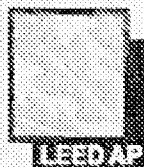
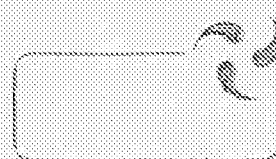
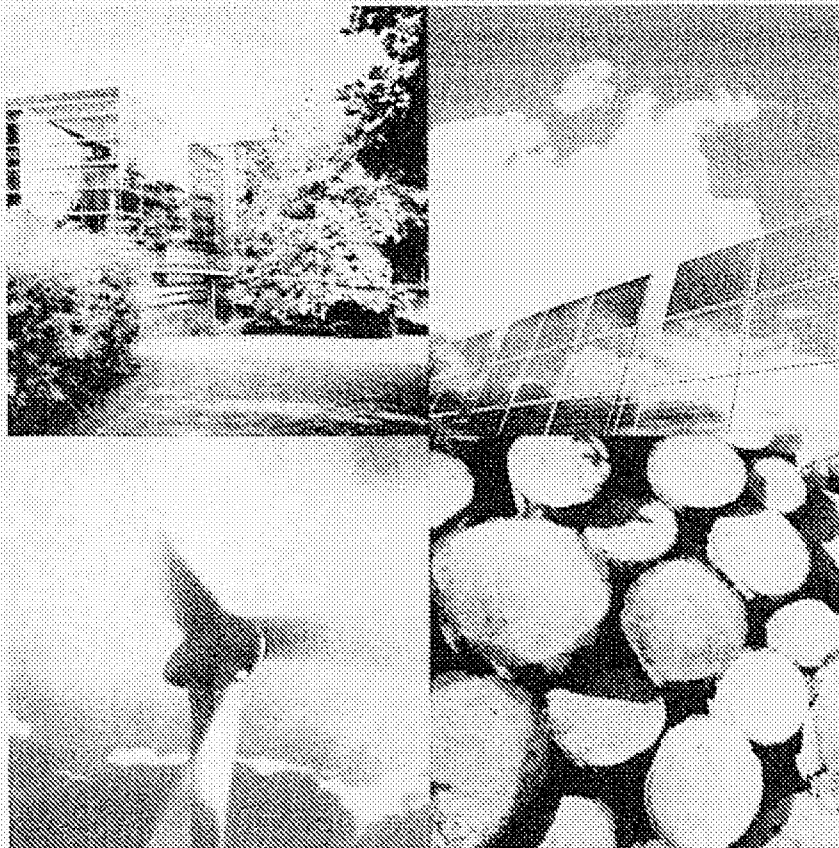


3 Marine Drive West,
Bognor Regis PO21

ENERGY STATEMENT
08 August 2013



3 Marine Drive West, Bognor Regis

3 Marine Drive West,
Bognor Regis

ENERGY STATEMENT

This Document has been prepared to confirm the Energy and Sustainability solutions for the related M&E Building Services, as part of the Development Sustainability Appraisal.

For details of the proposed Development refer to Architect drawings and details.



Ondrej Gajdos ✓

OG Energy Ltd
Rosebery House, Tottenham Lane
London, N8 9BY

OG Energy Ltd are committed to providing Sustainable and
Environmental solutions for Building Engineering Services

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DISCLAIMER

The findings, conclusions and recommendations of this report are based on the information supplied. OG Energy Ltd disclaims responsibility in respect of incorrect information imparted to them or for the actual performance of any of the building services installations.

This Report is prepared for the use of 3 Marine Drive West, Bognor Regis, a duty of care is not owed to other parties.

EXECUTIVE SUMMARY

OG Energy Ltd have been appointed by SGA Consulting Ltd to provide a site-wide Energy Statement for the proposed development.

This statement covers possible active and passive measures including renewable energy sources to make this development sustainable and environmentally friendly

Specific requirement of planning appeal decision will be met through a combination of passive design features and on-site renewable energy sources. The target is to demonstrate that minimum 10% reduction in CO2 emissions will be achieved through the incorporation of on-site renewable energy sources and that at least 10% of the energy supply of the development will be secured from decentralised and renewable or low carbon energy sources.

All predicted energy requirements have been calculated using full SAP 2009 and SBEM assessment of the proposed development in accordance with 2010 Part L1 procedures.

The table below shows a summary of energy requirements and portion of energy proposed to be supplied by on-site renewable energy sources.

Energy Consumption Breakdown								
Unit	Space heating provided by gas boiler (kWh/a)	Space heating provided by ASHP (kWh/a)	DHW heated by gas boiler (kWh/a)	DHW heated by electric immersion (kWh/a)	DHW heated by ASHP (kWh/a)	Lighting (kWh/a)	Pumps and fans (kWh/a)	Un-Regulated energy (kWh/a)
Plot 1	2,999		1,720			236	175	2,021
Plot 2	2,829		1,640			215	175	1,866
Plot 3		3,378		402	1,242	195	175	1,713
Plot 4		3,339		399	1,233	191	175	1,683
Plot 5	1,773		1,672			224	175	1,928
Plot 6	1,924		1,672			224	175	1,928
Plot 7	1,888		1,507			184	175	1,594
Plot 8	1,620		1,433			160	175	1,424
Plot 9	2,020		1,564			195	175	1,713
Plot 10	2,140		1,564			195	175	1,713
Plot 11	2,292		1,507			192	175	1,594
Plot 12	1,952		1,444			174	175	1,452
	21,434	6,717	15,722	801	2,475	2,385	2,100	20,629

Total energy demand: 72,263 kWh/a

Amount of energy supplied from renewable sources: 9,192 kWh/a

Percentage of energy supplied from renewable sources: 12.7 %

The 10% energy through on-site renewable energy sources will be achieved by installation of air source heat pump system to Plot 3 and Plot 4. Heat pumps will be suitably sized to maximize their efficiency (e.g. 6 kW Kingspan Aeromax Plus). The heat pumps will provide all space heating and approximately 76% of DHW requirement for Plot 3 and 4.

1. INTRODUCTION

1.1 Background

OG Energy Ltd have been appointed by SGA Consulting Ltd to provide site-wide Energy Statement for the proposed development.

This statement covers possible active and passive measures including renewable energy sources to make this development sustainable and environmentally friendly.

1.2 Description of the Site

The site comprises proposed conversion of existing care home to form 12 No one-bedroom flats. The building is arranged over ground, first and second floor.

2. PLANNING FRAMEWORK

2.1 National Policy

Joining over 170 other nations the UK has committed to reduction of carbon dioxide emissions, with consequent constraints to its energy policy. The UK produced four percent of the world's greenhouse gases as of 2003. The long term reduction goal for carbon emissions is 60 percent decrease by the year 2050. According to Energy Review issued by Government in 2002 it was recommended that renewable sources should contribute 20% of energy generation by 2020. These figures were incorporated in Planning Policy Statement Note 22: Renewable Energy (2004) which became a base for local planning policies.

2.2 Condition 6 of planning decision appeal

The planning decision appeal decision ref. APP/C3810/A/13/2189866 dated 10/6/2013 requires an energy statement to be submitted identifying how at least 10% of the energy supply of the development will be secured from decentralised and renewable or low carbon energy sources.

3. BASELINE ENERGY REQUIREMENT

Energy assessment using SAP calculation method has been carried out for a notional baseline development, using architect drawings and following baseline specifications:

	Baseline Building
New External Wall U-value:	0.25
Upgraded External Wall U-value:	0.25
Internal Heat Loss Wall U-value (between flats and unheated stairwell):	0.20
Party-Wall U-value	0 (solid or fully filled with insulation)
Ground Floor and Exposed Floor U-value	0.20
Roof U-value	0.15
Windows & External Doors U-values	1.50
DHW System Plots 3&4	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%
DHW System all other plots	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%
Space Heating System Plots 3&4	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%, radiators, programmer, room thermostat and TRV's
Space Heating System all other plots	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%, radiators, programmer, room thermostat and TRV's
Ventilation System	Natural with intermittent mechanical extracts
Energy Efficient Lighting	100%

The flats as specified for the baseline calculation would comply with 2010 Part L1B

4. ON-SITE RENEWABLE ENERGY SOURCES

Following systems have been considered:

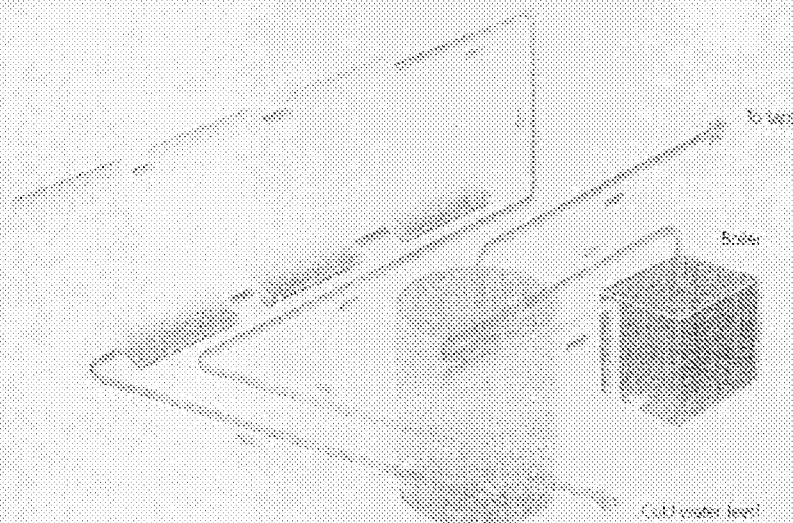
4.1 SOLAR HOT WATER (SHW)

- **General information**

Solar hot water systems for dwellings use collector which provides a separate heating circle for hot water cylinder. This is usually backed up by electric immersion heater or other source of heat.

Two types of collectors are available:

- Flat Plate – less expensive, less efficient
- Evacuated Tube – more expensive and more efficient



- **Recommendations specific to this development**

Solar hot water system has been considered for the top floor flats, however it would be possible to supply only approximately 6% of the site energy requirement. Routing the solar hot water pipework to lower level flats would be impractical.

4.2 SOLAR PHOTOVOLTAICS (PV)

- **General information**

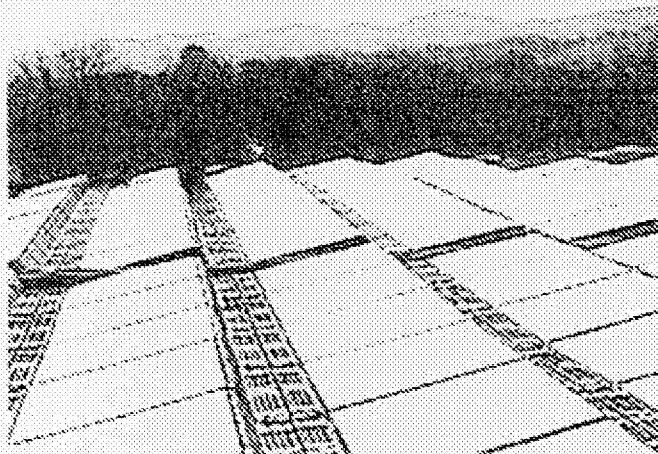
This system uses semi-conductor cells to convert solar energy into electricity. Two main types of PV panels are available:

- Monocrystalline – More expensive and more efficient
- Polycrystalline – Less expensive and less efficient

Depending on type, the output of 1 kWp (kilowatt peak) can be achieved by panels with area between 8 and 20 m².

The use of PV panels generally requires relatively large unshaded roof area where they can be mounted facing south, ideally having between 30° and 40° inclination.

The cost per tonne of CO₂ saved would be between £550 and £1,100



- **Recommendations specific to this development**

Photovoltaic system located on the west facing pitched roof has been considered. In order to achieve the 10% target, it would be necessary to install a PV system with minimum output of 10 kWp. Approximately 65 m² of roof area would be required.

4.3 AIR SOURCE HEAT PUMPS (ASHP)

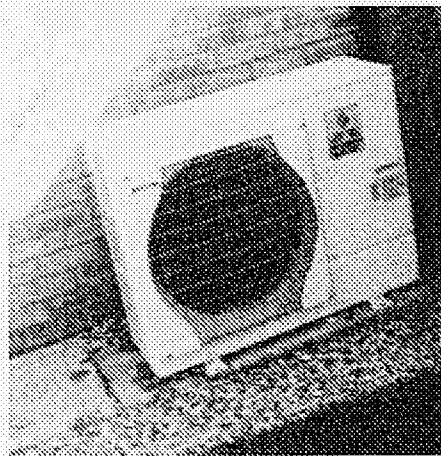
- **General information**

An air source heat pump extracts heat from the outside air in the same way that a fridge extracts heat from its inside. It can extract heat from the air even when the outside temperature is as low as minus 15° C.

On 17 December 2008, the European Parliament adopted the EU Directive on promoting the use of energy from renewable sources. In addition to geothermal energy, aerothermal and hydrothermal energy are now also recognised as renewable energy sources.

There are two main types of ASHP:

- **Air-to-water system** uses the heat to warm water. Heat pumps heat water to a lower temperature than a standard boiler system would, so they are more suitable for underfloor heating systems than radiator systems. Although some ASHP systems are capable of heating the water to the higher temperature, the efficiency is higher when using low temperature underfloor heating.
- **Air-to-air system** uses the heat to warm the indoor air. The air is heated through individual fan-coils or centrally and then distributed to rooms via ductwork



- **Recommendations specific to this development**

It is recommended to use an air source heat pump system for the space heating and DHW in Plot 3 & 4. These two plots have been selected due to suitable outside space for placing the outdoor units. The heat pumps will be suitably sized to maximize their efficiency (e.g. 6 kW Kingspan Aeromax Plus). The heat pumps will provide all space heating and approximately 76% of DHW requirement for Plot 3 and 4. This way they will provide 12.7% of the whole site energy requirement.

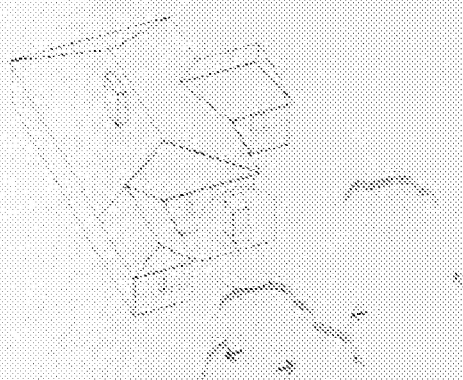
	Baseline Building	Proposed Building
New External Wall U-value:	0.25	0.25
Upgraded External Wall U-value:	0.25	0.25
Internal Heat Loss Wall U-value (between flats and unheated stairwell):	0.20	0.20
Party-Wall U-value	0 (solid or fully filled with insulation)	0 (solid or fully filled with insulation)
Ground Floor and Exposed Floor U-value	0.20	0.20
Roof U-value	0.15	0.15
Windows & External Doors U-values	1.50	1.50
DHW System Plots 3&4	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%	6 kW Kingspan Aeromax Plus, 150 L Aiston Aerocyl with immersion backup heater
DHW System all other plots	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%
Space Heating System Plots 3&4	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%, radiators, programmer, room thermostat and TRV's	6 kW Kingspan Aeromax Plus, underfloor heating, programmer and at least two room thermostats
Space Heating System all other plots	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%, radiators, programmer, room thermostat and TRV's	Gas condensing combi boiler in each flat SEDBUK 2009 efficiency 89%, radiators, programmer, room thermostat and TRV's
Ventilation System	Natural with intermittent mechanical extracts	Natural with intermittent mechanical extracts
Energy Efficient Lighting	100%	100%

4.4 GROUND SOURCE HEAT PUMPS (GSHP)

• General information

Ground source heat pumps use a buried ground loop which transfers heat from the ground into the building through heating distribution system. GSHP technology can be used both for heating and cooling. Two main types of GSHP are available:

- Horizontal loop is suitable for applications where sufficient area is available to accommodate horizontally buried pipes.



- Vertical loop system can be used where ground space is limited, but will require boreholes typically 15-150m deep, and is consequently more expensive to install than horizontal systems.



- **Recommendations specific to this development**

Ground source heat pump can't be considered due to insufficient ground space.

4.5 BIOMASS

- **General information**

Producing energy from biomass has both environmental and economic advantages. It is a carbon neutral process as the CO₂ released when energy is generated from biomass is balanced by that absorbed during the fuel's production.

There are two main ways of using biomass to heat a domestic property:

- Stand alone stoves providing space heating for a room. These can be fuelled by logs or pellets but only pellets are suitable for automatic feed. Generally they are 6-12 kW in output, and some models can be fitted with a back boiler to provide water heating.
- Boilers connected to central heating and hot water systems. These are suitable for pellets, logs or chips, and are generally larger than 15 kW.

- **Recommendations specific to this development**

Biomass heating has been ruled out due to potential negative impacts on air quality, problems with fuel delivery and insufficient space for fuel storage and central plant.

4.6 WIND ENERGY

- **General information**

Wind power is a clean, renewable source of energy which produces no carbon dioxide emissions or waste products. The turbines can have horizontal or vertical axis (Darrieus type). Wind turbines use the wind's lift forces to rotate aerodynamic blades that turn a rotor which creates electricity. Most small wind turbines generate direct current (DC) electricity and are not connected to the national grid. A special inverter and controller is required to convert DC electricity to AC at a quality and standard acceptable to the grid if the turbine is to be connected to national grid.

- **Recommendations specific to this development**

Wind energy system has not been considered due to negative visual impact, noise, flicker and vibrations.

Predicted Energy Assessment



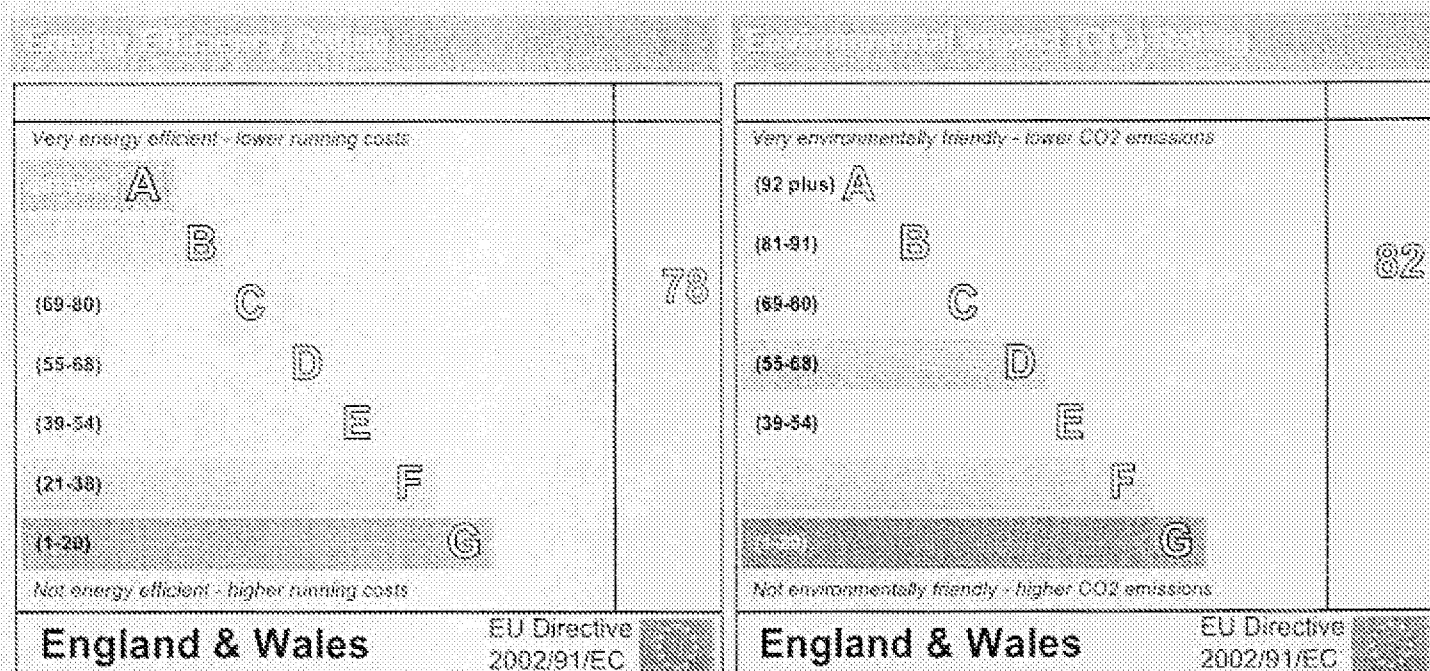
Plot 1
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Ground floor Flat
08 August 2013
Ondrej Gajdos
51 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

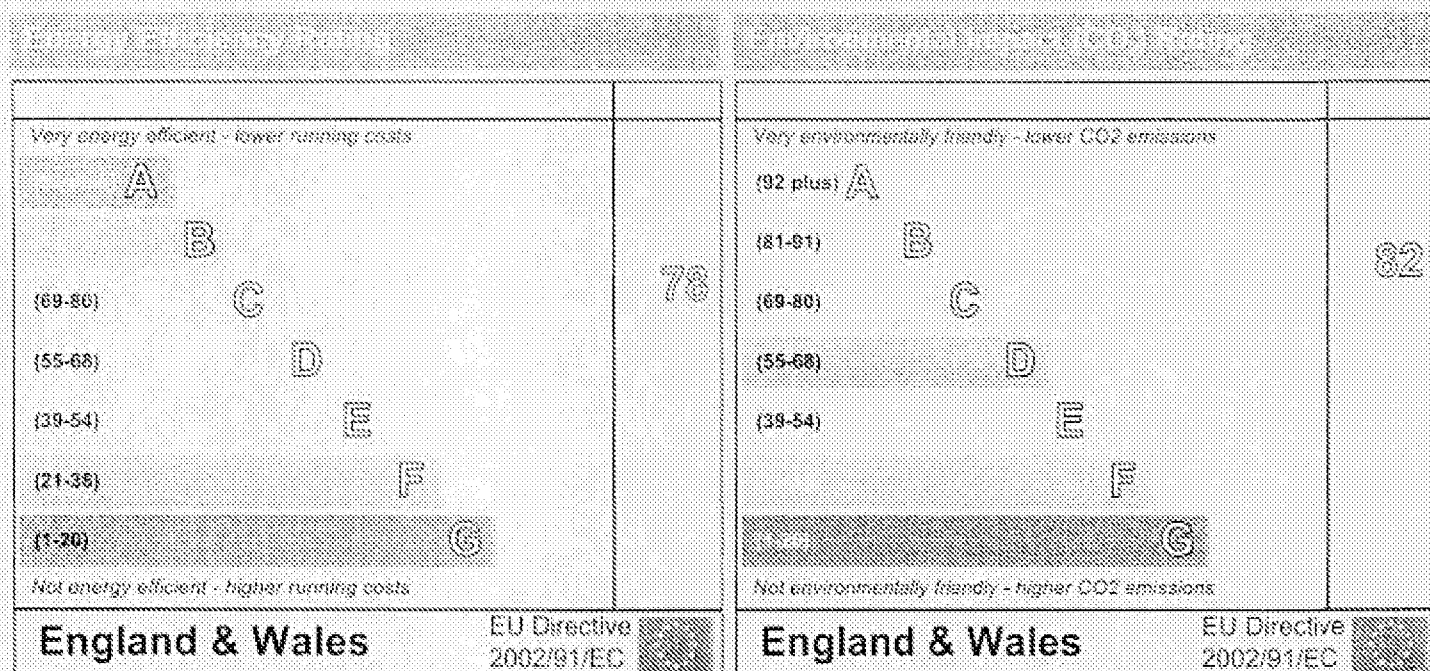
Plot 2
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Ground floor Flat
08 August 2013
Ondrej Gajdos
46 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.



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Predicted Energy Assessment



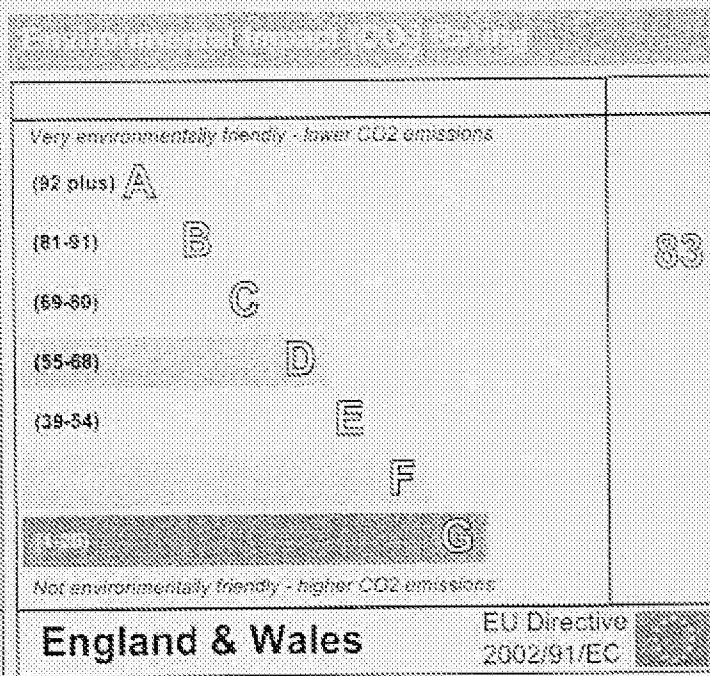
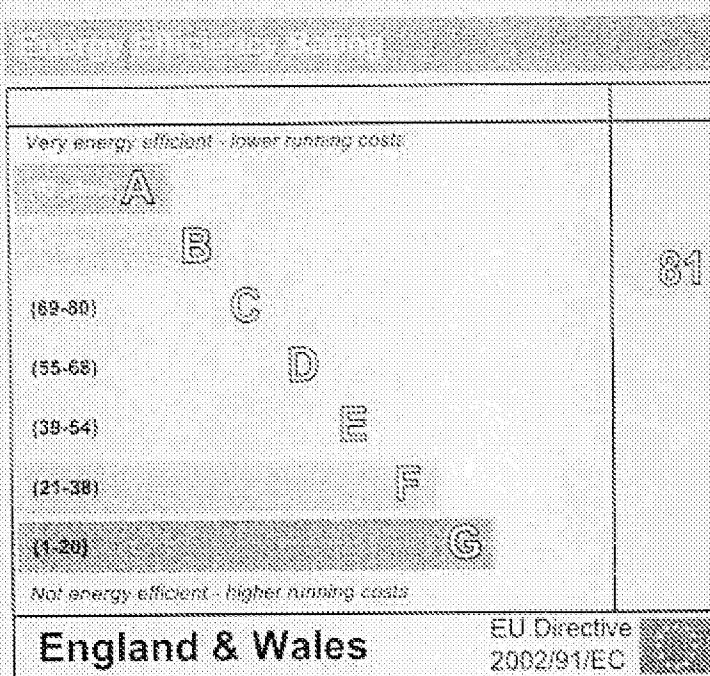
Plot 3
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Ground floor Flat
08 August 2013
Ondrej Gajdos
41 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.



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Predicted Energy Assessment



Plot 4
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Ground floor Flat
08 August 2013
Ondrej Gajdos
40 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating		Environmental Impact (CO ₂) Rating	
Very energy efficient - lower running costs A B (69-80) C (55-68) D (39-54) E (21-38) F (1-20) G Not energy efficient - higher running costs		Very environmentally friendly - lower CO₂ emissions (82 plus) A (81-81) B (69-80) C (55-68) D (38-54) E (1-20) F (1-20) G Not environmentally friendly - higher CO₂ emissions	
81		83	
England & Wales		England & Wales	
EU Directive 2002/91/EC		EU Directive 2002/91/EC	

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

Predicted Energy Assessment



Plot 5
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Mid floor Flat
08 August 2013
Ondrej Gajdos
48 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating		Environmental Impact (CO ₂) Rating	
Very energy efficient - lower running costs A B (69-88) C (55-68) D (39-54) E (21-38) F (1-20) G Not energy efficient - higher running costs		Very environmentally friendly - lower CO₂ emissions (92 plus) A (81-91) B (69-80) C (55-68) D (39-54) E (21-38) F (1-20) G Not environmentally friendly - higher CO₂ emissions	
31		86	
England & Wales		England & Wales	
EU Directive 2002/91/EC		EU Directive 2002/91/EC	

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

Predicted Energy Assessment



Plot 6
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Mid floor Flat
08 August 2013
Ondrej Gajdos
48 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating		Environmental Impact (CO ₂) Rating	
Very energy efficient - lower running costs A B (69-80) C (55-68) D (39-54) E (21-38) F (1-20) G Not energy efficient - higher running costs		Very environmentally friendly - lower CO₂ emissions (92 plus) A (81-91) B (69-80) C (55-68) D (39-54) E (21-38) F (1-20) G Not environmentally friendly - higher CO₂ emissions	
80		85	
England & Wales		England & Wales	
EU Directive 2002/91/EC		EU Directive 2002/91/EC	

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

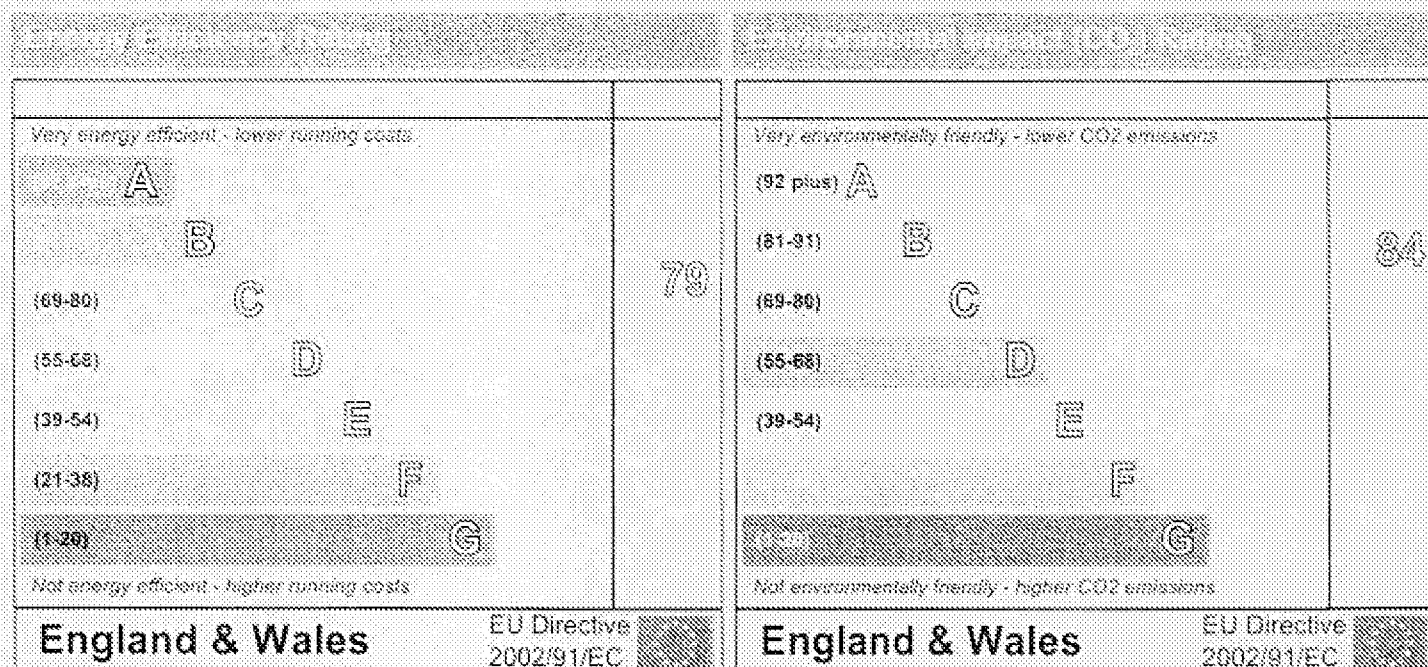
Plot 7
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Ground floor Flat
08 August 2013
Ondrej Gajdos
37 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.



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Predicted Energy Assessment



Plot 8
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Ground floor Flat
08 August 2013
Ondrej Gajdos
31 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating		Environmental Impact (CO ₂) Rating	
Very energy efficient - lower running costs A B (69-80) C (55-68) D (39-54) E (21-38) F (1-20) G Not energy efficient - higher running costs		Very environmentally friendly - lower CO₂ emissions (92 plus) A (81-91) B (69-80) C (55-68) D (39-54) E (21-38) F (1-20) G Not environmentally friendly - higher CO₂ emissions	
78		85	
England & Wales		England & Wales	
EU Directive 2002/91/EC		EU Directive 2002/91/EC	

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The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

Predicted Energy Assessment



Plot 9
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Top floor Flat
06 August 2013
Ondrej Gajdos
41 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating		Environmental Impact (CO ₂) Rating	
Very energy efficient - lower running costs A B (69-80) C (55-68) D (39-54) E (21-38) F (1-20) G Not energy efficient - higher running costs		Very environmentally friendly - lower CO₂ emissions (92 plus) A (81-91) B (69-80) C (55-68) D (39-54) E (21-38) F (1-20) G Not environmentally friendly - higher CO₂ emissions	
79		84	
England & Wales		England & Wales	
EU Directive 2002/91/EC		EU Directive 2002/91/EC	

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

Predicted Energy Assessment



Plot 10
3 Marine Drive West
Bognor Regis
PO21

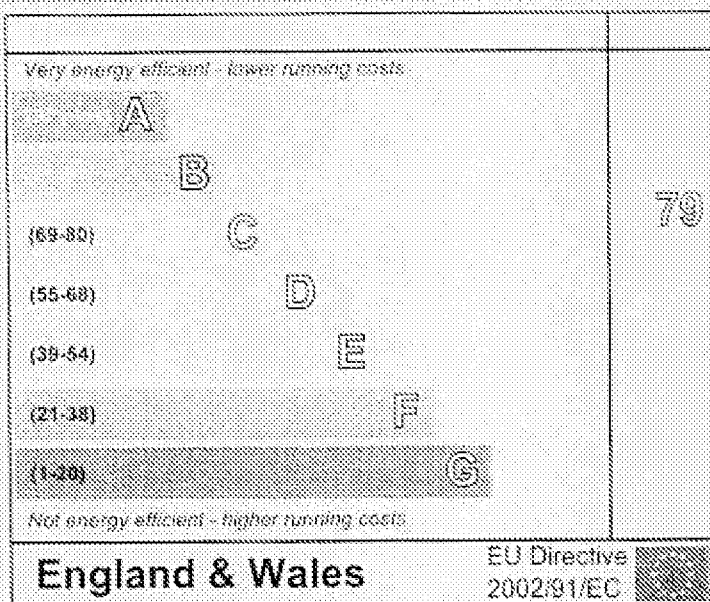
Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Top floor Flat
08 August 2013
Ondrej Gajdos
41 m²

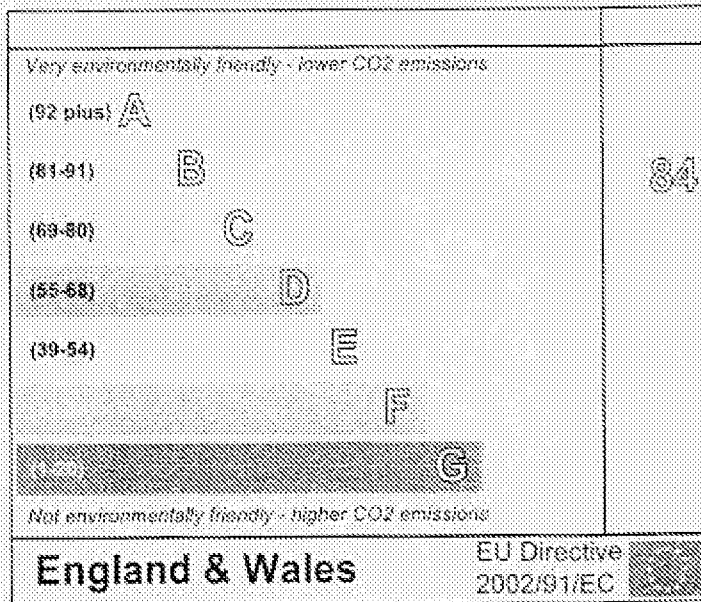
This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating



Environmental Impact (CO₂) Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

Predicted Energy Assessment



Plot 11
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Top floor Flat
08 August 2013
Ondrej Gajdos
37 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2009 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating		Environmental Impact (CO ₂) Rating	
Very energy efficient - lower running costs A B (69-80) C (55-68) D (39-54) E (21-38) F (1-20) G Not energy efficient - higher running costs		Very environmentally friendly - lower CO₂ emissions (92 plus) A (81-91) B (69-80) C (55-68) D (39-54) E (1-38) F (1-38) G Not environmentally friendly - higher CO₂ emissions	
77		83	
England & Wales		England & Wales	
EU Directive 2002/91/EC		EU Directive 2002/91/EC	

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

Predicted Energy Assessment



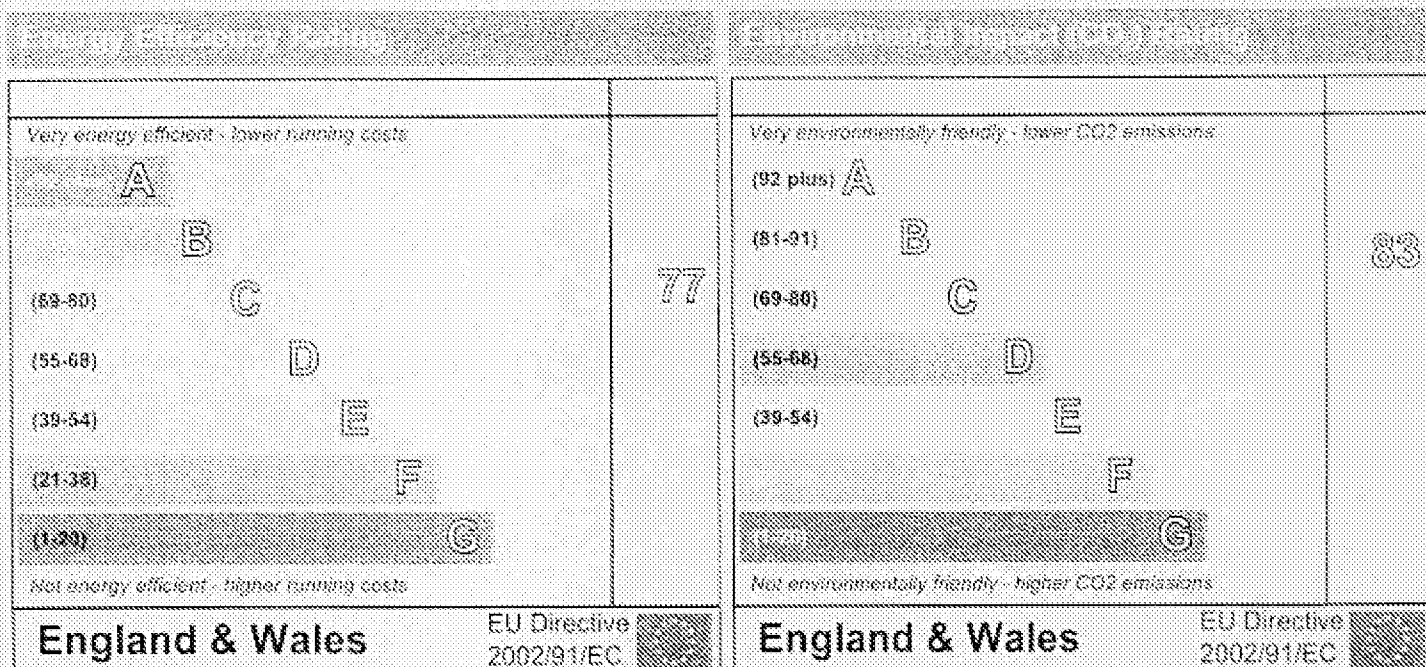
Plot 12
3 Marine Drive West
Bognor Regis
PO21

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

Enclosed end Top floor Flat
08 August 2013
Ondrej Gajdos
32 m²

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