FEASIBILITY STUDIES

DISCOVER DIFFERENT CONSTRUCTIVE SOLUTIONS IN DENMARK

FEASIBILITY STUDY COPENHAGEN

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 COPENHAGEN

Renewable energy	1.725 KWh per m²
Kg of CO_2 avoided	297 Kg per m²
Kilometres driven in an electric car	10.371 Km per m²
Light points fed	3,5 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

Value of the renewable energy	270 € per m²
Return on investment	8 times
Internal rate of return (IRR)	11 %
Payback time	4 years
Building's value increase**	130 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

ENERGY LOSSES PER ORIENTATION

-32% -61% -30%

PV FAÇADE / BALCONY

DENMARK

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 COPENHAGEN

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 COPENHAGEN

Renewable energy	1.678 KWh per m²
Kg of CO_2 avoided	460 Kg per m²
Kilometres driven in an electric car	9.438 Km per m²
Light points fed	3 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

Value of the renewable energy	651 € per m²
Return on investment	11 times
Internal rate of return (IRR)	6 %
Payback time	8,5 years
Building's value increase**	325 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 30°

Orientation: S

HIDDEN PV ROOF

DENMARK

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION

-25% -51% -24%

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 COPENHAGEN

OPAQUE 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 GLASS

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

ENVIRONMENTAL BENEFITS COPENHAGEN

Renewable energy	3.781 KWh per m²
Kg of CO_2 avoided	627 Kg per m²
Kilometres driven in an electric car	21.743 Km per m²
Light points fed	6,74 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

Value of the renewable energy	1.506 € per m²
Return on investment	10,55 times
Internal rate of return (IRR)	27,70 %
Payback time	4 years
Building's value increase**	734 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

PV DOUBLE SKIN / SPANDREL

DENMARK

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION

-32% -61% -30%

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 COPENHAGEN

MEDIUM 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 GLASS

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

ENVIRONMENTAL BENEFITS COPENHAGEN

Renewable energy	2.962 KWh per m²
Kg of CO_2 avoided	491 Kg per m²
Kilometres driven in an electric car	17.032 Km per m²
Light points fed	5,3 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

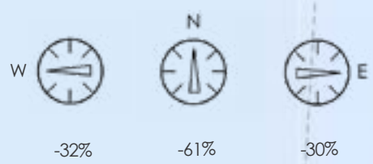
Value of the renewable energy	1.180 € per m²
Return on investment	6,36 x
Internal rate of return (IRR)	16,79 %
Payback time	6 years
Building's value increase**	575 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

ENERGY LOSSES PER ORIENTATION



PV CURTAIN WALL

DENMARK

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 COPENHAGEN

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 GLASS

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

ENVIRONMENTAL BENEFITS COPENHAGEN

Renewable energy	2.301 KWh per m²
Kg of CO_2 avoided	387 Kg per m²
Kilometres driven in an electric car	13.408 Km per m²
Light points fed	4,2 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

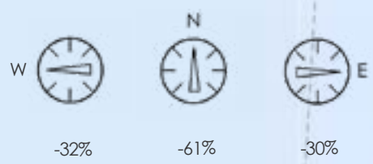
Value of the renewable energy	929 € per m²
Return on investment	5,82 times
Internal rate of return (IRR)	15,35 %
Payback time	7 years
Building's value increase**	453 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

ENERGY LOSSES PER ORIENTATION



PV BALUSTRADE / BALCONY

DENMARK

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 COPENHAGEN

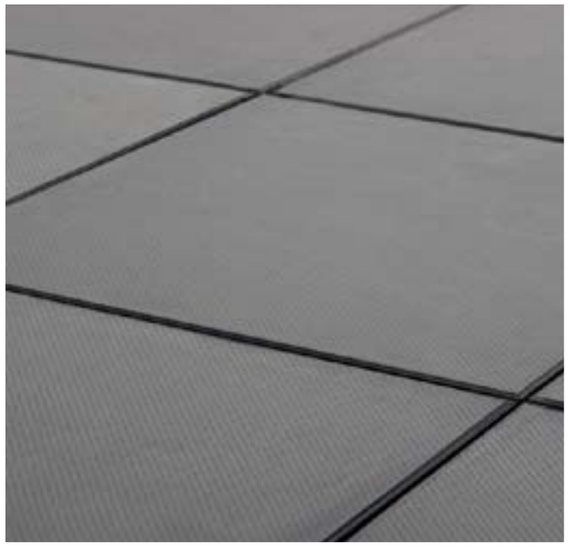
OPAQUE PV GLASS

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 COPENHAGEN

Renewable energy	3.585 KWh per m²
Kg of CO_2 avoided	595 Kg per m²
Kilometres driven in an electric car	26.616 Km per m²
Light points fed	6,4 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

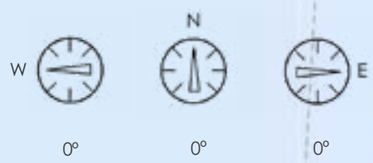
Value of the renewable energy	1.428 € per m²
Return on investment	5,46 times
Internal rate of return (IRR)	14,4 %
Payback time	7 years
Building's value increase**	896 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 0°

Orientation: S

ENERGY LOSSES PER ORIENTATION



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 COPENHAGEN

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 GLASS

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

ENVIRONMENTAL BENEFITS COPENHAGEN

Renewable energy	4.230 KWh per m²
Kg of CO_2 avoided	702 Kg per m²
Kilometres driven in an electric car	24.327 Km per m²
Light points fed	7,5 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

Value of the renewable energy	1.685 € per m²
Return on investment	13 times
Internal rate of return (IRR)	34 %
Payback time	3 years
Building's value increase**	821 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 30°

Orientation: S

ENERGY LOSSES PER ORIENTATION

-25% -51% -24%

PV SKYLIGHT

DENMARK

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 COPENHAGEN

HIGH CELL DENSITY

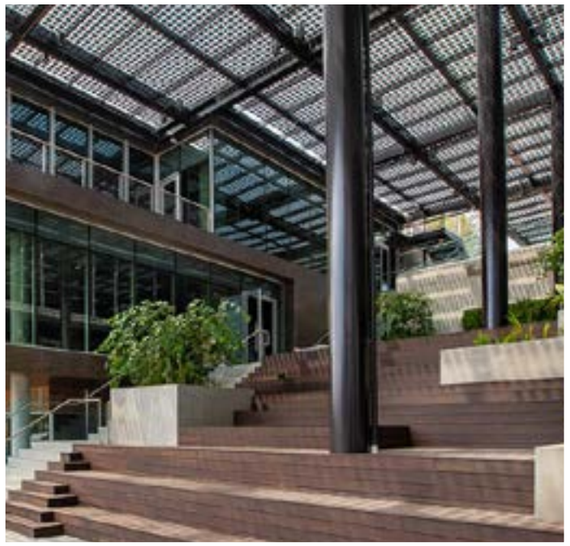
CELL DENSITY

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)	173 Wp per m²
Visible light transmittance	11%



ENVIRONMENTAL BENEFITS COPENHAGEN

Renewable energy	4.430 KWh per m²
Kg of CO_2 avoided	735 Kg per m²
Kilometres driven in an electric car	27.475 Km per m²
Light points fed	7,9 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

Value of the renewable energy	1.765 € per m²
Return on investment	12,72 times
Internal rate of return (IRR)	33 %
Payback time	4 years
Building's value increase**	860 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 0°

Orientation: S

ENERGY LOSSES PER ORIENTATION

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 COPENHAGEN

HIGH CELL DENSITY PV GLASS

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 GLASS

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

ENVIRONMENTAL BENEFITS COPENHAGEN

Renewable energy	5.191 KWh per m²
Kg of CO_2 avoided	861 Kg per m²
Kilometres driven in an electric car	29.849 Km per m²
Light points fed	9,25 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

Value of the renewable energy	2.067 € per m²
Return on investment	14,91 times
Internal rate of return (IRR)	38,91 %
Payback time	3 years
Building's value increase**	1.007 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 40°

Orientation: S

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 COPENHAGEN

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 COPENHAGEN

Renewable energy	3.781 KWh per m²
Kg of CO_2 avoided	627 Kg per m²
Kilometres driven in an electric car	21.743 Km per m²
Light points fed	6,74 per m²/day

ECONOMIC BENEFITS COPENHAGEN*

Value of the renewable energy	1.506 € per m²
Return on investment	9,47 times
Internal rate of return (IRR)	24,9 %
Payback time	5 years
Building's value increase**	734 € per m²

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

ENERGY LOSSES PER ORIENTATION

-32% -61% -30%

PV NOISE BARRIER

DENMARK

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.

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

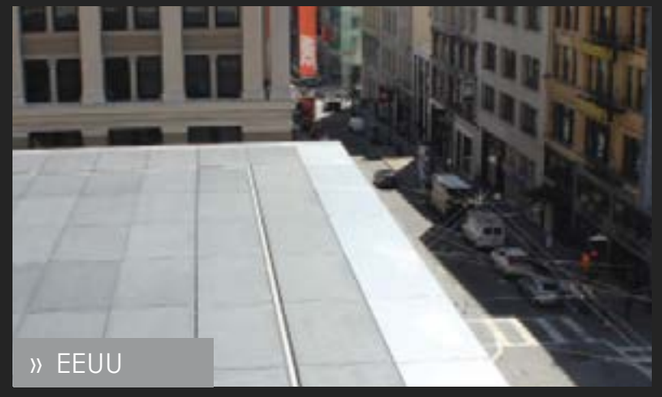
» EEUU

» ESPAÑA

» EEUU

» DUBAI

» DINAMARCA



» EEUU

» EEUU

» EEUU

Scan this QR code to acces our catalog.

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.

FACTORY
C/ Palma de Mallorca, 8
Avila · Spain · 05194
Phone: +34 920 21 00 50
info@onyxsolar.com

OFFICE
79 Madison Avenue, Suite #231
New York ·USA ·10016
Phone: +1 917 261 4783
usa@onyxsolar.com

www.onyxsolar.com