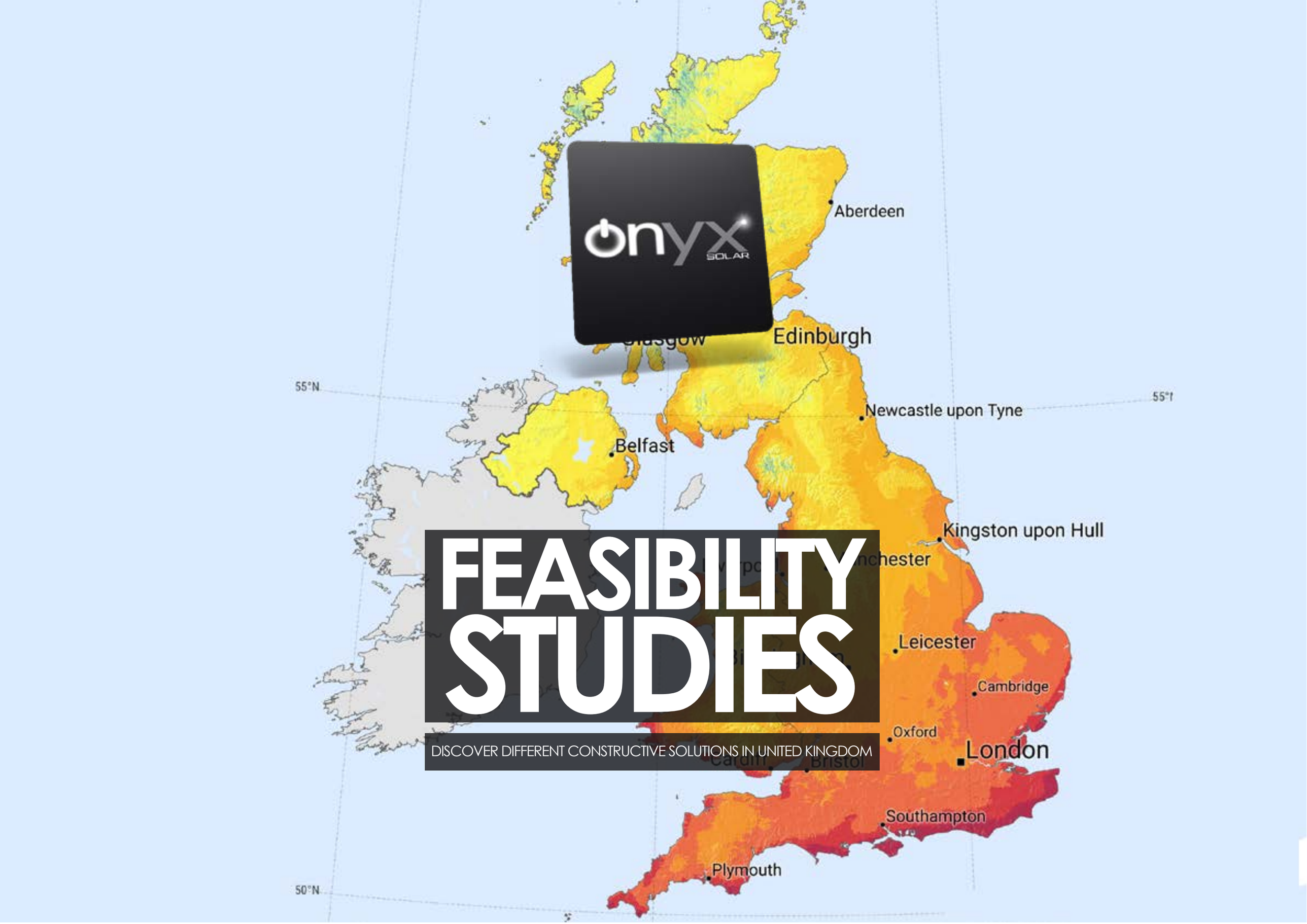


FEASIBILITY STUDIES

DISCOVER DIFFERENT CONSTRUCTIVE SOLUTIONS IN UNITED KINGDOM

FEASIBILITY STUDY LONDON

HIDDEN PV IN WHITE COLOR

- INTENSE GREEN 100 W/M²
- WHITE 110 W/M²
- MARBLE BROWN 115 W/M²
- **DEEP BLUE** 160 W/M²

CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	110 Wp per m²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS LONDON

Electricity generated	2.018 KWh per m²
Kg of CO_2 avoided	567 Kg per m²
Kilometres driven in an electric car	11.605 Km per m²
Light points fed	4 per m²/day

ECONOMIC BENEFITS LONDON*

Value of the electricity generated	£465 per m²
Return on investment	4 times
Internal rate of return (IRR)	9,47%
Payback time	11 years
Building's value increase**	£192 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	1.977 KWh per m²
Payback time (Edimburgo)	11,22 years
Electricity generated (Manchester)	1.917 KWh per m²
Payback time (Manchester)	11,57 years
Electricity generated (Reading)	2.018 KWh per m²
Payback time (Reading)	11 years

DATA CONSIDERED FOR CALCULATIONS

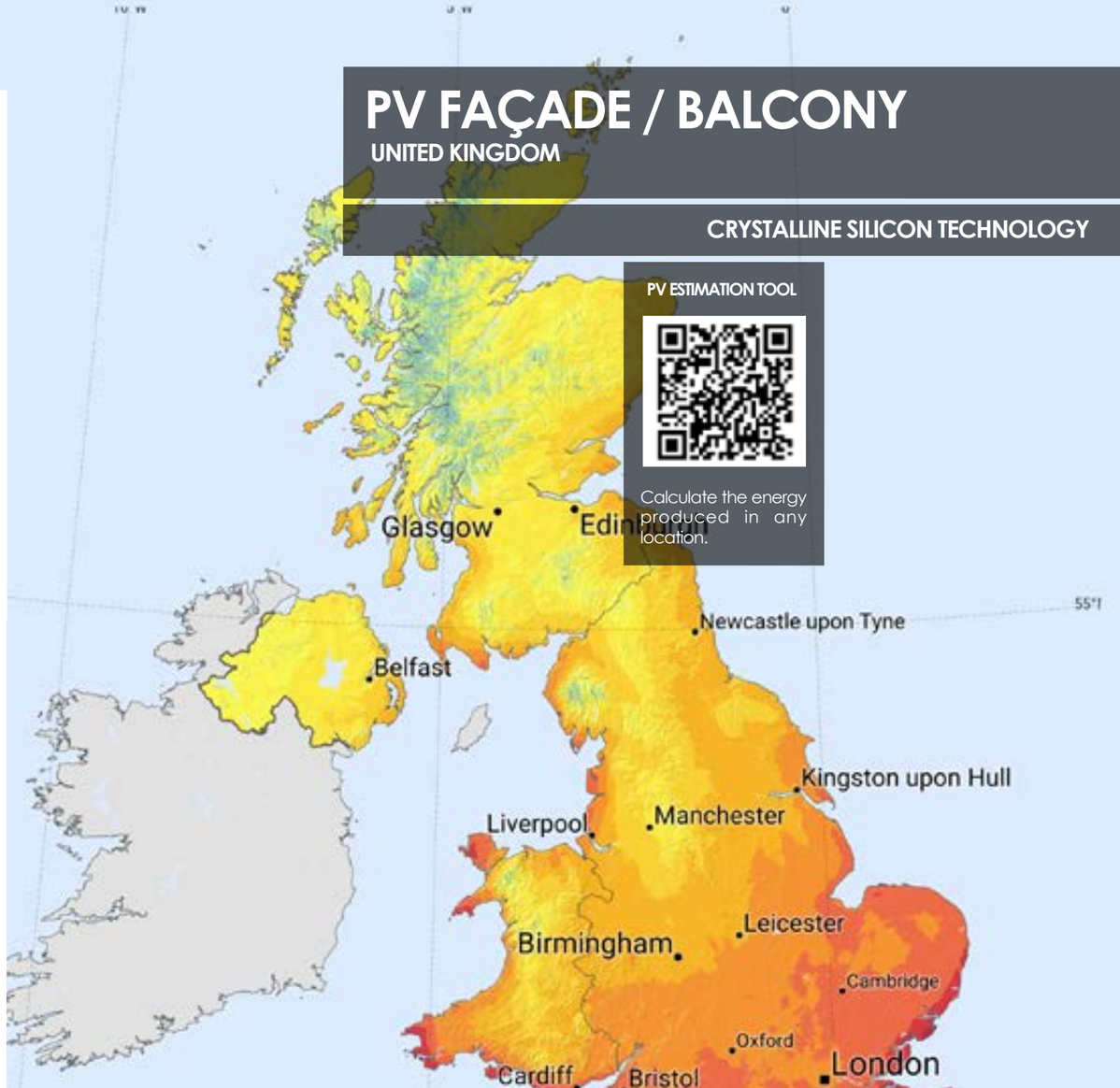
Tilt: 90°

Orientation: S

PV FAÇADE / BALCONY

UNITED KINGDOM

CRYSTALLINE SILICON TECHNOLOGY



PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION

Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

We plant one tree for every m² of PV glass we produce.

Data Calculated for a 35-year useful life.

* The prices considered are merely indicative and may vary depending on the installed glass surface. The data provided in this feasibility study in no case involves a contractual obligation.

** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

FEASIBILITY STUDY LONDON

HIDDEN PV IN WHITE COLOR

- INTENSE GREEN 100 W/M²
- WHITE 110 W/M²
- MARBLE BROWN 115 W/M²
- **DEEP BLUE** 160 W/M²

CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	110 Wp per m²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS LONDON

Electricity generated	2.976 KWh per m²
Kg of CO_2 avoided	836 Kg per m²
Kilometres driven in an electric car	17.114 Km per m²
Light points fed	5,85 per m²/day

ECONOMIC BENEFITS LONDON*

Value of the electricity generated	£685 per m²
Return on investment	5,90 times
Internal rate of return (IRR)	13,83%
Payback time	8 years
Building's value increase**	£283 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	2.916 KWh per m²
Payback time (Edimburgo)	8,16 years
Electricity generated (Manchester)	2.827 KWh per m²
Payback time (Manchester)	8,42 years
Electricity generated (Reading)	2.976 KWh per m²
Payback time (Reading)	8 years

DATA CONSIDERED FOR CALCULATIONS

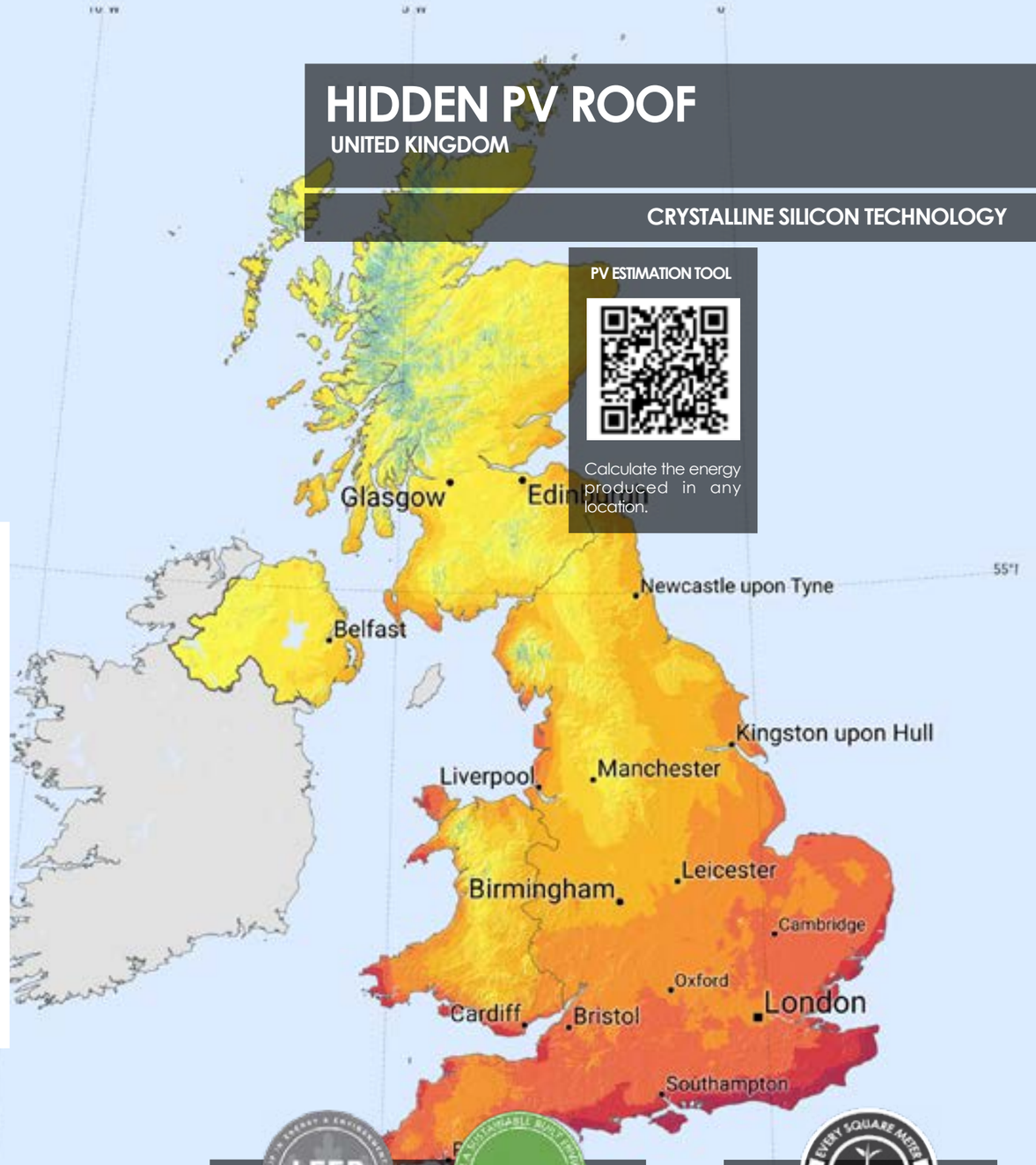
Tilt: 90°

Orientation: S

HIDDEN PV ROOF

UNITED KINGDOM

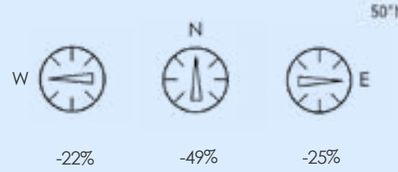
CRYSTALLINE SILICON TECHNOLOGY



PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION



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We plant one tree for every m² of PV glass we produce.

Data Calculated for a 35-year useful life.

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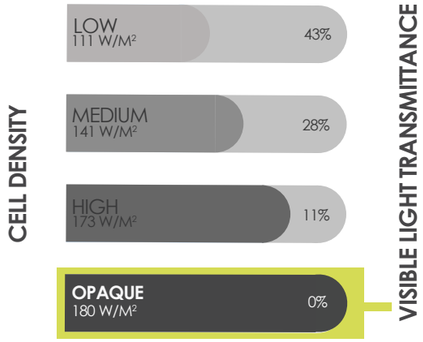
FEASIBILITY STUDY LONDON

OPAQUE PV GLASS



CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	180 Wp per m²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS LONDON

Electricity generated	3.302 KWh per m²
Kg of CO_2 avoided	928 Kg per m²
Kilometres driven in an electric car	18.990 Km per m²
Light points fed	6,5 per m²/day

ECONOMIC BENEFITS LONDON*

Value of the electricity generated	£760 per m²
Return on investment	23,6 times
Internal rate of return (IRR)	13,44 %
Payback time	8 years
Building's value increase**	£314 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	3.235 KWh per m²
Payback time (Edimburgo)	8,16 years
Electricity generated (Manchester)	3.136 KWh per m²
Payback time (Manchester)	8,42 years
Electricity generated (Reading)	3.302 KWh per m²
Payback time (Reading)	8 years

DATA CONSIDERED FOR CALCULATIONS

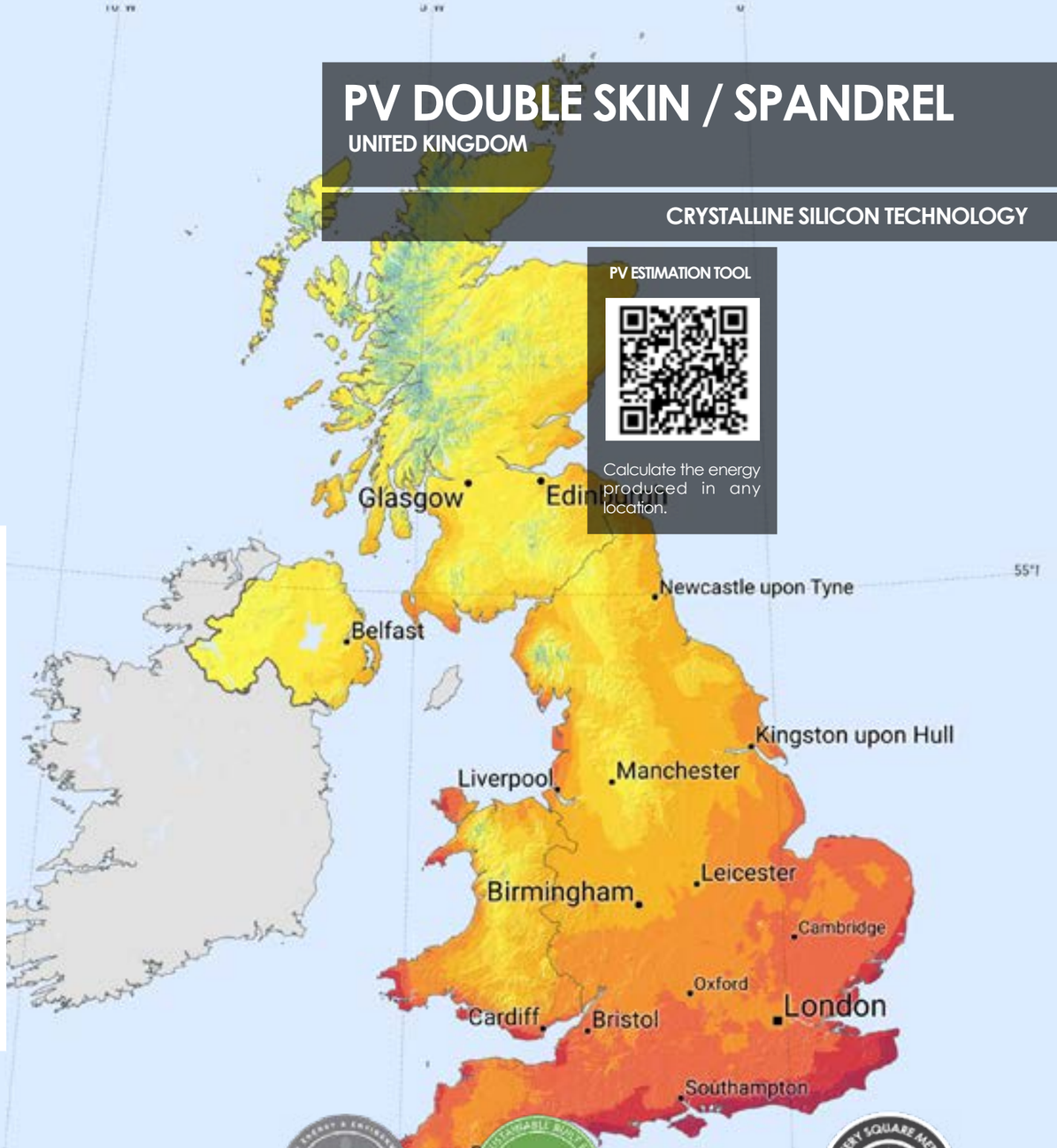
Tilt: 90°

Orientation: S

PV DOUBLE SKIN / SPANDREL

UNITED KINGDOM

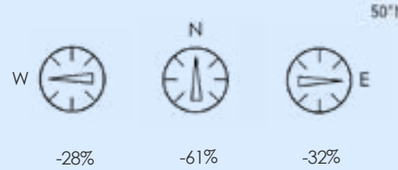
CRYSTALLINE SILICON TECHNOLOGY



PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION



Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

We plant one tree for every m² of PV glass we produce.

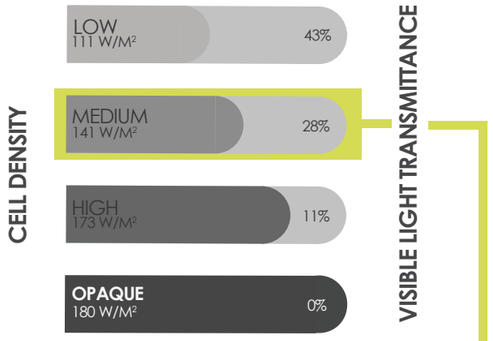
Data Calculated for a 35-year useful life.

* The prices considered are merely indicative and may vary depending on the installed glass surface. The data provided in this feasibility study in no case involves a contractual obligation.

** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

FEASIBILITY STUDY LONDON

MEDIUM CELL DENSITY PV GLASS



CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	141 Wp per m²
Visible light transmittance	28%

ENVIRONMENTAL BENEFITS LONDON

Electricity generated	2.587 KWh per m²
Kg of CO_2 avoided	727 Kg per m²
Kilometres driven in an electric car	14.876 Km per m²
Light points fed	5 per m²/day

ECONOMIC BENEFITS LONDON*

Value of the electricity generated	£596 per m²
Return on investment	3,29 times
Internal rate of return (IRR)	7,7 %
Payback time	14 years
Building's value increase**	£246 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	2.535 KWh per m²
Payback time (Edimburgo)	14,28 years
Electricity generated (Manchester)	2.457 KWh per m²
Payback time (Manchester)	14,73 years
Electricity generated (Reading)	2.587 KWh per m²
Payback time (Reading)	14 years

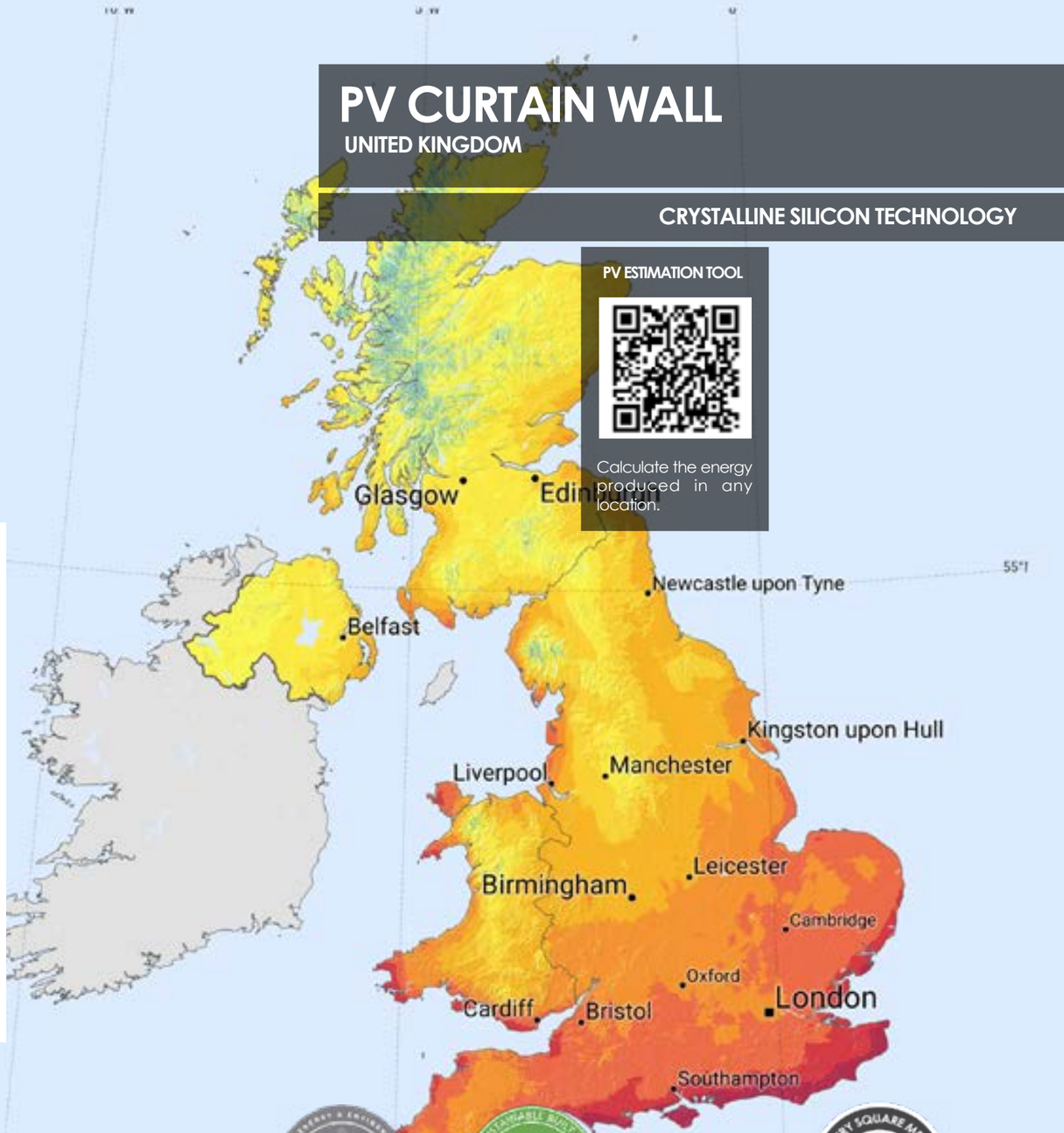
DATA CONSIDERED FOR CALCULATIONS

Tilt: Orientation:

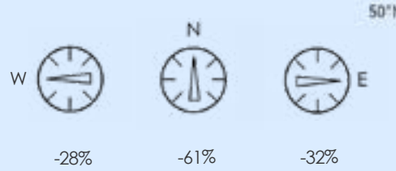
PV CURTAIN WALL

UNITED KINGDOM

CRYSTALLINE SILICON TECHNOLOGY



ENERGY LOSSES PER ORIENTATION



LEED BREEAM

Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

EVERY SQUARE METER PLANTS ONE TREE

We plant one tree for every m² of PV glass we produce.

Data Calculated for a 35-year useful life.

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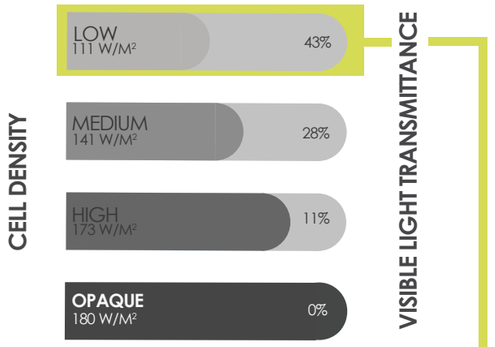
** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

FEASIBILITY STUDY LONDON

LOW CELL DENSITY PV GLASS



CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	111 Wp per m²
Visible light transmittance	43%

ENVIRONMENTAL BENEFITS LONDON

Electricity generated	2.036 KWh per m²
Kg of CO_2 avoided	572 Kg per m²
Kilometres driven in an electric car	11.711 Km per m²
Light points fed	4 per m²/day

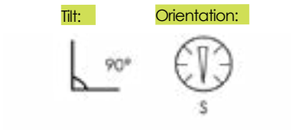
ECONOMIC BENEFITS LONDON*

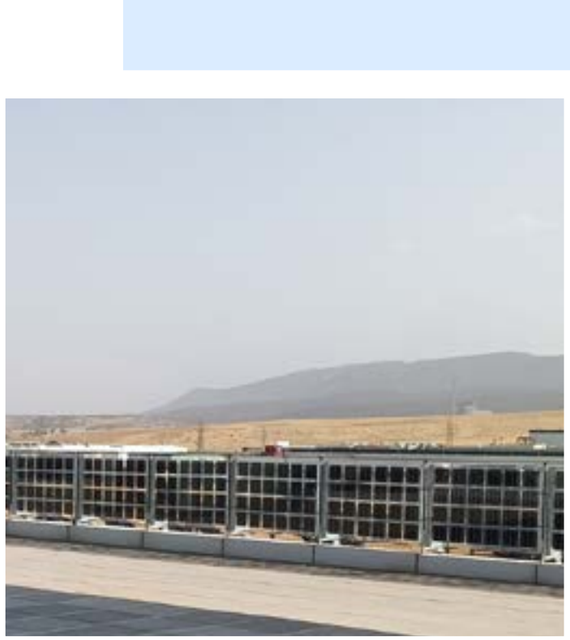
Value of the electricity generated	£469 per m²
Return on investment	3 times
Internal rate of return (IRR)	6,91 %
Payback time	15 years
Building's value increase**	£194 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	1.995 KWh per m²
Payback time (Edimburgo)	15,30 years
Electricity generated (Manchester)	1.934 KWh per m²
Payback time (Manchester)	15,78 years
Electricity generated (Reading)	2.036 KWh per m²
Payback time (Reading)	15 years

DATA CONSIDERED FOR CALCULATIONS

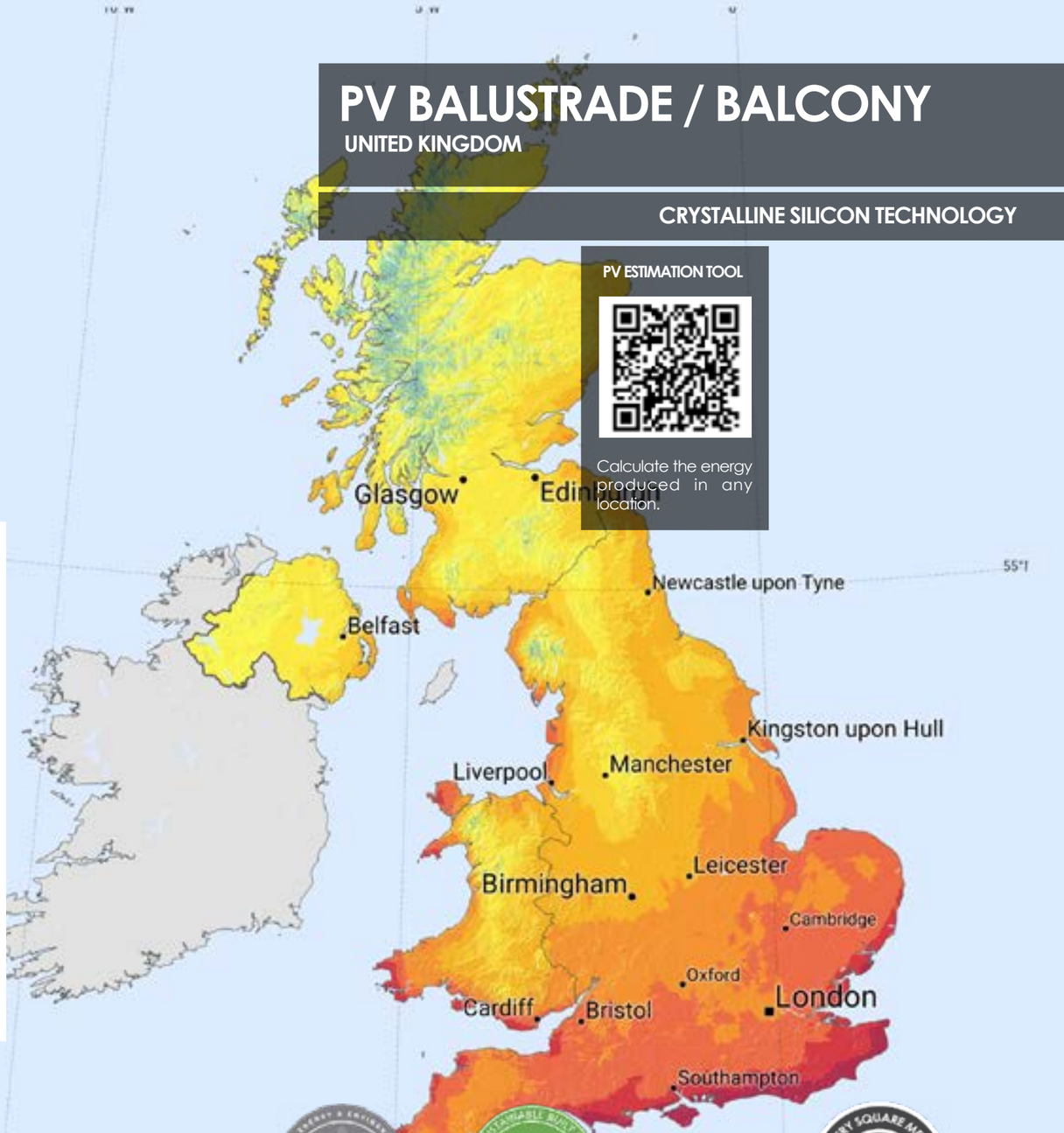




PV BALUSTRADE / BALCONY

UNITED KINGDOM

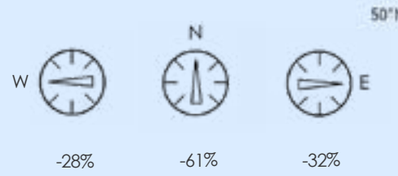
CRYSTALLINE SILICON TECHNOLOGY



PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION



Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

We plant one tree for every m² of PV glass we produce.

Data Calculated for a 35-year useful life.

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** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

FEASIBILITY STUDY LONDON

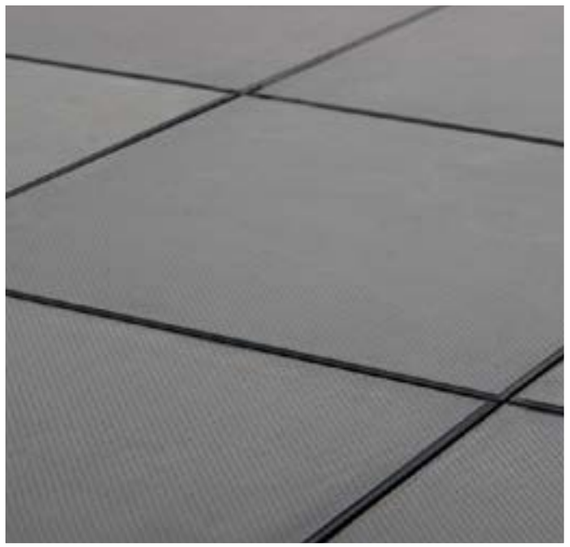
OPAQUE PV GLASS

CELL DENSITY

- LOW 111 W/M²
- MEDIUM 141 W/M²
- HIGH 173 W/M²
- **OPAQUE** 180 W/M²

CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	140 Wp per m²
Visible light transmittance	0%



ENVIRONMENTAL BENEFITS LONDON

Electricity generated	3.299 KWh per m²
Kg of CO_2 avoided	927 Kg per m²
Kilometres driven in an electric car	18.970 Km per m²
Light points fed	6,5 per m²/day

ECONOMIC BENEFITS LONDON*

Value of the electricity generated	£760 per m²
Return on investment	2,92 times
Internal rate of return (IRR)	6,7 %
Payback time	15 years
Building's value increase**	£314 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	3.233 KWh per m²
Payback time (Edimburgo)	15,30 years
Electricity generated (Manchester)	3.134 KWh per m²
Payback time (Manchester)	15,78 years
Electricity generated (Reading)	3.299 KWh per m²
Payback time (Reading)	15 years

DATA CONSIDERED FOR CALCULATIONS

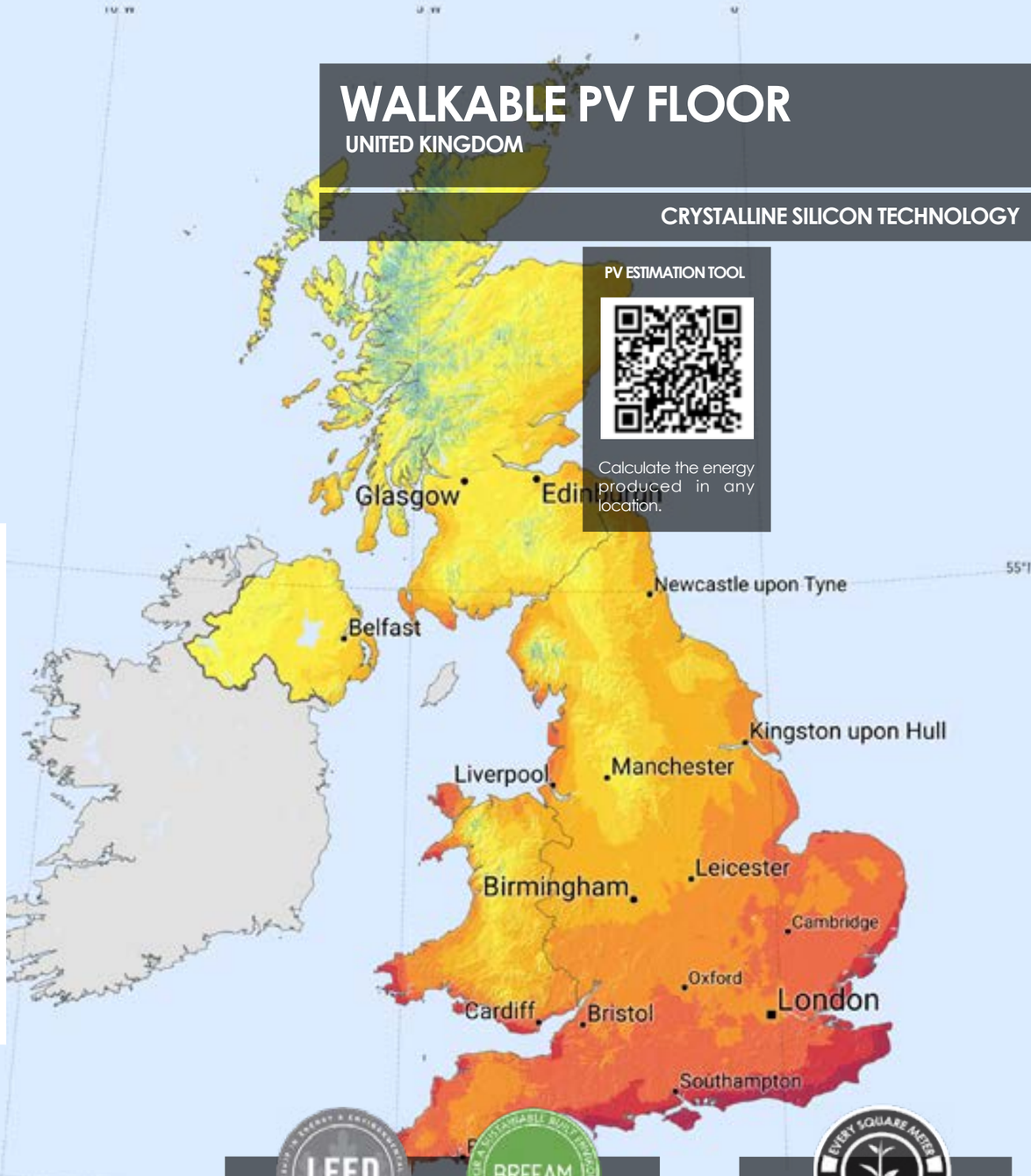
Tilt: 0°

Orientation: S

WALKABLE PV FLOOR

UNITED KINGDOM

CRYSTALLINE SILICON TECHNOLOGY



PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION

Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

We plant one tree for every m² of PV glass we produce.

Data Calculated for a 35-year useful life.

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FEASIBILITY STUDY LONDON

MEDIUM CELL DENSITY PV GLASS

CELL DENSITY

		VISIBLE LIGHT TRANSMITTANCE
LOW	111 W/M²	43%
MEDIUM	141 W/M²	28%
HIGH	173 W/M²	11%
OPAQUE	180 W/M²	0%

CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	141 Wp per m²
Visible light transmittance	28%

ENVIRONMENTAL BENEFITS LONDON

Electricity generated	3.815 KWh per m²
Kg of CO_2 avoided	1.072 Kg per m²
Kilometres driven in an electric car	21.937 Km per m²
Light points fed	7,5 per m²/day

ECONOMIC BENEFITS LONDON*

Value of the electricity generated	£878 per m²
Return on investment	7,15 times
Internal rate of return (IRR)	16,53%
Payback time	7 years
Building's value increase**	£363 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	3.738 KWh per m²
Payback time (Edimburgo)	7,14 years
Electricity generated (Manchester)	3.624 KWh per m²
Payback time (Manchester)	7,36 years
Electricity generated (Reading)	3.815 KWh per m²
Payback time (Reading)	7 years

DATA CONSIDERED FOR CALCULATIONS

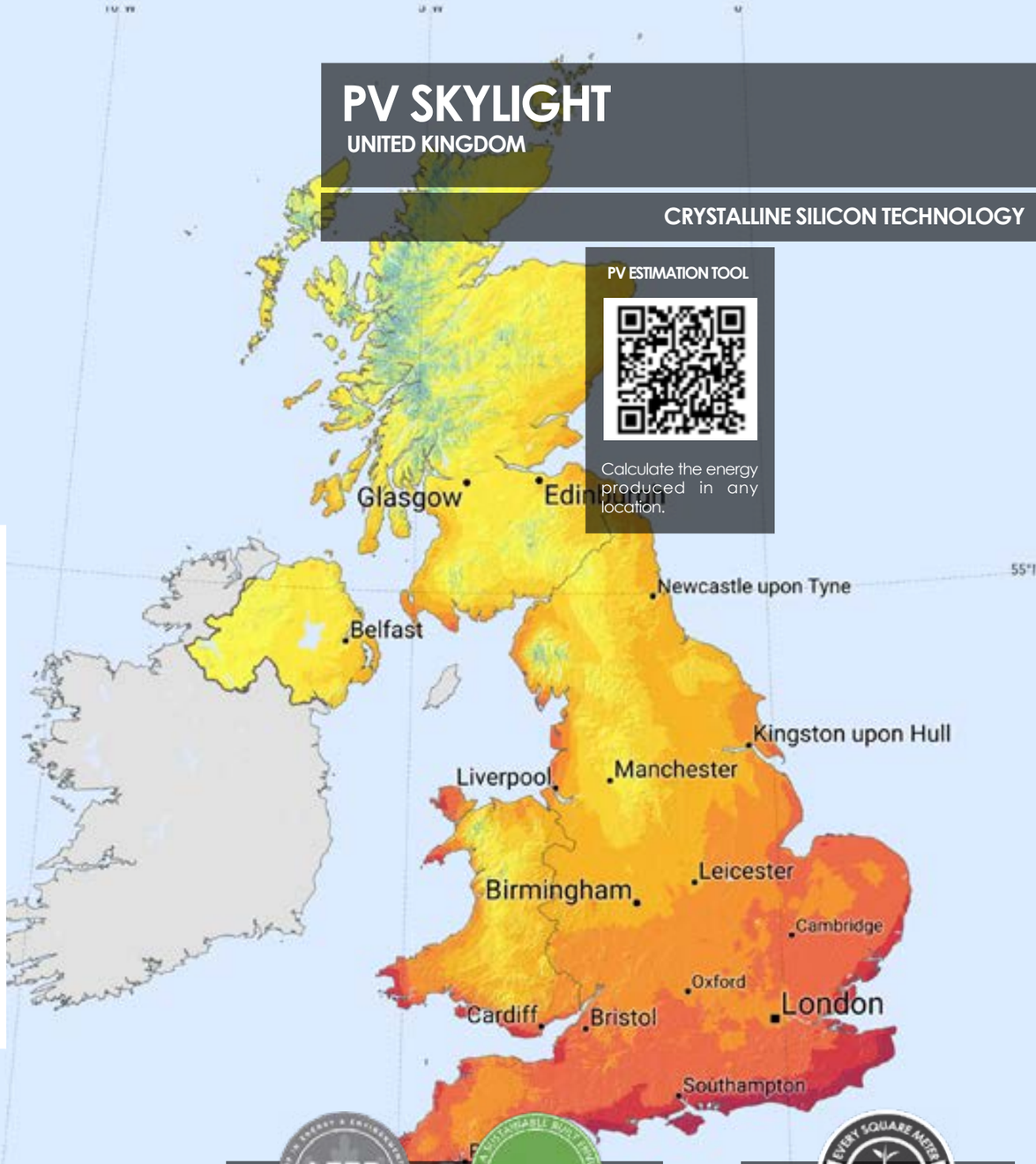
Tilt: 30°

Orientation: S

PV SKYLIGHT

UNITED KINGDOM

CRYSTALLINE SILICON TECHNOLOGY



PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION

Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

We plant one tree for every m² of PV glass we produce.

Data Calculated for a 35-year useful life.

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** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

FEASIBILITY STUDY LONDON

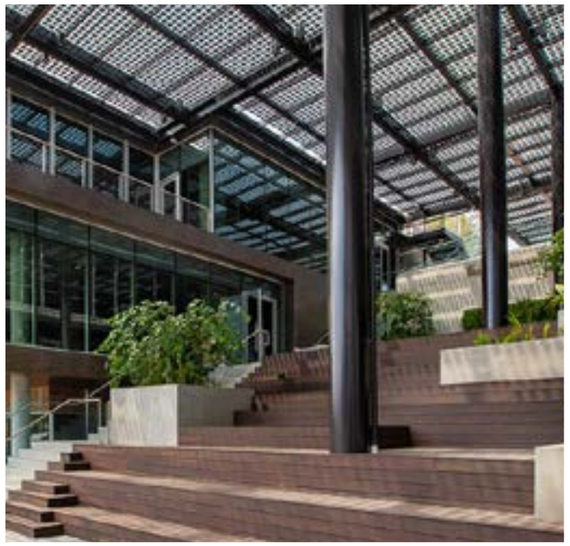
HIGH CELL DENSITY

CELL DENSITY

LOW 111 W/M²	43%	
MEDIUM 141 W/M²	28%	
HIGH 173 W/M²	11%	← VISIBLE LIGHT TRANSMITTANCE
OPAQUE 180 W/M²	0%	

CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	173 Wp per m²
Visible light transmittance	11%



ENVIRONMENTAL BENEFITS LONDON

Electricity generated	4.076 KWh per m²
Kg of CO_2 avoided	1.145 Kg per m²
Kilometres driven in an electric car	23.441 Km per m²
Light points fed	8 per m²/day

ECONOMIC BENEFITS LONDON*

Value of the electricity generated	£939 per m²
Return on investment	7,26 times
Internal rate of return (IRR)	16,78%
Payback time	7 years
Building's value increase**	£388 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	3.994 KWh per m²
Payback time (Edimburgo)	7,14 years
Electricity generated (Manchester)	3.872 KWh per m²
Payback time (Manchester)	7,36 years
Electricity generated (Reading)	4.076 KWh per m²
Payback time (Reading)	7 years

DATA CONSIDERED FOR CALCULATIONS

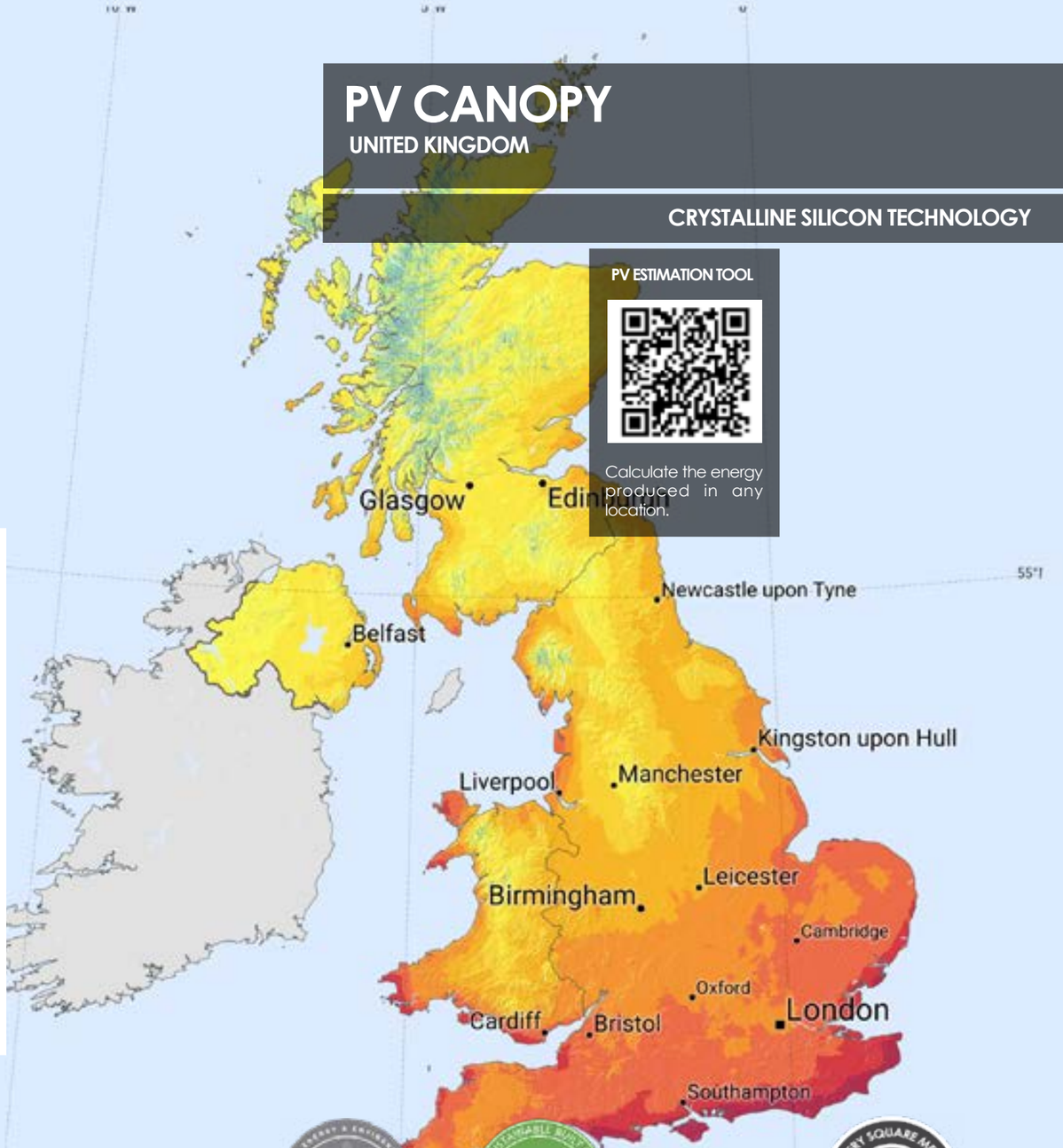
Tilt: 0°

Orientation: S

PV CANOPY

UNITED KINGDOM

CRYSTALLINE SILICON TECHNOLOGY



PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION

Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

We plant one tree for every m² of PV glass we produce.

Data Calculated for a 35-year useful life.

* The prices considered are merely indicative and may vary depending on the installed glass surface. The data provided in this feasibility study in no case involves a contractual obligation.

** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

FEASIBILITY STUDY LONDON

HIGH CELL DENSITY PV GLASS

CELL DENSITY

LOW	111 W/M²	43%
MEDIUM	141 W/M²	28%
HIGH	173 W/M²	11%
OPAQUE	180 W/M²	0%

VISIBLE LIGHT TRANSMITTANCE

CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	173 Wp per m²
Visible light transmittance	11%

ENVIRONMENTAL BENEFITS LONDON

Electricity generated	4.681 KWh per m²
Kg of CO_2 avoided	1.315 Kg per m²
Kilometres driven in an electric car	26.916 Km per m²
Light points fed	12,2 per m²/day

ECONOMIC BENEFITS LONDON*

Value of the electricity generated	£1.078 per m²
Return on investment	8,34 times
Internal rate of return (IRR)	19,06%
Payback time	6 years
Building's value increase**	£445 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	4.587 KWh per m²
Payback time (Edimburgo)	6,12 years
Electricity generated (Manchester)	4.446 KWh per m²
Payback time (Manchester)	6,31 years
Electricity generated (Reading)	4.681 KWh per m²
Payback time (Reading)	6 years

DATA CONSIDERED FOR CALCULATIONS

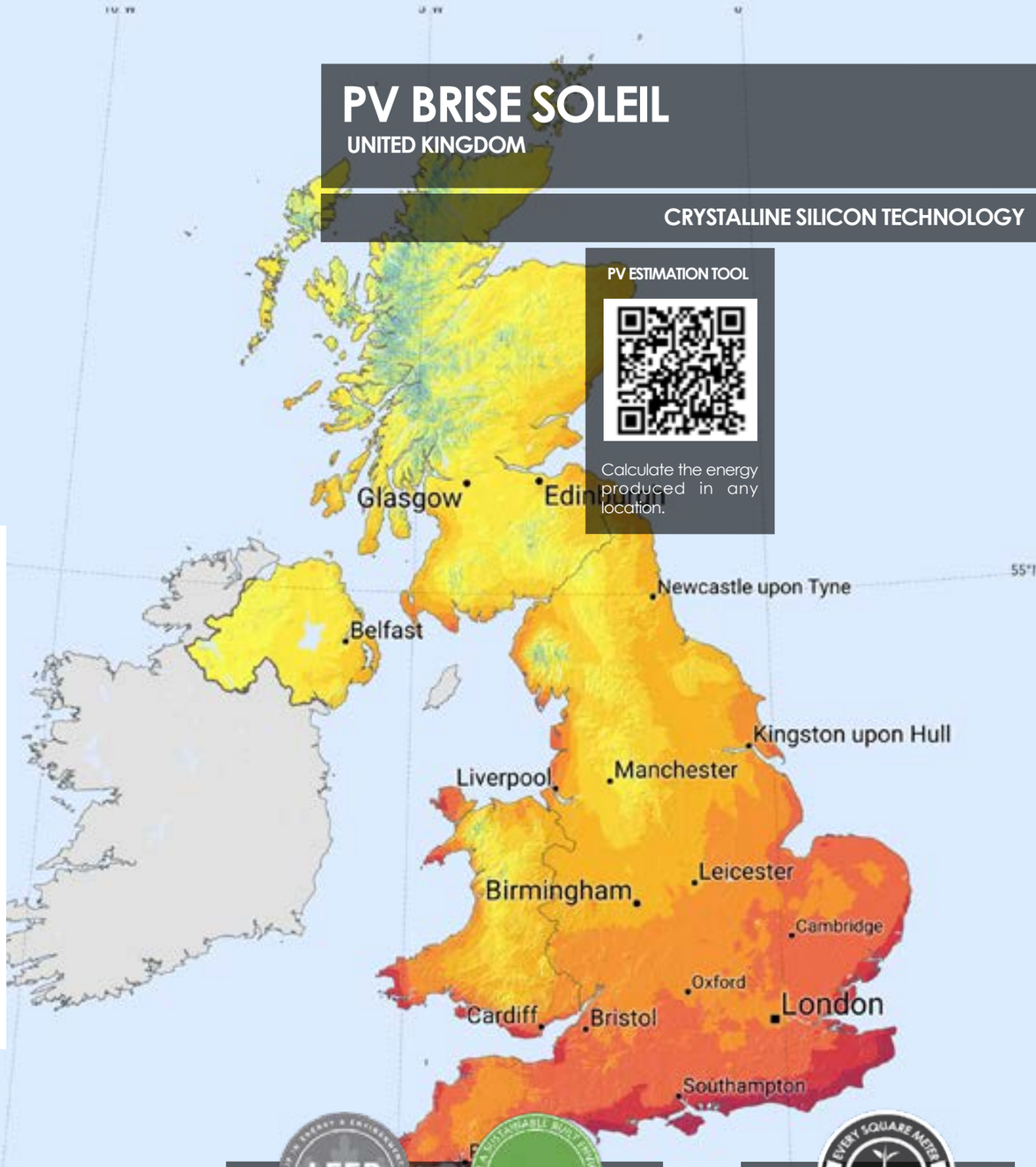
Tilt: 40°

Orientation: S

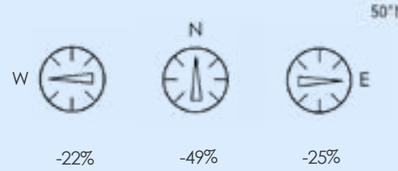
PV BRISE SOLEIL

UNITED KINGDOM

CRYSTALLINE SILICON TECHNOLOGY



ENERGY LOSSES PER ORIENTATION



LEED BREEAM

Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

EVERY SQUARE METER PLANTS ONE TREE

We plant one tree for every m² of PV glass we produce.

Data Calculated for a 35-year useful life.

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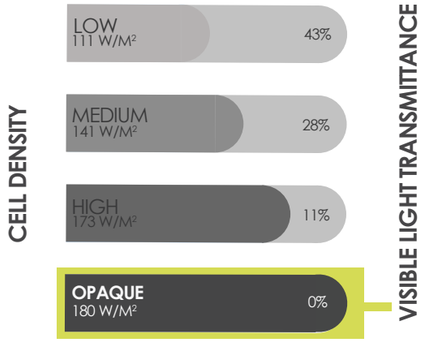
** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

FEASIBILITY STUDY LONDON

OPAQUE PV GLASS



CHARACTERISTICS OF THE INSTALLATION

Peak Power (Wp/m²)	180 Wp per m²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS LONDON

Electricity generated	3.302 KWh per m²
Kg of CO_2 avoided	928 Kg per m²
Kilometres driven in an electric car	18.990 Km per m²
Light points fed	6,5 per m²/day

ECONOMIC BENEFITS LONDON*

Value of the electricity generated	£760 per m²
Return on investment	5 times
Internal rate of return (IRR)	11,99%
Payback time	9 years
Building's value increase**	£314 per m²

RESULTS IN OTHER LOCATIONS OF UNITED KINGDOM

Electricity generated (Edimburgo)	3.235 KWh per m²
Payback time (Edimburgo)	9,18 years
Electricity generated (Manchester)	3.136 KWh per m²
Payback time (Manchester)	9,47 years
Electricity generated (Reading)	3.302 KWh per m²
Payback time (Reading)	9 years

DATA CONSIDERED FOR CALCULATIONS

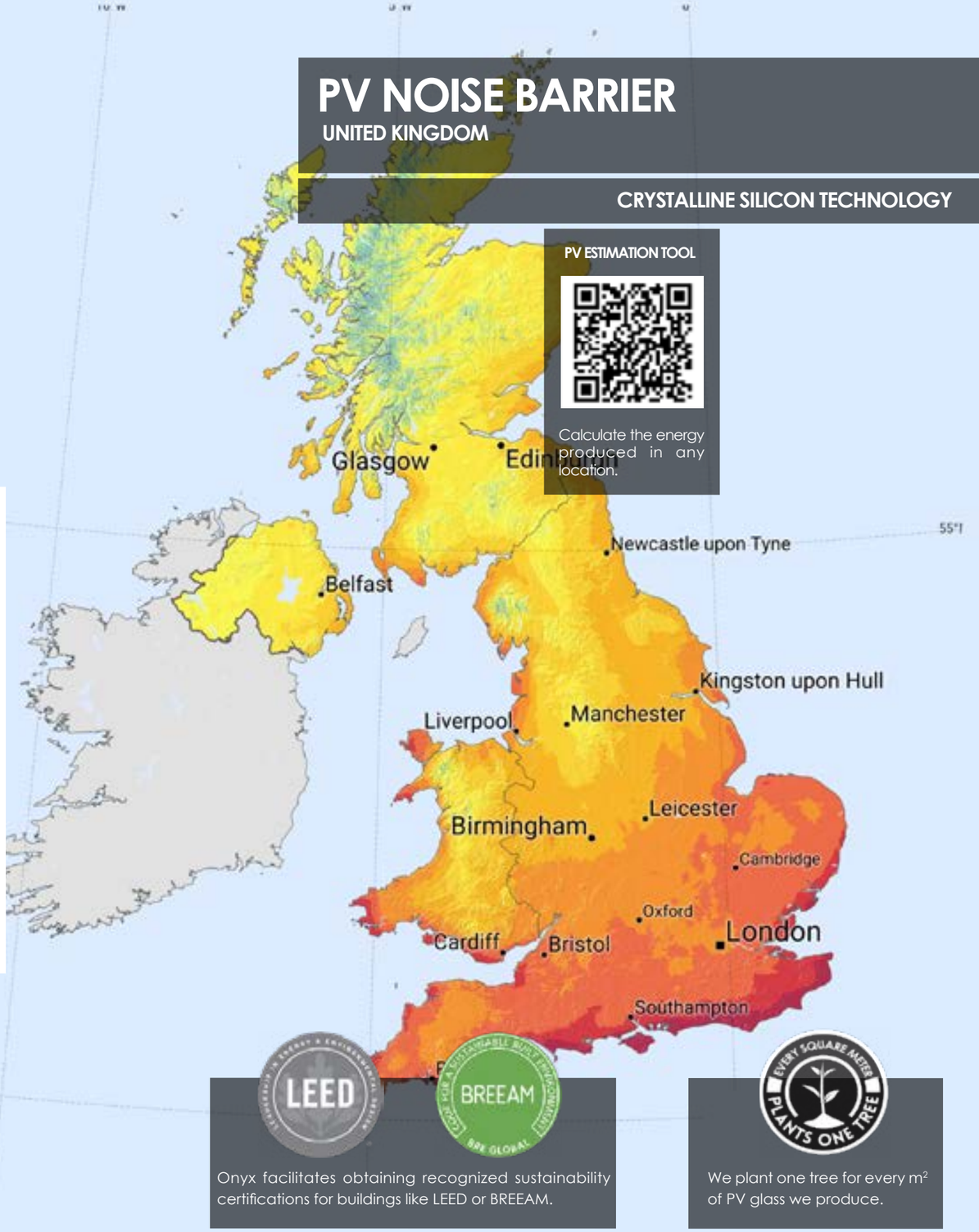
Tilt: 90°

Orientation: S

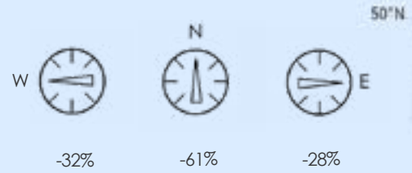
PV NOISE BARRIER

UNITED KINGDOM

CRYSTALLINE SILICON TECHNOLOGY



ENERGY LOSSES PER ORIENTATION



Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

We plant one tree for every m² of PV glass we produce.

Data Calculated for a 35-year useful life.

* The prices considered are merely indicative and may vary depending on the installed glass surface. The data provided in this feasibility study in no case involves a contractual obligation.

** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

GLOBAL EPD

SCAN THE QR TO DOWNLOAD OUR EPD

GlobalEPD
A VERIFIED ENVIRONMENTAL DECLARATION

ECO PLATFORM EPD VERIFIED

Environmental Product Declaration

EN ISO 14025:2010
EN 15804:2012+A2:2019

AENOR

CRYSTALLINE PHOTOVOLTAIC SOLAR GLASS

G/GM07244
G/GM07211
G/GM03644
G/GM01688A

First publication date: 31-01-2024
Expiry date: 30-01-2029

The declared validity is to registration and publication on www.aenor.com

GlobalEPD Code: GlobalEPD EN15804-063

The Environmental Product Declaration (EPD) is a certified document that provides our clients with reliable, verified, and transparent information regarding the environmental impact throughout the life cycle of a product. This information is based on a **Life Cycle Analysis (LCA)** study conducted in accordance with the Product Category Rules (PCR) developed by the Eco-labeling Program. In our specific case, the study has been carried out under the **Product Category Rule for Construction Products UNE EN 15804:2012+A2.**

ECO PLATFORM & AENOR

ECO Platform is a European Association made up of DAP Verification Program Administrators, industrial associations, and life cycle analysis experts, which guarantees the quality and conformity of environmental declarations of construction products in accordance with ISO 14025 and EN 15084 Standards. ECO Platform represents a common pan-European framework for DAPs. The Programs commit to common quality and verification criteria, which are regularly audited.

AENOR is a founding member of ECO Platform and passed audits in 2014 to issue Environmental Declarations with the ECO Platform EPD EN 15804 VERIFIED™ logo, being one of the first four European Administrators along with International EPD System (Sweden), IBU (Germany) and BAU EPD (Austria).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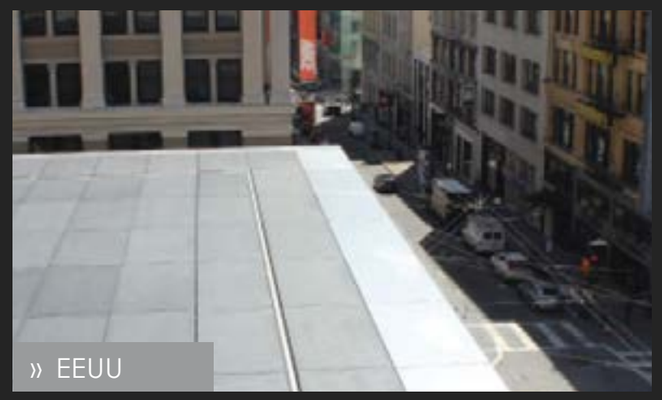

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UNLOCKING THE POWER OF PHOTOVOLTAIC GLASS:

Are you curious about the potential of photovoltaic (PV) glass for your project? Our team at Onyx Solar is here to guide you through the process and help you harness the benefits of this innovative technology.

WHAT DOES PV GLASS BRING TO YOUR PROJECT?

✓ **Energy Generation:** PV glass generates clean electricity from sunlight, reducing your reliance on traditional power sources.

✓ **Aesthetic Integration:** Say goodbye to bulky solar panels! PV glass blends seamlessly with architectural designs, enhancing the visual appeal of your building.

✓ **Environmental Impact:** By using PV glass, you contribute to reducing carbon emissions. Imagine the positive impact on our planet!

HOW ONYX SOLAR CAN ASSIST YOU

Our technical team offers free feasibility studies tailored to your project. Here's what we provide:

·**Product Datasheets:** Detailed information about our PV glass products, including technical specifications.

·**Shop Drawings:** Visual representations to aid in your design process.

·**Energy Estimates:** Understand the potential energy output based on your installation.

·**CO_2 Emissions Prevented:** Quantify the environmental benefits of using PV glass.

·**Cost Analysis:** Get a clear picture of the investment required.

·**Payback and ROI:** Evaluate the financial returns over time.

·**Tax Credits and Incentives:** Explore available incentives to make an informed decision.

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