FEASIBILITY STUDIES

DISCOVER DIFFERENT CONSTRUCTIVE SOLUTIONS IN SWEDEN

FEASIBILITY STUDY STOCKHOLM

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 STOCKHOLM*

Renewable energy generated	2.186 KWh per m²
Kg of CO_2 avoided	29 Kg per m²
Kilometres driven in an electric car	12.571 Km per m²
Light points fed	4,3 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	524 € per m²
Return on investment	7,93 times
Internal rate of return (IRR)	20,47 %
Payback time	6 years
Building's value increase**	259 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

ENERGY LOSSES PER ORIENTATION

PV FAÇADE / BALCONY

SWEDEN

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

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 STOCKHOLM

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 STOCKHOLM*

Renewable energy generated	2.802 KWh per m²
Kg of CO_2 avoided	2.166 Kg per m²
Kilometres driven in an electric car	16.117 Km per m²
Light points fed	5,1 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	723 € per m²
Return on investment	19,12 times
Internal rate of return (IRR)	41,84 %
Payback time	3 years
Building's value increase**	299 € per m²

HIDDEN PV ROOF
SWEDEN

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

DATA CONSIDERED FOR CALCULATIONS:

Tilt: 30°

Orientation: S

ENERGY LOSSES PER ORIENTATION

-27% -57% -28%

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 STOCKHOLM

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 INSTALLATION

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

ENVIRONMENTAL BENEFITS STOCKHOLM*

Renewable energy generated	2.802 KWh per m²
Kg of CO_2 avoided	37 Kg per m²
Kilometres driven in an electric car	16.114 Km per m²
Light points fed	5,51 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	671 € per m²
Return on investment	3,47 times
Internal rate of return (IRR)	8,84 %
Payback time	12 years
Building's value increase**	331 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

PV DOUBLE SKIN / SPANDREL

SWEDEN

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. 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 STOCKHOLM

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 STOCKHOLM*

Renewable energy generated	2.206 KWh per m²
Kg of CO_2 avoided	29,3 Kg per m²
Kilometres driven in an electric car	12.685 Km per m²
Light points fed	4,33 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	528 € per m²
Return on investment	3,17 times
Internal rate of return (IRR)	7,99 %
Payback time	11years
Building's value increase**	261 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: Orientation:

ENERGY LOSSES PER ORIENTATION

-34% -65% -36%

PV CURTAIN WALL

SWEDEN

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

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 STOCKHOLM

LOW 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)	111 Wp per m²
Visible light transmittance	43%

ENVIRONMENTAL BENEFITS STOCKHOLM*

Renewable energy generated	2.206 KWh per m²
Kg of CO_2 avoided	29,34 Kg per m²
Kilometres driven in an electric car	12.685,79 Km per m²
Light points fed	4,33 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	528 € per m²
Return on investment	3,17 times
Internal rate of return (IRR)	8,74 %
Payback time	12 years
Building's value increase**	208 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

ENERGY LOSSES PER ORIENTATION

-34% -65% -36%

PV BALUSTRADE / BALCONY

SWEDEN

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

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. 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 STOCKHOLM

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 STOCKHOLM*

Renewable energy generated	3.044 KWh per m²
Kg of CO_2 avoided	40,5 Kg per m²
Kilometres driven in an electric car	17.503 Km per m²
Light points fed	6 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	729 € per m²
Return on investment	2,66 times
Internal rate of return (IRR)	6,45 %
Payback time	15 years
Building's value increase**	360 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 0°

Orientation: S

ENERGY LOSSES PER ORIENTATION

0° 0° 0°

WALKABLE PV FLOOR

SWEDEN

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

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

FEASIBILITY STUDY STOCKHOLM

MEDIUM CELL DENSITY PV GLASS

CELL DENSITY

LOW 111 W/M²	43%	
MEDIUM 141 W/M²	28%	← VISIBLE LIGHT TRANSMITTANCE
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 STOCKHOLM*

Renewable energy generated	3.782 KWh per m²
Kg of CO_2 avoided	50,1 Kg per m²
Kilometres driven in an electric car	21.670 Km per m²
Light points fed	7,4 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	903 € per m²
Return on investment	6,66 times
Internal rate of return (IRR)	17,27 %
Payback time	6 years
Building's value increase**	446 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 30°

Orientation: S

ENERGY LOSSES PER ORIENTATION

-27% -57% -28%

PV SKYLIGHT
SWEDEN

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

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. 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 STOCKHOLM

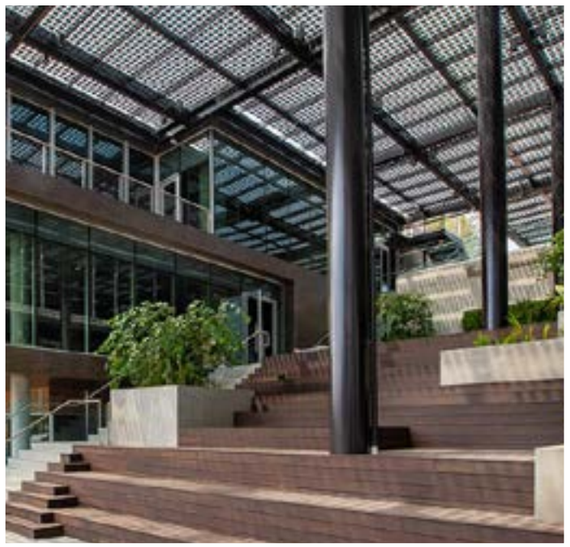
HIGH CELL DENSITY

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)	173 Wp per m²
Visible light transmittance	11%



ENVIRONMENTAL BENEFITS STOCKHOLM*

Renewable energy generated	3.734 KWh per m²
Kg of CO_2 avoided	49,67 Kg per m²
Kilometres driven in an electric car	21,475 Km per m²
Light points fed	7,34 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	750 € per m²
Return on investment	6,18 times
Internal rate of return (IRR)	16,05%
Payback time	7 years
Building's value increase**	442 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 0°

Orientation: S

ENERGY LOSSES PER ORIENTATION

0° 0° 0°

PV CANOPY
SWEDEN

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

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.

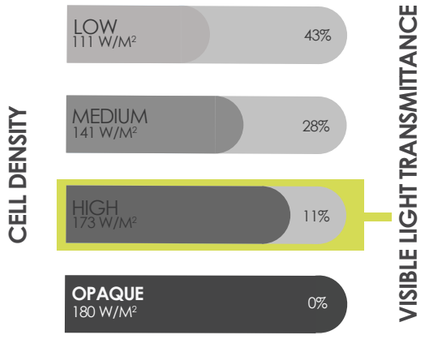
~~Data Calculated for a 35-year useful life.~~

~~* 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 STOCKHOLM

HIGH CELL DENSITY PV GLASS



CHARACTERISTICS OF THE INSTALLATION

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

ENVIRONMENTAL BENEFITS STOCKHOLM*

Renewable energy generated	4.624 KWh per m²
Kg of CO_2 avoided	61,5 Kg per m²
Kilometres driven in an electric car	26.588 Km per m²
Light points fed	9,09 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	963 € per m²
Return on investment	7,65 times
Internal rate of return (IRR)	19,76%
Payback time	6 years
Building's value increase**	547 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 40°

Orientation: S

ENERGY LOSSES PER ORIENTATION

PV BRISE SOLEIL
SWEDEN

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

LEED BREEAM

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EVERY SQUARE METER PLANTS ONE TREE

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 STOCKHOLM

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 INSTALLATION

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

ENVIRONMENTAL BENEFITS STOCKHOLM*

Renewable energy generated	3.577 KWh per m²
Kg of CO_2 avoided	47,58 Kg per m²
Kilometres driven in an electric car	20.571 Km per m²
Light points fed	7,03 per m²/day

ECONOMIC BENEFITS STOCKHOLM**

Value of the renewable energy generated	857 € per m²
Return on investment	5,16 times
Internal rate of return (IRR)	13,44 %
Payback time	8 years
Building's value increase**	423 € per m²

PV NOISE BARRIER

SWEDEN

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

DATA CONSIDERED FOR CALCULATIONS

ENERGY LOSSES PER ORIENTATION

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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

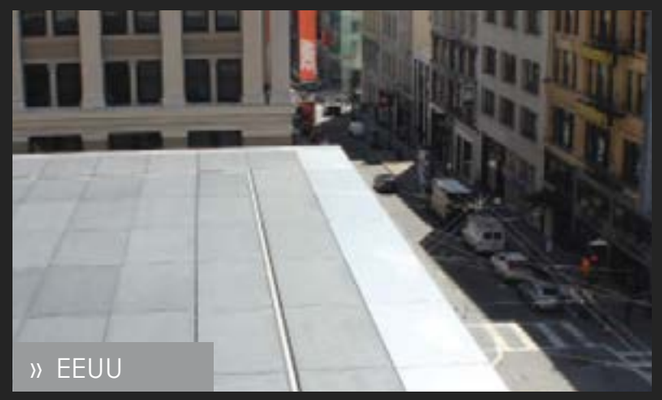
» EEUU

» ESPAÑA

» EEUU

» DUBAI

» DINAMARCA



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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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