
6°E
7°E
8°E
9°E
10°E
47°N
46°N
Ba
Zurich
St. Gallen
Luzern
Bern
Chur
Lausanne
Geneva
Sion
Lugano
onyx
SOLAR
FEASIBILITY
STUDIES
DISCOVER DIFFERENT CONSTRUCTIVE SOLUTIONS IN SWITZERLAND

FEASIBILITY STUDY BASEL

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 GLASS

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

ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	2.034 KWh per m²
Kg of CO_2 avoided	61,5 Kg per m²
Kilometres driven in an electric car	11.700 Km per m²
Light points fed	4 per m²/day

ECONOMIC BENEFITS BASEL*

Value of the renewable energy generated	567 CHF per m²
Return on investment	12,7 times
Internal rate of return (IRR)	32,33%
Payback time	4 years
Building's value increase**	280 CHF per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

ENERGY LOSSES PER ORIENTATION

PV FAÇADE / BALCONY

SWITZERLAND

CRYSTALLINE SILICON TECHNOLOGY

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

We plant one tree for every m² of PV glass we produce. Each tree absorbs an average of 10 Kg of CO2 per year.

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 BASEL

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 GLASS

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

ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	3.103 KWh per m²
Kg of CO_2 avoided	93 Kg per m²
Kilometres driven in an electric car	17.843 Km per m²
Light points fed	6,1 per m²/day

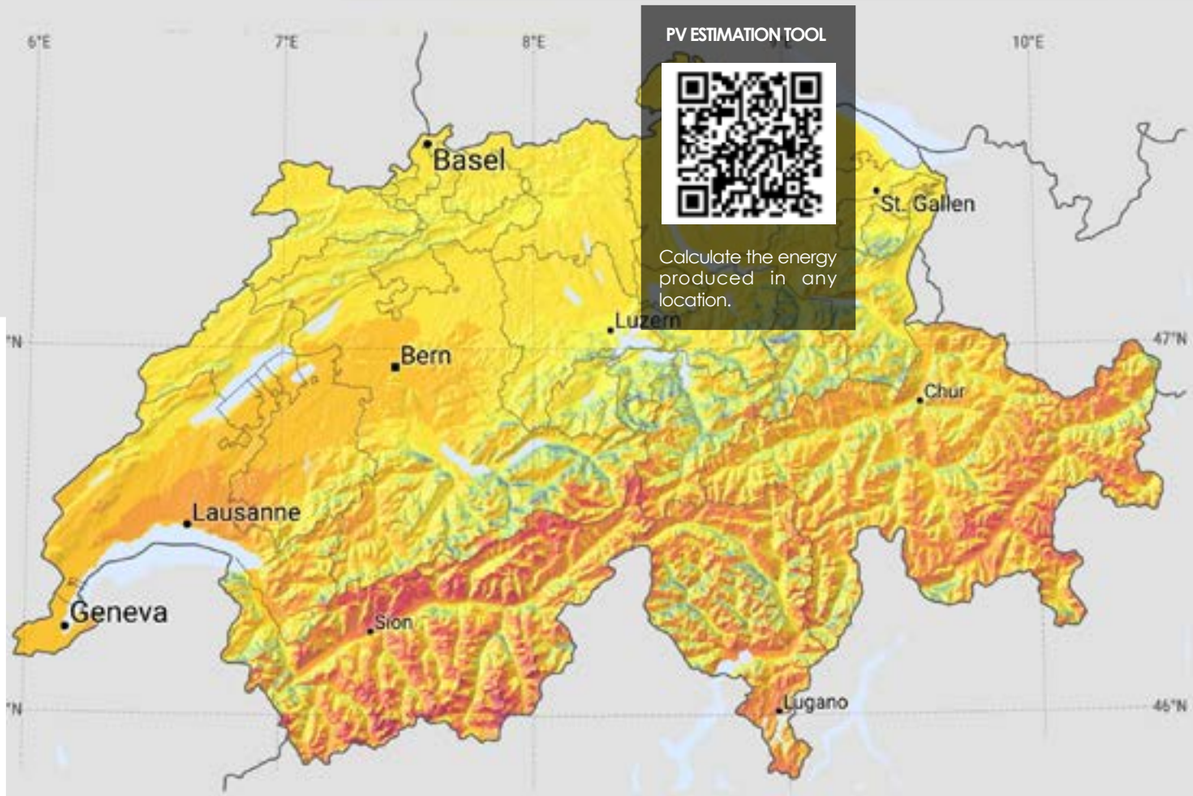
ECONOMIC BENEFITS BASEL*

Value of the renewable energy generated	865 CHF per m²
Return on investment	19,38 times
Internal rate of return (IRR)	48,82%
Payback time	3 years
Building's value increase**	427 CHF per m²

HIDDEN PV ROOF

SWITZERLAND

CRYSTALLINE SILICON TECHNOLOGY



DATA CONSIDERED FOR CALCULATIONS

Tilt: 30°

Orientation: S

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. Each tree absorbs an average of 10 Kg of CO2 per year.

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FEASIBILITY STUDY BASEL

OPAQUE 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 GLASS

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

ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	3.329 KWh per m²
Kg of CO_2 avoided	99,90 Kg per m²
Kilometres driven in an electric car	19.146 Km per m²
Light points fed	6,54 per m²/day

ECONOMIC BENEFITS BASEL*

Value of the renewable energy generated	928 CHF per m²
Return on investment	6,54 times
Internal rate of return (IRR)	16,97%
Payback time	7 years
Building's value increase**	459 CHF per m²

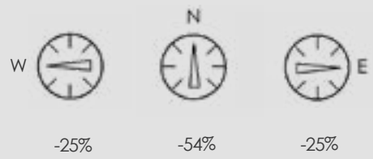
PV DOUBLE SKIN / SPANDREL

SWITZERLAND

CRYSTALLINE SILICON TECHNOLOGY

DATA CONSIDERED FOR CALCULATIONS

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. Each tree absorbs an average of 10 Kg of CO2 per year.

Data Calculated for a 35-year useful life.

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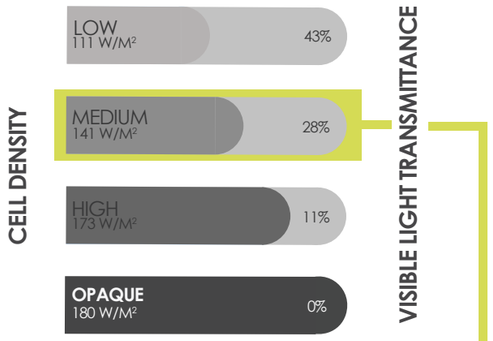
FEASIBILITY STUDY BASEL

MEDIUM CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	2.608 KWh per m²
Kg of CO_2 avoided	78,25 Kg per m²
Kilometres driven in an electric car	14.998 Km per m²
Light points fed	5,13 per m²/day

ECONOMIC BENEFITS BASEL*

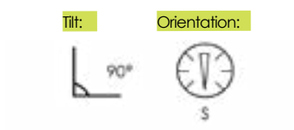
Value of the renewable energy generated	727 CHF per m²
Return on investment	4 times
Internal rate of return (IRR)	10,42 %
Payback time	10 years
Building's value increase**	359 CHF per m²

PV CURTAIN WALL

SWITZERLAND

CRYSTALLINE SILICON TECHNOLOGY

DATA CONSIDERED FOR CALCULATIONS



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. Each tree absorbs an average of 10 Kg of CO2 per year.

Data Calculated for a 35-year useful life.

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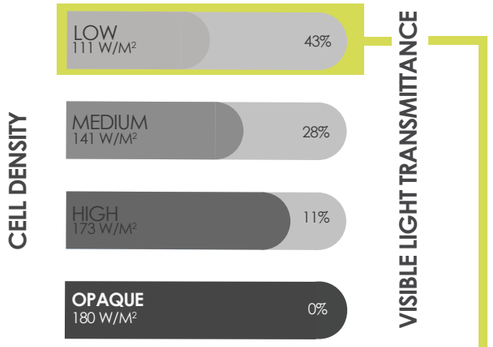
FEASIBILITY STUDY BASEL

LOW CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	2.053 KWh per m²
Kg of CO_2 avoided	61,6 Kg per m²
Kilometres driven in an electric car	11.807 Km per m²
Light points fed	4 per m²/day

ECONOMIC BENEFITS BASEL*

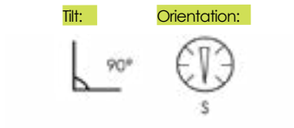
Value of the renewable energy generated	572 CHF per m²
Return on investment	3,76 times
Internal rate of return (IRR)	9,67%
Payback time	11 years
Building's value increase**	283 CHF per m²

PV BALUSTRADE / BALCONY

SWITZERLAND

CRYSTALLINE SILICON TECHNOLOGY

DATA CONSIDERED FOR CALCULATIONS



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. Each tree absorbs an average of 10 Kg of CO2 per year.

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 BASEL

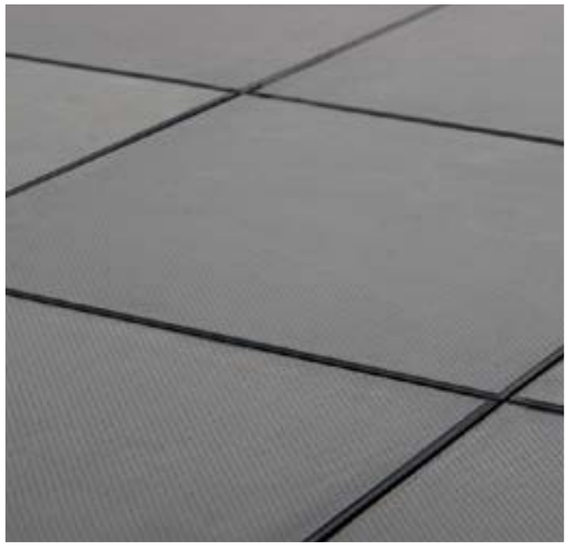
OPAQUE PV GLASS

CELL DENSITY

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

CHARACTERISTICS OF THE GLASS

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



ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	3.545 KWh per m²
Kg of CO_2 avoided	106 Kg per m²
Kilometres driven in an electric car	20.387 Km per m²
Light points fed	7 per m²/day

ECONOMIC BENEFITS BASEL*

Value of the renewable energy generated	988 CHF per m²
Return on investment	3,85 times
Internal rate of return (IRR)	9,93%
Payback time	11 years
Building's value increase**	488 CHF per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 0°

Orientation: S

ENERGY LOSSES PER ORIENTATION

0° 0° 0°

WALKABLE PV FLOOR

SWITZERLAND

CRYSTALLINE SILICON TECHNOLOGY

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

We plant one tree for every m² of PV glass we produce. Each tree absorbs an average of 10 Kg of CO2 per year.

Data Calculated for a 35-year useful life.

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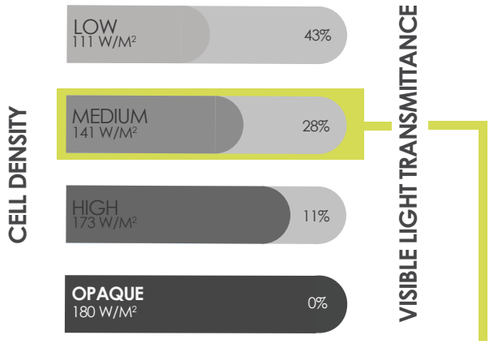
** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

FEASIBILITY STUDY BASEL

MEDIUM CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	3.977 KWh per m²
Kg of CO_2 avoided	119 Kg per m²
Kilometres driven in an electric car	22.872 Km per m²
Light points fed	7,82 per m²/day

ECONOMIC BENEFITS BASEL*

Value of the renewable energy generated	1.109 CHF per m²
Return on investment	9 times
Internal rate of return (IRR)	23,24%
Payback time	5 years
Building's value increase**	548 CHF per m²

PV SKYLIGHT

SWITZERLAND

CRYSTALLINE SILICON TECHNOLOGY

DATA CONSIDERED FOR CALCULATIONS

ENERGY LOSSES PER ORIENTATION

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We plant one tree for every m² of PV glass we produce. Each tree absorbs an average of 10 Kg of CO2 per year.

Data Calculated for a 35-year useful life.

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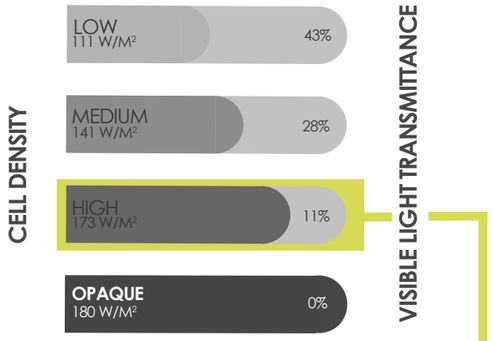
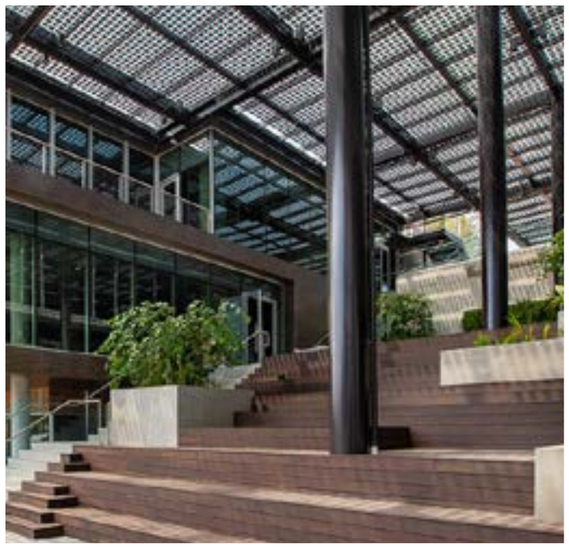
FEASIBILITY STUDY BASEL

HIGH CELL DENSITY



CHARACTERISTICS OF THE GLASS

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



ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	4.381 KWh per m²
Kg of CO_2 avoided	131 Kg per m²
Kilometres driven in an electric car	25.193 Km per m²
Light points fed	8,61 per m²/day

ECONOMIC BENEFITS BASEL*

Value of the renewable energy generated	1.221 CHF per m²
Return on investment	9 times
Internal rate of return (IRR)	22,83%
Payback time	6 years
Building's value increase**	603 CHF per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 0°

Orientation: S

ENERGY LOSSES PER ORIENTATION

PV CANOPY

SWITZERLAND

CRYSTALLINE SILICON TECHNOLOGY

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

We plant one tree for every m² of PV glass we produce. Each tree absorbs an average of 10 Kg of CO2 per year.

Data Calculated for a 35-year useful life.

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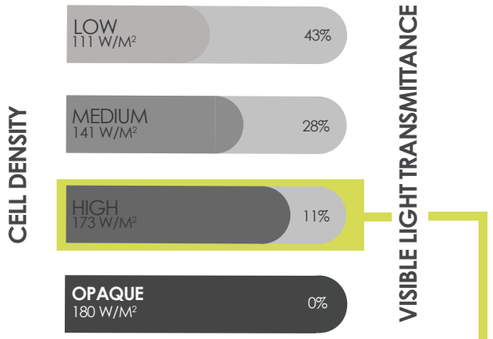
** According to the US Department of Energy & Environment a sustainable building will obtain an increase of value between 10 and 20 USD for every USD generated by renewable energy.

FEASIBILITY STUDY BASEL

HIGH CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	4.880 KWh per m²
Kg of CO_2 avoided	146 Kg per m²
Kilometres driven in an electric car	28.063 Km per m²
Light points fed	9,6 per m²/day

ECONOMIC BENEFITS BASEL*

Value of the renewable energy generated	1.361 CHF per m²
Return on investment	9,9 times
Internal rate of return (IRR)	25,34%
Payback time	5 years
Building's value increase**	672 CHF per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 40°

Orientation: S

ENERGY LOSSES PER ORIENTATION

PV BRISE SOLEIL

SWITZERLAND

CRYSTALLINE SILICON TECHNOLOGY

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

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Data Calculated for a 35-year useful life.

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FEASIBILITY STUDY BASEL

OPAQUE 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 GLASS

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

ENVIRONMENTAL BENEFITS BASEL

Renewable energy generated	3.329 KWh per m²
Kg of CO_2 avoided	100 Kg per m²
Kilometres driven in an electric car	19.146 Km per m²
Light points fed	6,5 per m²/day

ECONOMIC BENEFITS BASEL*

Value of the renewable energy generated	928 CHF per m²
Return on investment	5,9 times
Internal rate of return (IRR)	15,40%
Payback time	7 years
Building's value increase**	459 CHF per m²

PV NOISE BARRIER

SWITZERLAND

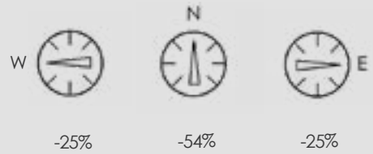
CRYSTALLINE SILICON TECHNOLOGY

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

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. Each tree absorbs an average of 10 Kg of CO2 per year.

Data Calculated for a 35-year useful life.

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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).


» ISRAEL


» ESPAÑA


» EEUU


» DUBAI


» FRANCIA


» ESLOVAQUIA


» ESPAÑA


» ESPAÑA


» ARABIA SAUDITA


» MEXICO

» NIGERIA

» PAÍSES BAJOS

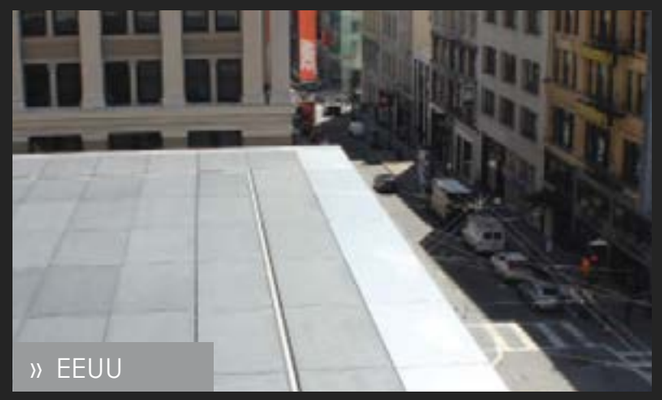
» EEUU

» ESPAÑA

» EEUU

» DUBAI

» DINAMARCA



» EEUU

» EEUU

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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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usa@onyxsolar.com

www.onyxsolar.com

The value of the renewable energy generated is just a preliminary estimate and does not imply any kind of guarantee. Factors such as surrounding shadows, self-shades, or other external aspects have not been taken into account. These factors might lead to a reduction in energy production. In addition, other potential losses due to BOS are also excluded from these calculations. The calculation has been done using PVWATTS and PVSYST in pre-design mode.
Onyx Solar Energy S.L. makes no representations about the accuracy of these estimates and does not warrant, or guarantee, whether express or implied, that the content in the report is accurate, complete, or up to date.