn East Elevation



North Barn North Elevation

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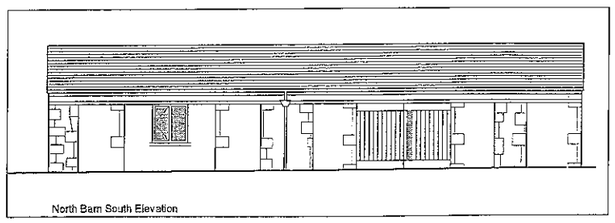
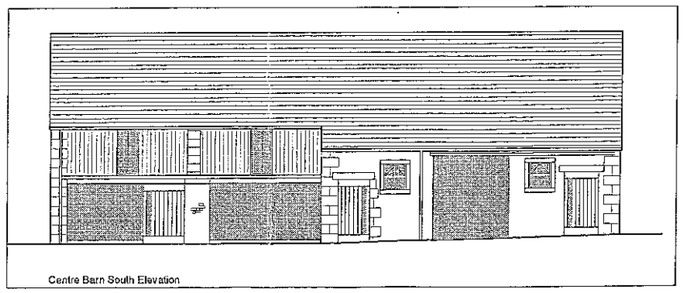
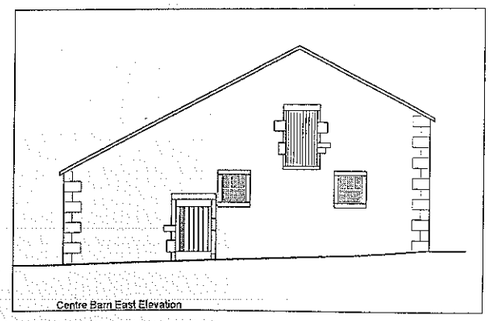


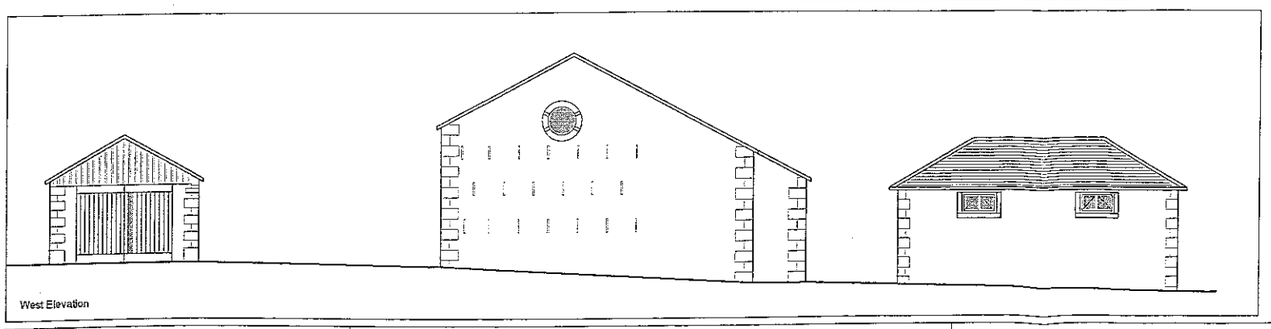
North Barn South Elevation



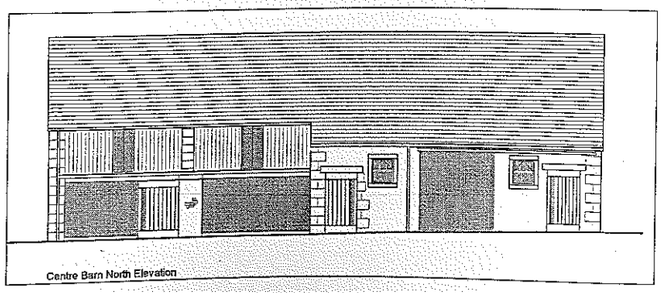
Centre Barn South Elevation



Centre Barn East Elevation



West Elevation

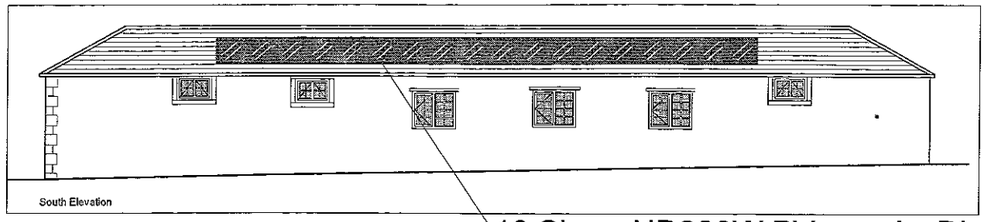


Centre Barn North Elevation

Energi plc
www.energiplc.com
Tel: 01772 643 900

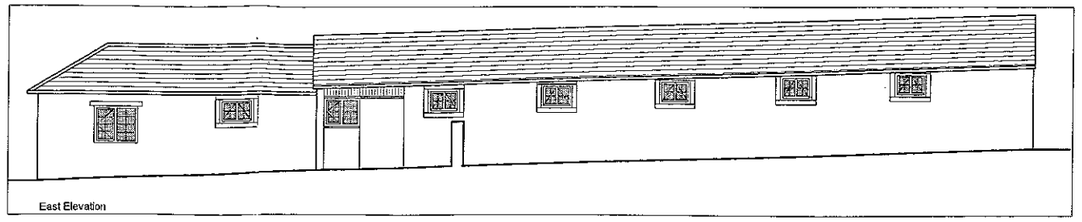
9A - 9B Hurstwood Court
Lancashire Business Park
Centurion Way
Leyland PR25 3UQ

Project: 16410111C	Client: Existing Elevations	Scale: 1:100 @ A2
	Location: The Stables, Root Hill Estate Yard, Whitewell Road, Dunsop Bridge, BB7 3AY	Rev:
Title: Existing Elevations	Drawn by: SS	Date: 28/07/11
	Drawing number: 15260910C-EL-EX	

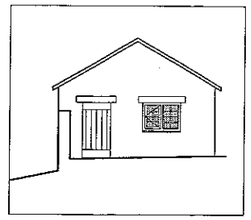


South Elevation

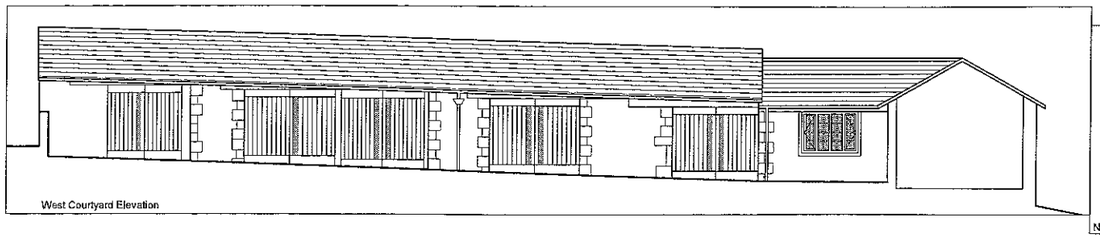
18 Sharp ND220W PV panels, Dimensions (HxWxD): 1652 x 994 x 46mm



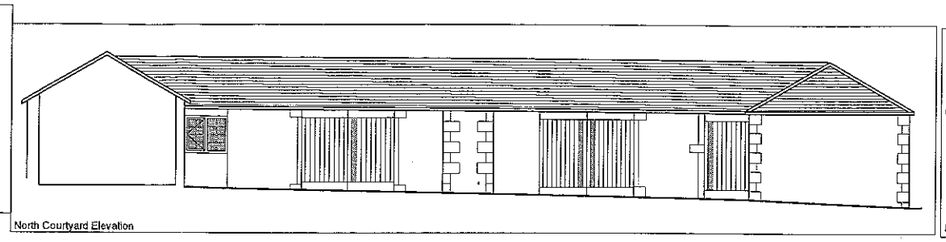
East Elevation



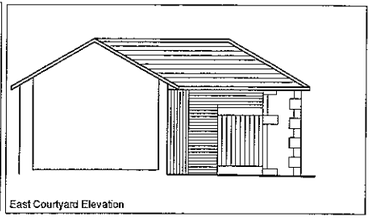
North Elevation



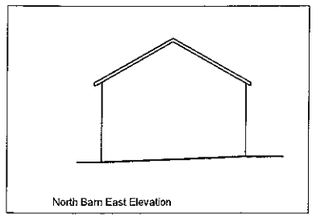
West Courtyard Elevation



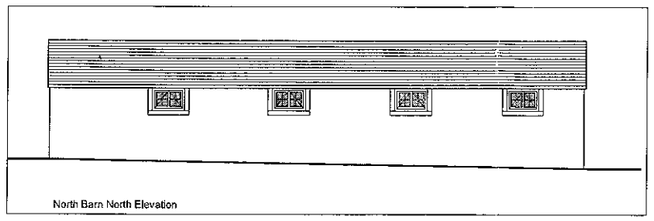
North Courtyard Elevation



East Courtyard Elevation



North Barn East Elevation



North Barn North Elevation

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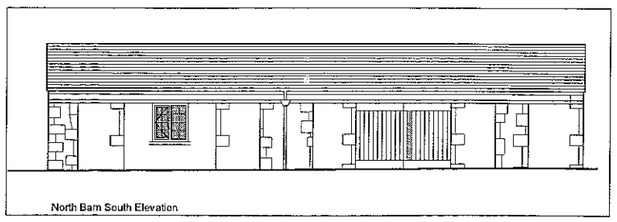
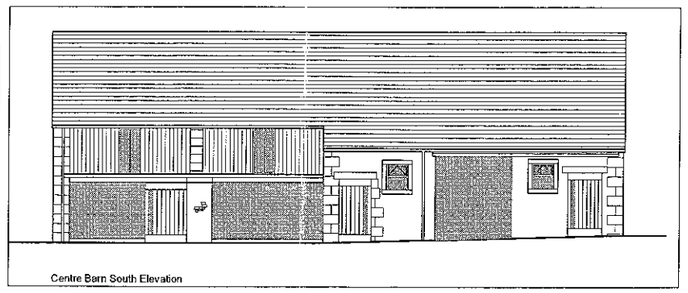
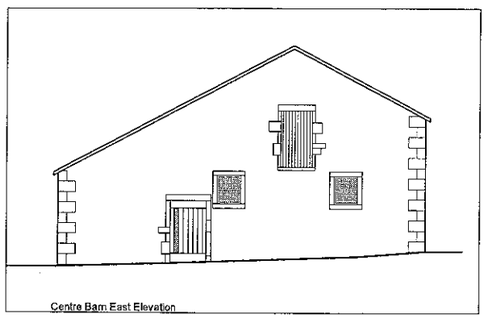


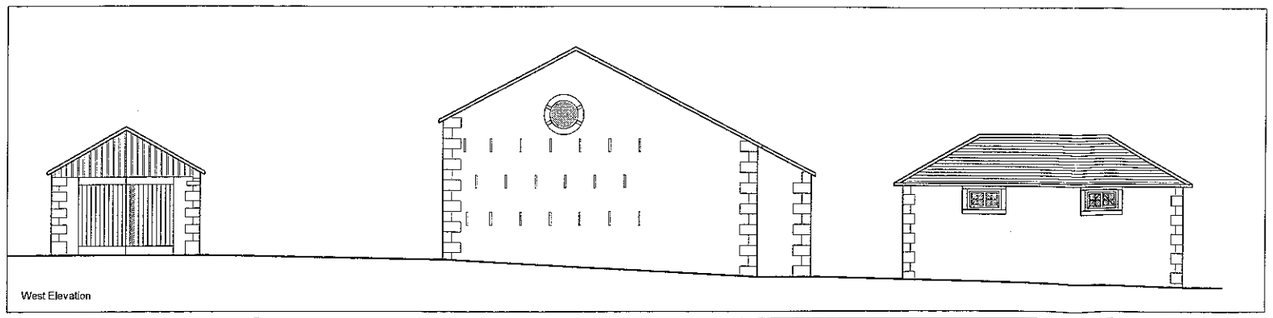
North Barn South Elevation



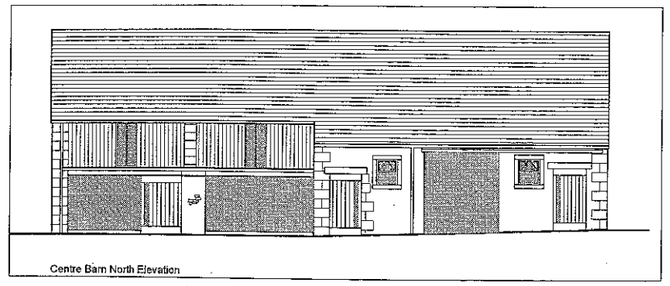
Centre Barn South Elevation



Centre Barn East Elevation



West Elevation



Centre Barn North Elevation

Energi plc
www energiplc.com
Tel: 01772 643 900

9A - 9B Hurstwood Court
Lancashire Business Park
Centurion Way
Leyland PR25 3UQ

Project: 16410111C	Client: Existing Elevations		Scale: 1:100 @ A2
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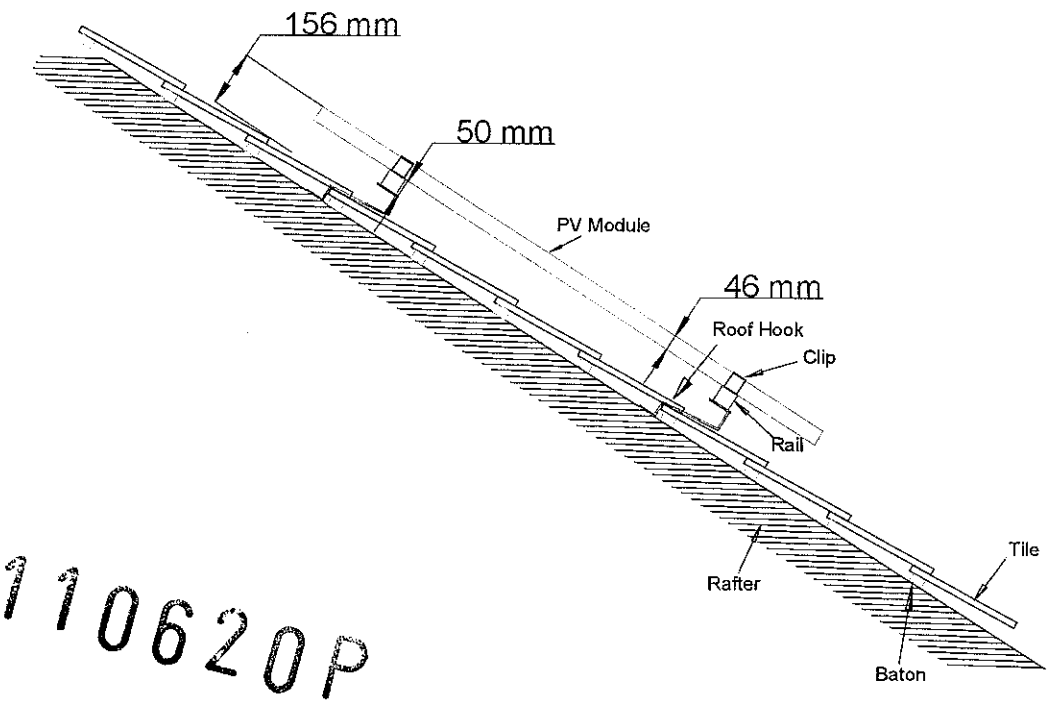
Title: Proposed Elevations	Drawn by:	Date: 28/07/11	
	Drawing number: 15260910C-EL-PR		



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Energi plc www.energiplc.com Tel: 01772 643 900 9A - 9B Hurstwood Court Lancashire Business Park Centurion Way Leyland PR25 3UQ	Project: 15260910C	Client: The Duchy of Lancaster	Scale: 1:20 @ A4
		Location: The Stables, Root Hill Estate Yard, Whitewell Road, Dunsop Bridge, BB7 3AY	Rev:
	Title: Cross-Section View of the PV Modules above the roof	Drawn by: SS / Date: 03/08/11	
		Drawing number: 15260910C-CS	

Design and Access Statement

The development comprises of a Photovoltaic (PV) system installed on the South facing roof of the Stables Office Building at Dunsop Bridge. There is no detrimental shading of the PV modules in their proposed location. One PV array is proposed, which is a 3.96kp. This arrangement allows the roof to accommodate 18 Sharp 220W directly onto the roof which would generate a considerable amount of electricity for the business. This is electricity that does not have to be bought, so bring financial benefits to the client and which offsets carbon dioxide from being released into the atmosphere.

Crime prevention measures are not deemed relevant. The height of the modules above the ground will prevent serious damage through vandalism and access cannot be easily gained onto the roof.

The landscape would not be altered by this development and the current use of the workshop would not be altered or affected by this installation.

The proposed roofs for the PV modules have been chosen on merits of the roof aspect and as such are very good for capturing the energy from the sun. The PV panels are unobtrusive and do not extend beyond the ridge line of the roof or below the bottom past the gutter. The roof aspects are on the South facing roof aspect so would only be visible from the road coming from Whitewell.

The PV panels emit no noise when in operation and have no moving parts.

The PV systems will contribute green energy to the building which will lower the user's bills, their carbon footprint and further enhance this sustainable office building.

Appraising the Context

The PV system is predicted to generate 3,399kWh of electricity each year (SAP 2005), an equivalent CO2 saving of 1,931kg. The installed capacity will also help to contribute towards the regional targets for renewable energy generation for 2011. This generation will complement the office users policies on sustainability. Of note is one of the residents, the AONB for the Forest of Bowland who have written a letter of support to this development.

Solar energy is a plentiful resource that is scarcely used for power generation in relation to the amount available over the Earth's surface. The solar panels give year round performance during daylight hours and perform best in the summer months. The electricity generated will lessen the electricity used by the workshop by services that are always on. This includes computer servers, fridges and freezers.

The view from the road will not be impinged upon from the PV installation as it a small scale development, on an existing building. The PV array will only consist of 18 PV modules and have an area of 30m2, which will only be a small part of the total size of the roof space available on the building. From the SW the PV modules will be seen from the road entering the village, though this impact will be reduced as the building is facing slightly away from the road. The impact will also be reduced as the Stables are situated 100m back from this road as well.

Access Content

Access is not required in the same context in which a conventional dwelling or other development may be. Once the panels are installed and commissioned there will be no need to regularly service them so access will not be required.

The electronic equipment associated with the PV array will be accessible to authorised persons only within the workshop.

Conclusion

As outlined in the above information the benefits of this installation go well beyond just the electricity generated to affect the users of the offices, to the local community and indirectly Lancashire as a whole through reducing carbon emissions and contributing to the regions renewable energy generation. The PV system is in a good location that is free from shading from other buildings so can be expected to perform well, lower the offices electricity consumption and provide a revenue stream through the Feed in Tariff.

Renewable Energy Position Statement

1.1 Introduction

1.1 Under the Climate Change Act of 2008 the Government is committed to delivering an 80% reduction of greenhouse gas emissions by 2050, including a 34% reduction by 2020. In order to achieve these reductions a number of actions will need to take place, notably improving energy efficiency and reducing the demand for power. In addition the UK is committed to increasing the percentage of power that it produces from renewable sources to 20% by 2020, and reducing its dependence on fossil fuels. Supporting micro-renewables, i.e. small scale and local power generation, is an important part of this equation.

1.2 The Forest of Bowland Area of Outstanding Natural Beauty (AONB) is a statutory protected landscape, and as such each local authority within the Forest of Bowland AONB has a duty of care to ensure that the landscape is not affected by unsightly development. Current legislation (section 85 of the Countryside and Rights of Way Act 2000) requires that 'in exercising or performing any functions in relation to, or so as to affect land' within the designated landscape an 'authority shall have regard to their statutory purposes'; i.e. to 'conserve and enhance the natural beauty of the area.'

1.3 The Government's Planning Policy Statement on renewable energy (PPS22) states that "planning permission for renewable energy projects should only be granted where it can be demonstrated that the objectives of designation would not be compromised and any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by the environmental, social and economic benefits."

1.4 The Forest of Bowland AONB, like everywhere else, is affected by climate change, and its impact will increase as greenhouse gas emissions continue to build up in the atmosphere. It is important that the Forest of Bowland AONB plays its part in reducing emissions and this includes the small scale generation of energy from renewable sources.

2. The purpose of this Position Statement

2.1 This document sets out the Forest of Bowland AONB Joint Advisory Committee's position with regard to the siting of renewable energy developments, both within and adjacent to the boundaries of the Forest of Bowland AONB. This guidance is intended to assist in the determination of planning applications submitted to the planning departments of local authorities in the AONB partnership i.e. the districts of Craven, Lancaster, Pendle, Preston, Ribble Valley, and Wyre.

2.2 The document is also intended to offer advice to potential developers, and any business, community or resident who is seeking to install micro or small scale renewable systems within the Forest of Bowland AONB.

2.3 The Forest of Bowland AONB is a designated landscape not a planning authority. This role remains with the relevant local authority and it is they who are expected to carry out the duty of care mentioned in paragraph 1.2 and ensure that development within the AONB is in accordance with the requirements of national, regional and local planning policy

2.4 This document should be read in conjunction with:

- Forest of Bowland AONB Management Plan
- Forest of Bowland AONB Landscape Character Assessment
- Landscape Sensitivity to Wind Energy Development in Lancashire
- A Landscape Strategy for Lancashire
- Landscape and Heritage Supplementary Planning Guidance

2.5 Development and other activities within the Forest of Bowland AONB is guided by a partnership comprising six local authorities (see paragraph 2.1), plus Natural England, other statutory agencies, voluntary groups, communities, businesses and landowners with an interest in the area. The partnership is managed by a Joint Advisory Committee (JAC) which is made up of representatives of these partners and which meets twice a year. A small number of staff are employed to prepare, implement and review the statutory Management Plan, in conjunction with the partnership.

2.6 Within the Forest of Bowland AONB Management Plan, chapter 19 is devoted to 'Responding to Climate Change' with an overall vision: unpolluted air, soil and water to allow the landscape and wildlife of the AONB to be sustained; reduce CO2 emissions that exceed Government targets; the Forest of Bowland AONB is recognised as a place of best practice in responding to climate change.

3. General Guidance

3.1 Renewable energy developments can take the form of both heat and power generation:

- Electricity can be generated by hydro systems (water), photovoltaics (solar) and by wind turbines.
- Heat can be generated via the burning of wood fuel and other biomass products; using anaerobic digestion; solar thermal; and by using underground, water, and air source heat pumps.

3.2 For the purposes of this position statement the following definitions are used:

Technology	Micro	Small scale	Medium scale	Large scale
Wind turbines	25m tall or less to blade tip	25-60m to blade tip	60-90m to blade tip	90m+ tall
Wind farm	single	1 -5	6-10 turbines	11+
Hydro power	< 100kW	< 10MW	Over 10MW	Over 10MW
Biomass	household	Household, business or farm based	Over 10MW Electricity not consumed on site	Electricity not consumed on site
Photovoltaics	Household, c 5kW	Household, business or farm based < 10kW	10 - 50kW arrays. Electricity not all consumed on site	Over 50kW Electricity not consumed on site
Anaerobic Digestion	Household or farm based	Cluster of farms, site < 0.5ha	Site over 0.5ha, serving many farms	
Heat Pumps	household	Business or farm based		

3.3 The Forest of Bowland AONB Joint Advisory Committee considers that medium to large scale renewable energy development is not appropriate within the Forest of Bowland AONB (or in locations beyond the boundary where development would affect its setting and character) as it has significant potential to adversely affect the natural beauty of the AONB and to compromise the purpose of the statutory designation.

3.4 However, the Forest of Bowland AONB Joint Advisory Committee considers that micro and small scale renewable energy development may be appropriate within the designated area.

3.5 It is essential that renewable energy is developed in a way that is consistent across local authority boundaries, is in harmony with the landscape and in the interests of those who live and work in it, or visit it for pleasure.

3.6 Obviously some of these developments are considered to be more suitable to the Forest of Bowland AONB landscape than others. However, **this position statement is not intended to discourage the development of any form of micro and small scale renewables within the Forest of Bowland AONB**. In all instances, the acceptability of specific renewables development proposals in landscape terms should be demonstrated by developers through detailed investigation, analysis and careful siting, layout and design to ensure that they are done in a sensitive and appropriate manner.

4. Guidance for micro and small scale renewable energy schemes to be sited within the Forest of Bowland AONB

4.1 The Government's Planning Policy Statement on renewable energy (PPS22) states that as part of a national policy framework "small scale development should be permitted within AONB's provided that there is no serious environmental detriment to the area concerned." In addition the PPS confirms that "planning permission for renewable energy projects should only be granted where it can be demonstrated that the objectives of designation of the area will not be compromised by the development".

4.2 When reviewing applications for micro and small scale renewable energy installations within the Forest of Bowland AONB: our advice is to view any scheme on its own merits. Being sited within, or near to, the Forest of Bowland AONB should not be the sole reason for refusal of micro or small scale renewable energy schemes, unless significant environmental impacts are envisaged

4.3 This guidance is for micro and small scale schemes only as the Forest of Bowland AONB Joint Advisory Committee will object to all plans to develop medium and large scale schemes.

This guidance is therefore provided for:

- Single micro and small wind turbines (up to 60m to blade tip) and small scale wind energy development
- Micro hydro schemes (up to 100kW)
- Small scale photovoltaics (up to 10kWp array)
- Small scale biomass (up to 10MW) and AD systems, and small scale heat pumps

4.4 Wind turbines

4.4.1 Where appropriate, micro and small scale wind energy development may be accommodated within the Forest of Bowland AONB landscape. Micro scale wind energy development particularly in locations where there would be a strong functional relationship with existing development such as farm buildings and views of it would be constrained by the topogrqphy is likely to be the most appropriate form of wind energy development for the AONB. Small scale wind farms may be appropriate for the AONB provided that they do not cause unacceptable harm to the natural beauty and special quality of the landscape. In all instances, micro and small scale wind energy development should:

- be of a form and design that is appropriate for the landscape and visual characteristics of the location
- be an appropriate scale for the location
- not be sited on a skyline or close to a prominent feature or within the setting of important historic features or landscapes
- not have significant cumulative impacts with other operational or consented wind energy development

4.4.2 The Forest of Bowland AONB Landscape Character Assessment and the Landscape Sensitivity to Wind Energy Development in Lancashire study should be consulted when assessing suitable sites.

4.4.3 Environmental impact assessments will usually be required if the application is for more than two turbines or if height exceeds 15m.

4.5 Micro hydro

4.5.1 The Forest of Bowland AONB has relatively high rainfall, fast flowing streams and rivers and a history of water power. This suggests that there may be some potential for micro hydro (less than 100kW) and smaller scale (up to 3MW) electricity generation within the Forest of Bowland AONB. A feasibility study prepared by Inter Hydro Technology will report in summer 2011 on the most favourable sites

4.5.2 A micro hydro scheme would be likely to be acceptable in landscape terms where it appears as a minor, isolated feature within a large scale landscape or in locations where there is a direct relationship with existing development such as settlements and access routes.

4.5.3 Buildings and other associated developments should be of an appropriate scale, be carefully sited and be sympathetic to the local vernacular. Where existing historic structures are to be used and/or the site is in a designated Conservation Area, advice should be sought from the local planning authority's building conservation officer. Buildings, access roads, water transporting systems and power lines should be carefully sited.

4.5.4 Whilst mitigation of landscape and visual impacts is encouraged, care should be taken to ensure that screen planting, for example, does not highlight the development in an open landscape.

4.5.5 Environmental impact assessments will be required for schemes generating over 500kW, and consents from the Environment Agency must be obtained in all cases.

4.6 Biomass

4.6.1 Business and domestic scale biomass systems can normally be assimilated into existing buildings and as such may not require planning consent. New buildings housing biomass systems will require planning permission, and should be of an appropriate scale, be carefully sited and constructed in a vernacular style. Where existing historic structures are to be used and/or the site is in a Conservation Area, conservation advice should be sought from the local planning authority's building conservation officer.

4.6.2 Systems utilising locally sourced woodfuel can be seen as having a positive impact on the local landscape as they are generating a supply for wood products from positively managed woodlands.

4.6.3 Whilst mitigation of landscape and visual impacts is encouraged care should be taken to ensure that screen planting for example does not highlight the development in an open landscape.

4.6.4 Environmental impact assessments will be required if the site exceeds 0.5 hectares

4.7 Photovoltaics and Solar Thermal

4.7.1 Small scale photovoltaics (PVs) are now within permitted development for residential buildings

4.7.2 Small scale installations, usually up to 10kW arrays, on commercial, farm or community buildings that have minor landscape and visual impacts should not normally be objected to within the Forest of Bowland AONB. Careful siting can minimise the visual impact of arrays, and panels can be integrated into the building design, especially on new build properties. Planned installations on historic buildings, or within conservation areas, should seek advice from the local planning authority's building conservation officer.

4.7.3 Solar farms, or large numbers of PV arrays set up at ground level or on large scale farm roof systems, which may or may not move to track the sun, and which normally export electricity generated away from the site, will not normally be suitable for installation within the Forest of Bowland AONB as reflection of the suns rays is likely to make such installations highly visible, detracting from the natural landscape character of the area.

4.7.3 Solar thermal systems, which heat domestic hot water using flat panes or evacuated tubes mounted on a roof, are usually classed as permitted development. Larger scale schemes heating water for use on site, for example for dairy farms, will normally be considered to be appropriate within the AONB and will not be objected to by the JAC provided they are of an appropriate scale, are not visually intrusive and suitable mitigation of landscape and visual impacts are provided which ensures the natural beauty of the area is not adversely affected.

4.8 Anaerobic Digestion

4.8.1 Anaerobic Digestion (AD) plants, serving a single or small number of farms, may be sited within the Forest of Bowland AONB provided that the development can be incorporated within the farmstead, is of an appropriate scale, is

not visually intrusive, is constructed from appropriate materials and suitable mitigation of landscape and visual impacts is provided which ensures the natural beauty of the area is not adversely affected.

4.8.2 It is important that the level of traffic associated with the installation does not markedly increase vehicle movements to and from the site, and that land use in the proximity is not altered to 'feed' the plant with crops such as maize which are not normally cultivated in the area.

4.9 Heat Pumps

4.9.1 Heat pumps, using ground or water, are usually classed as permitted development for a residential dwelling, However air source pumps do currently require planning permission.

4.9.2 If purpose built associated buildings are required, eg to house the pumps, these may require planning permission. These developments should be of an appropriate scale, not be visually intrusive, and be constructed from appropriate materials. Suitable mitigation of landscape and visual impacts must be provided to ensure the natural beauty of the area is not adversely affected, and any such developments would normally be deemed appropriate to the AONB if they are within the area of an existing development, and use traditional materials in the vernacular style

4.9.3 If extensive excavation is required for a ground source it is important that both historical and biodiversity experts are consulted as to the suitability of the area, and in any case that excavated areas are sensitively restored.

5. Additional advice, contacts and guidance for the siting of renewable energy developments within the Forest of Bowland AONB

5.1 General advice from the Forest of Bowland AONB is to locate developments:

- where they are appropriate to the landscape character type that they are situated within
- where they would not be a dominant feature in the landscape
- well back from upland edges or scarps
- away from viewed skylines, summits, prominent landforms and other distinctive landscape features
- away from remote and wilder areas
- where they make sympathetic use of existing buildings, tracks and other infrastructure
- where there would be no significant cumulative impacts with similar or other developments
- where there are opportunities to mitigate landscape and visual impacts and compensate for any unavoidable losses
- away from key amenity and heritage assets
- where they respect and are sensitive to important cultural associations
- away from public view – i.e. roads, footpaths or public open space – if at all possible
- within existing built areas – e.g. farmstead or settlement – where a strong functional relationship would be established rather than in isolated locations away from other built structures

5.2 The exact physical siting of micro renewable energy technologies on domestic, community, farm or business premises; be it hydro, solar or wind power, will determine its efficiency. For example, solar thermal panels and PVs work best on south facing roofs; whilst wind power will be maximised in more exposed and open sites. However, within the AONB, the distinctive natural beauty, landscape tranquillity, highly scenic views, biodiversity and historical features are all important elements of landscape quality and the impact on these will need to be balanced against maximising the efficiency of an installation.

5.3 Specialist advice and guidance from the Environment Agency, Lancashire County Council, English Heritage and local authority planning officers should be sought as appropriate. In addition the AONB's own Landscape Character Assessment should be used to identify the landscape character type/area of the location and its key features/forces for change and to note and act on any limitations listed within the management guidance for that classification.

5.4 A Landscape Impact Assessment may be required for some developments, and a consideration of other potential sites and opportunities for mitigation and compensation will be required as part of any application.

5.5 The Forest of Bowland AONB Manager, and Lancashire County Council's Landscape Unit may be contacted for advice at the addresses below

5.6 In addition, the following guidance has been adopted by the grants panel of the Forest of Bowland AONB's Sustainable Development Fund. It is suggested that this stance is also adopted by planning authorities when viewing planning applications for small scale renewable energy projects within the AONB.

- Ensure all renewable energy technologies are investigated so that the most appropriate system is installed to meet the needs of the applicant and the specific location. Technologies should also be quality assured by the Microgeneration Certification Scheme as this ensures quality products and installation, and provides eligibility for the Feed in Tariff and the Renewable Heat Incentive scheme.
- Evidence should be provided to show that energy efficiency of the development has already been maximised – via insulation, energy efficient appliances, and waste minimisation measures
- Monitoring of the installation should be encouraged in order to evaluate its efficiency – e.g. by recording the energy generated and calculating any savings made

5.7 In addition to this position statement the Forest of Bowland AONB will also be including examples of good practice in the siting of photovoltaics and solar thermal roof panels as part of its forthcoming Design Guide.

Contact Details:

Forest of Bowland AONB
The Stables
4 Root Hill Estate Yard
Dunsop Bridge
Clitheroe, Lancashire
BB7 3AY
01200 448000

Lancashire County Council
Landscape Unit
Senior Landscape Architect
Steven Brereton
Steven.brereton@lancashire.gov.uk
01772 534135

320110620 P

To whom it may concern

Installation of roof top Photovoltaic cells at The Stables, Root Hill Estate Yard, Dunsop Bridge, Clitheroe BB7 3AY

The Forest of Bowland AONB is in full support of this application, which will see a 4kWp array of PV cells installed on our office roof by the landlord, the Estate of the Duchy of Lancaster.

We do not see this installation as a visual intrusion to the landscape as it is a small scale development in keeping with the guidance set out in our Renewable Energy Position Statement, recently adopted by the AONB Joint Advisory Committee. I have enclosed a copy of this for your information.

In addition, the installation is supported by objectives from the Forest of Bowland AONB Management Plan, namely 19.3(d): "facilitate appropriate small scale renewable energy production, and supporting businesses in adopting renewable energy sources"; 19.1(j): "establish and promote the AONB as a place of best practice responding to climate change, and reduce the carbon emissions of the AONB Unit team in line with local agreements."

We anticipate that this installation will approximately halve our electricity consumption from the grid, saving us around 3300kWh per year, and will enable a reduction in carbon emissions by the AONB Unit of 2 tonnes of CO2 annually, with associated cost savings also.

If approved and installed we will promote this installation to partners, visitors and the general public, as a beacon of good practice in terms of mitigating against climate change, increasing local micro generation, and as a carbon and cost saving investment.

Yours sincerely

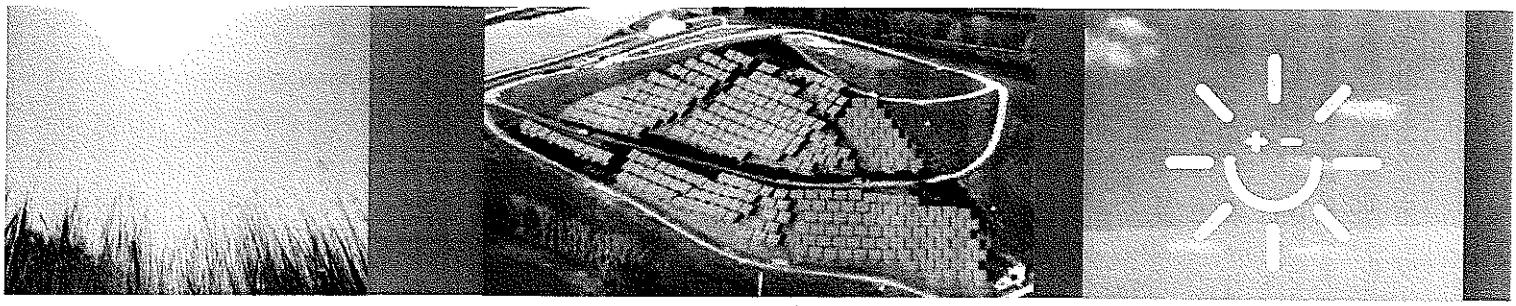
Cathy Hopley
Development & Funding Officer
Forest of Bowland AONB
The Stables, 4 Root Hill Estate Yard
Dunsop Bridge
Clitheroe BB7 3AY

320110620P

SHARP

ND Series (60 cells)
220 W | 210 W | 200 W

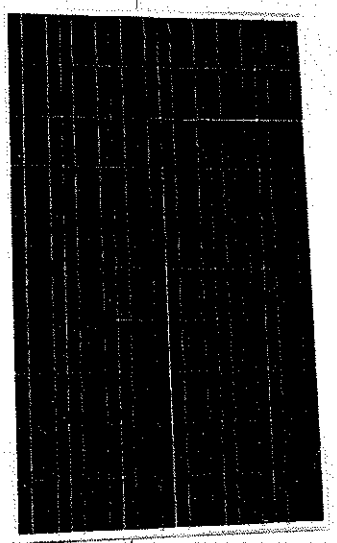
Polycrystalline silicon photovoltaic modules



SAY YES TO SOLAR POWER!
Because it protects the climate.

Innovations from a photovoltaic pioneer

As a solar specialist with 50 years' experience in photovoltaics (PV), Sharp makes significant contributions to ground-breaking progress in solar technology



Sharp photovoltaic modules in the ND series are designed for applications with high power requirements. These quality polycrystalline modules produce a continuous reliable yield, even under demanding operational conditions.

All Sharp ND series modules offer system integration which is optimal both technically and economically, and are suitable for installations in on and off-grid PV systems.

Brief details for the installer

- 156.5 mm x 156.5 mm polycrystalline solar cells
- 60 cells in series
- 2,400 N/m² mechanical load-bearing capacity (245 kg/m²)
- 1,000 V DC maximum system voltage
- IEC/EN 61215, IEC/EN 61730 Class II (VDE: 40021391)

Product features

- High-performance photovoltaic modules made of polycrystalline (156.5 mm)² silicon solar cells with module efficiencies of up to 13,4 %
- Bypass diodes which minimise the loss in output when shading occurs.
- Textured cell surface for particularly high electricity yields
- BSF structure (Back Surface Field) to optimise cell efficiency
- Use of tempered white glass, EVA plastic, and weather protection film, as well as an anodised aluminium frame with drainage holes for long-term use
- Output: connection cable with waterproof plug connector

Quality from Sharp

Benchmarks are set by the quality standards of Sharp Solar. Continual checks guarantee a consistently high level of quality. Every module undergoes visual, mechanical, and electrical inspection. This is recognisable by means of the original Sharp label, the serial number, and the Sharp guarantee:

- 2 year product guarantee
- 10 year performance guarantee for a power output of 90 %
- 25 year performance guarantee for a power output of 80 %

The detailed guarantee conditions and additional information can be found at **www.sharp.eu**.

Mechanical data

Cell	Polycrystalline (156.5 mm)² Sharp silicon solar cells
Quantity and wiring of cells	60 in series
Dimensions	1 652 x 994 x 46 mm (1 64 m²)
Weight	21 kg
Connection type	Cable with plug connector (MC-3)

Limit values

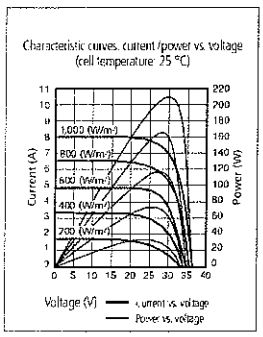
Operating temperature (cell)	– 40 to + 90	°C
Storage temperature	– 40 to + 90	°C
Maximum system voltage	1 000	V DC
Maximum mechanical load	2 400	N / m²
Over-current Protection	15	A

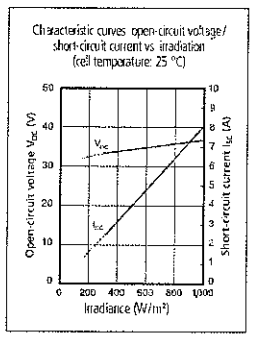
Electrical data

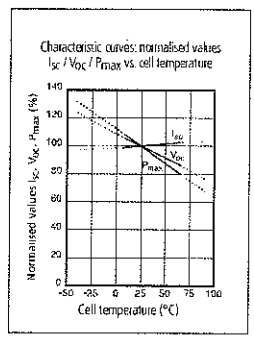
Made in EU / Made in Japan		ND-F220 (A1)*	ND-F210 (A1)*	ND-210 (E1F)	ND-F200 (A1)*	ND-200 (E1F)	
Maximum power	P_{max}	220 W_p	210 W_p	210 W_p	200 W_p	200 W_p	
Open-circuit voltage	V_{oc}	36.8	36.6	36.4	36.4	36.0	V
Short-circuit current	I_{sc}	7.96	7.68	8.03	7.40	7.90	A
Voltage at point of maximum power	V_{mpp}	30.2	30.1	28.8	30.0	28.4	V
Current at point of maximum power	I_{mpp}	7.29	6.98	7.3	6.67	7.05	A
Module efficiency	η_m	13.4	12.8	12.8	12.2	12.2	%
NOCT		47.5	47.5	47.5	47.5	47.5	°C
Temperature coefficient – open-circuit voltage	αV_{oc}	– 130	– 130	– 130	– 130	– 130	mV / °C
Temperature coefficient – short-circuit voltage	αI_{sc}	+ 0.053	+ 0.053	+ 0.053	+ 0.053	+ 0.053	% / °C
Temperature coefficient – power	αP_{max}	– 0.485	– 0.485	– 0.485	– 0.485	– 0.485	% / °C

The electrical data applies under standard test conditions (STCs): irradiation 1,000 W/m² with light spectrum AM 1.5 and a cell temperature of 25 °C. The rated electrical characteristics are subject to a manufacturing tolerance of – 5 % / + 10 %. NOCT conditions: irradiation of 800 W/m², ambient temperature of 20 °C and wind speed of 1 m/sec. *This module has three cell connectors and is otherwise identical in construction to the modules shown here.

Characteristic curves ND-210 (E1F)





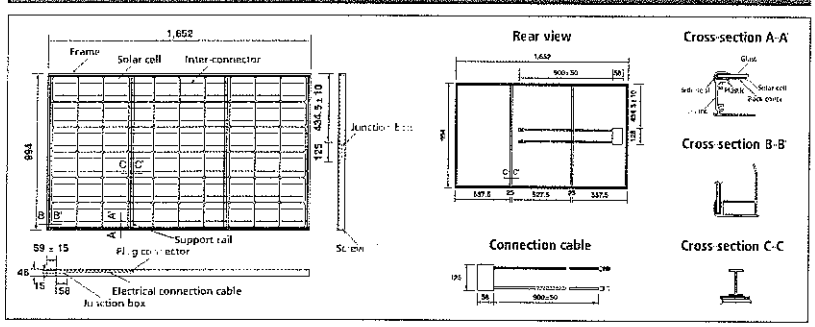


Applications

- On-grid PV systems
- Off-grid PV systems
- On-roof PV systems
- Ground-mounted PV systems

Please read our detailed installation manual carefully before installing the photovoltaic modules.

Exterior dimensions



Note

Technical data is subject to change without prior notice. Before using Sharp products, please request the latest data sheets from Sharp. Sharp accepts no responsibility for damage to devices which have been equipped with Sharp products on the basis of unverified information.

The specifications may deviate slightly and are not guaranteed. Installation and operating instructions are to be found in the corresponding handbooks, or can be downloaded from **www.sharp.eu**

This module should not be directly connected to a load.

Sharp Energy Solution Europe
a division of Sharp Electronics (Europe) GmbH
Sonninstrasse 3 · 20097 Hamburg, Germany
Tel: +49 (0) 40 / 23 76 - 0 · Fax: +49 (0) 40 / 23 76 - 21 93
www.sharp.eu

Local responsibility:

Austria
SolarInfo.at@sharp.eu
Benelux
SolarInfo.be@sharp.eu
Central & Eastern Europe
SolarInfo.scee@sharp.eu
Denmark
SolarInfo.dk@sharp.eu
France
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SolarInfo.se@sharp.eu
Spain & Portugal
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Switzerland
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United Kingdom
SolarInfo.uk@sharp.eu

SHARP

The reference image on the front page shows an 1 MWp system of Sunrise AG in Fürth, Germany.

Sola ND 60 E0409