



FEASIBILITY STUDIES

DISCOVER DIFFERENT CONSTRUCTIVE SOLUTIONS IN NETHERLANDS



FEASIBILITY STUDY AMSTERDAM

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/m ²)	110 Wp per m ²
Visible light transmittance	0%

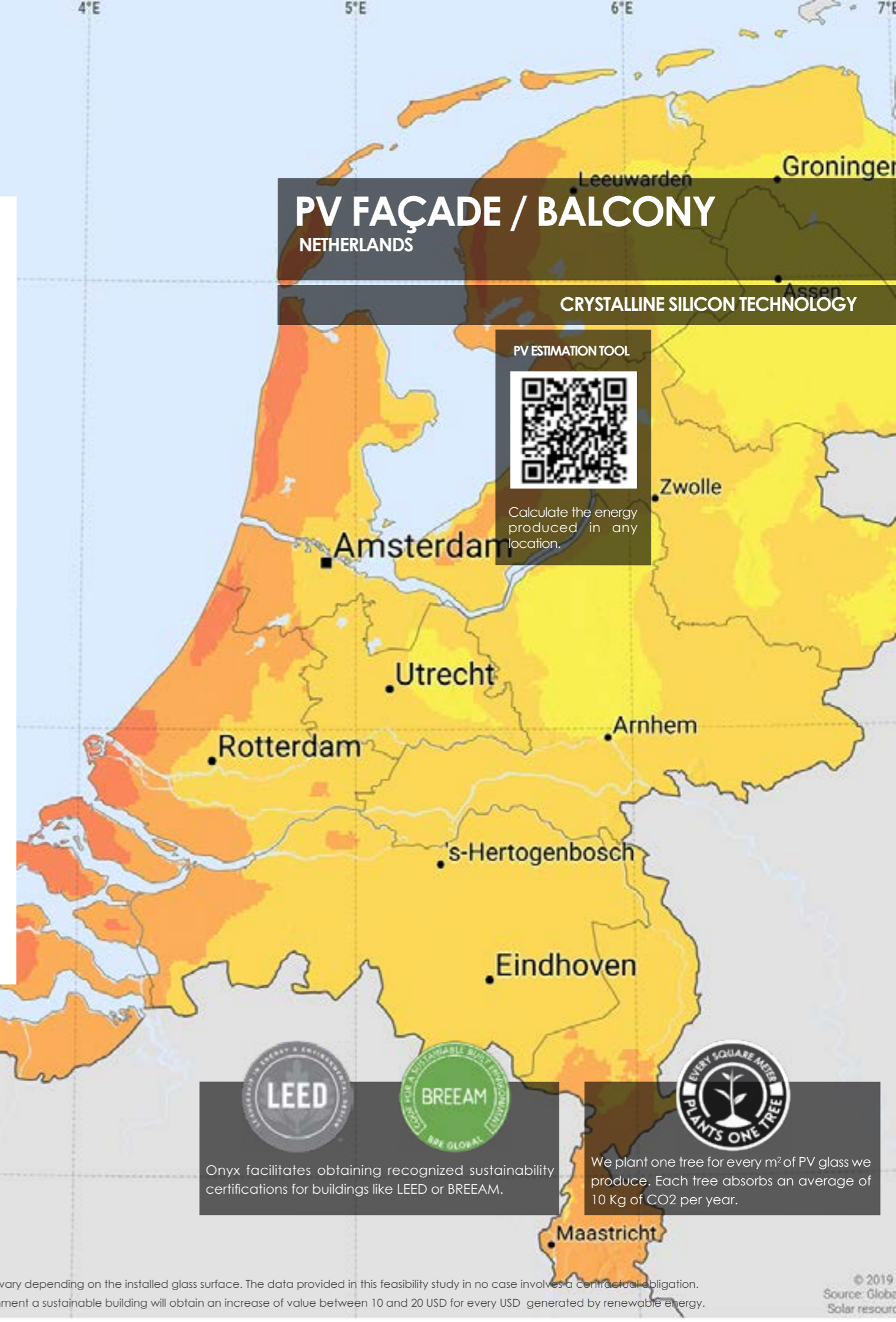
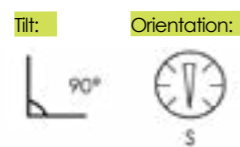
ENVIRONMENTAL BENEFITS AMSTERDAM

Renewable energy generated	3.373 KWh per m ²
Kg of CO ₂ avoided	2.141 Kg per m ²
Kilometres driven in an electric car	19.087 Km per m ²
Light points fed	6,5 per m ² /day

ECONOMIC BENEFITS AMSTERDAM*

Value of the renewable energy generated	737 € per m ²
Return on investment	30 times
Internal rate of return (IRR)	97 %
Payback time	2 years
Building's value increase**	500 € per m ²

DATA CONSIDERED FOR CALCULATIONS



PV FAÇADE / BALCONY

NETHERLANDS

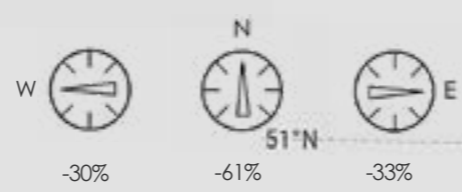
CRYSTALLINE SILICON TECHNOLOGY

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.

* 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 AMSTERDAM

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/m ²)	110 Wp per m ²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS AMSTERDAM

Renewable energy generated	2.343KWh per m ²
Kg of CO ₂ avoided	1.481 Kg per m ²
Kilometres driven in an electric car	13.400 Km per m ²
Light points fed	5,6 per m ² /day

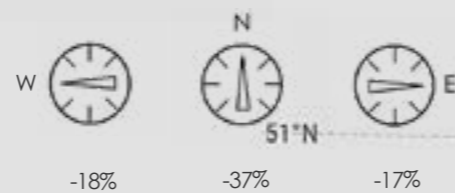
ECONOMIC BENEFITS AMSTERDAM*

Value of the renewable energy generated	548 € per m ²
Return on investment	5,1 times
Internal rate of return (IRR)	13 %
Payback time	6 years
Building's value increase**	270 € per m ²

DATA CONSIDERED FOR CALCULATIONS



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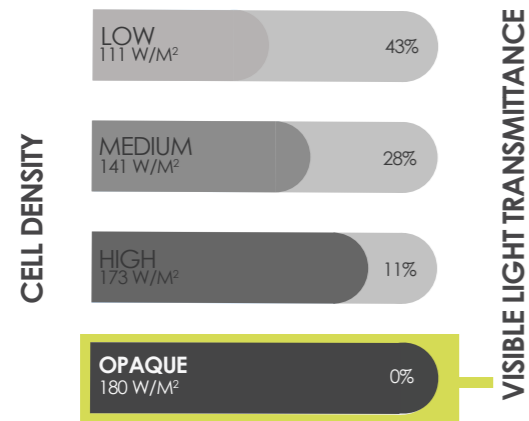
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FEASIBILITY STUDY AMSTERDAM

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

Peak Power (Wp/m ²)	180 Wp per m ²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS AMSTERDAM

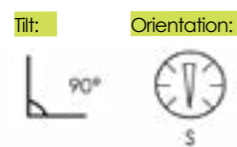
Renewable energy generated	3.319 KWh per m ²
Kg of CO ₂ avoided	1.676 Kg per m ²
Kilometres driven in an electric car	19.088 Km per m ²
Light points fed	6,52 per m ² /day

ECONOMIC BENEFITS AMSTERDAM*

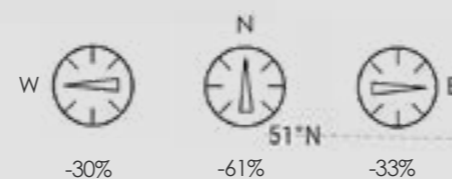
Value of the renewable energy generated	708 € per m ²
Return on investment	5,09 times
Internal rate of return (IRR)	15,54 %
Payback time	7 years
Building's value increase**	293 € per m ²



DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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PV DOUBLE SKIN / SPANDREL

NETHERLANDS

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL



Calculate the energy produced in any location.



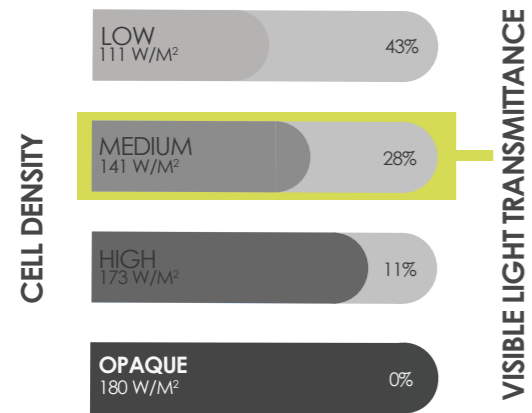
Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

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



FEASIBILITY STUDY AMSTERDAM

MEDIUM CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

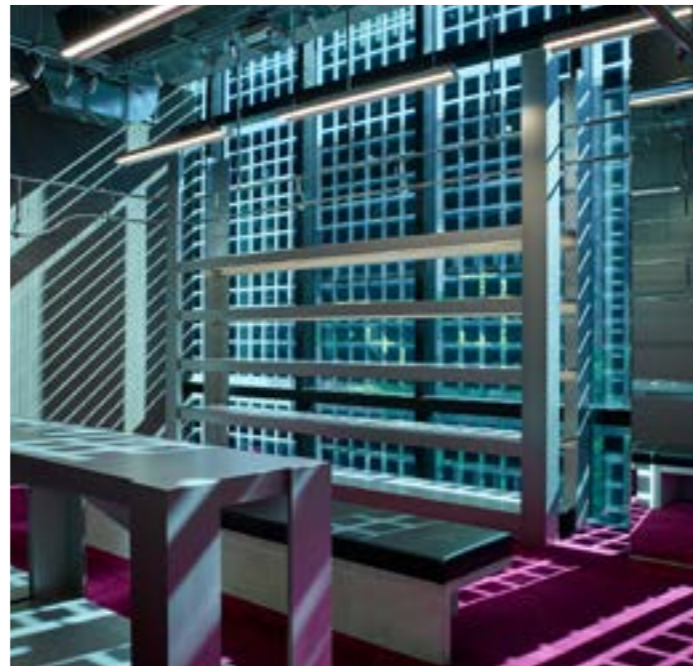
Peak Power (Wp/m ²)	141 Wp per m ²
Visible light transmittance	28%

ENVIRONMENTAL BENEFITS AMSTERDAM

Renewable energy generated	2.600 kWh per m ²
Kg of CO ₂ avoided	1.310 Kg per m ²
Kilometres driven in an electric car	14.952 Km per m ²
Light points fed	5,1 per m ² /day

ECONOMIC BENEFITS AMSTERDAM*

Value of the renewable energy generated	555 € per m ²
Return on investment	3,19 times
Internal rate of return (IRR)	9,6 %
Payback time	11 years
Building's value increase**	229 € per m ²

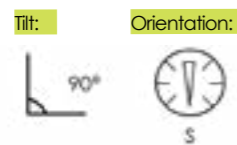


PV CURTAIN WALL
NETHERLANDS
CRYSTALLINE SILICON TECHNOLOGY

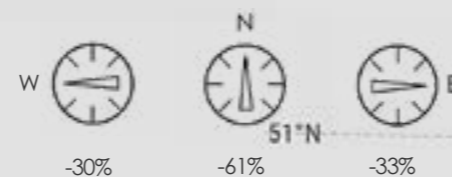
PV ESTIMATION TOOL

Calculate the energy produced in any location.

DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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

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.

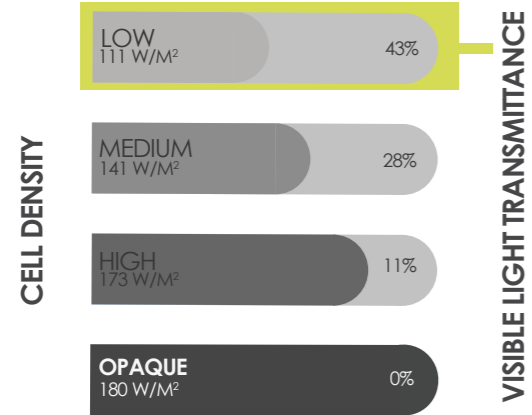
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FEASIBILITY STUDY AMSTERDAM

LOW CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

Peak Power (Wp/m ²)	111 Wp per m ²
Visible light transmittance	43%

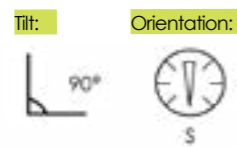
ENVIRONMENTAL BENEFITS AMSTERDAM

Renewable energy generated	2.047 KWh per m ²
Kg of CO ₂ avoided	1.034 Kg per m ²
Kilometres driven in an electric car	11.771 Km per m ²
Light points fed	4 per m ² /day

ECONOMIC BENEFITS AMSTERDAM*

Value of the renewable energy generated	437 € per m ²
Return on investment	3 times
Internal rate of return (IRR)	9,23 %
Payback time	11 years
Building's value increase**	181 € per m ²

DATA CONSIDERED FOR CALCULATIONS

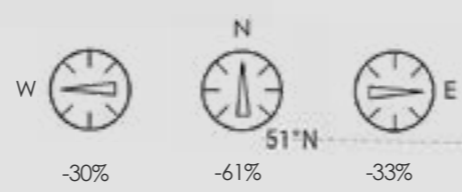


PV BALUSTRADE / BALCONY
NETHERLANDS
CRYSTALLINE SILICON TECHNOLOGY

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 BREAM.

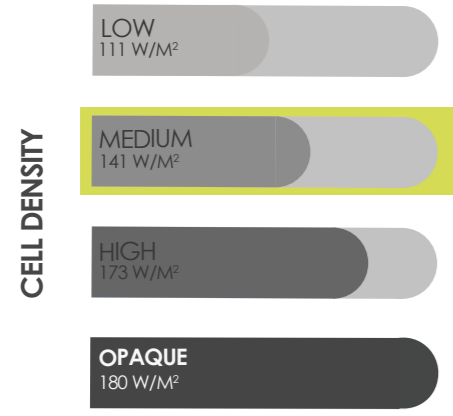
We plant one tree for every m² of PV glass we produce. Each tree absorbs an average of 10 Kg of CO₂ per year.

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FEASIBILITY STUDY AMSTERDAM

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

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

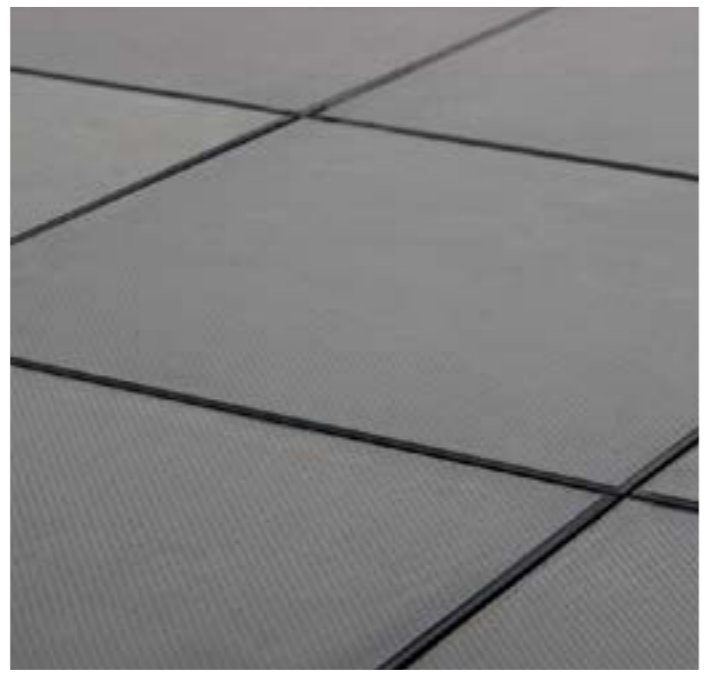
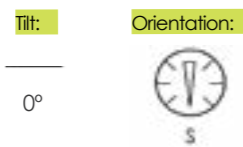
ENVIRONMENTAL BENEFITS AMSTERDAM

Renewable energy generated	3.261 kWh per m²
Kg of CO ₂ avoided	1.647 Kg per m²
Kilometres driven in an electric car	18.753 Km per m²
Light points fed	6,4 per m²/day

ECONOMIC BENEFITS AMSTERDAM*

Value of the renewable energy generated	696 € per m²
Return on investment	2,8 times
Internal rate of return (IRR)	8 %
Payback time	13 years
Building's value increase**	288 € per m²

DATA CONSIDERED FOR CALCULATIONS



WALKABLE PV FLOOR

NETHERLANDS

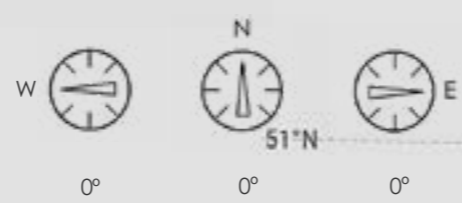
CRYSTALLINE SILICON TECHNOLOGY

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.

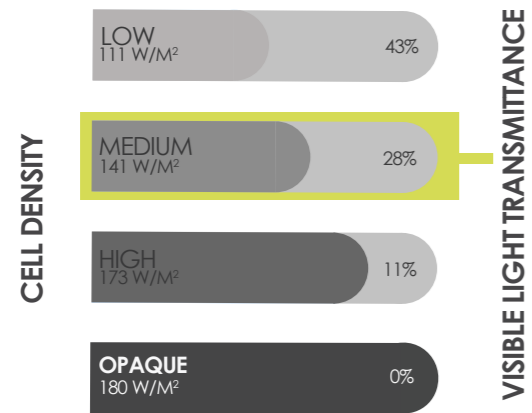
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FEASIBILITY STUDY AMSTERDAM

MEDIUM CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

Peak Power (Wp/m ²)	141 Wp per m ²
Visible light transmittance	28%

ENVIRONMENTAL BENEFITS AMSTERDAM

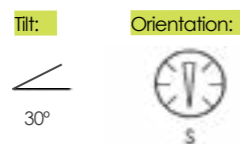
Renewable energy generated	3.782 KWh per m ²
Kg of CO ₂ avoided	1.910 Kg per m ²
Kilometres driven in an electric car	21.751 Km per m ²
Light points fed	7,4 per m ² /day

ECONOMIC BENEFITS AMSTERDAM*

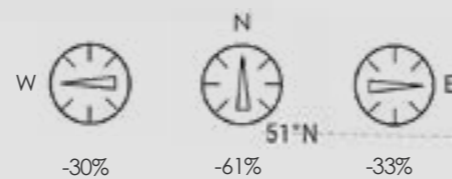
Value of the renewable energy generated	807 € per m ²
Return on investment	6,36 times
Internal rate of return (IRR)	20,44 %
Payback time	5 years
Building's value increase**	334 € per m ²



DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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PV SKYLIGHT NETHERLANDS

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL



Calculate the energy produced in any location.



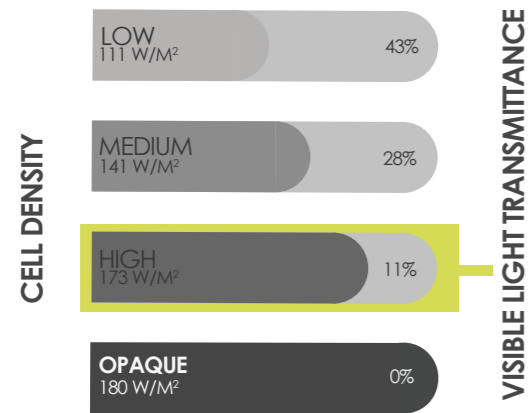
Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

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



FEASIBILITY STUDY AMSTERDAM

HIGH CELL DENSITY



CHARACTERISTICS OF THE GLASS

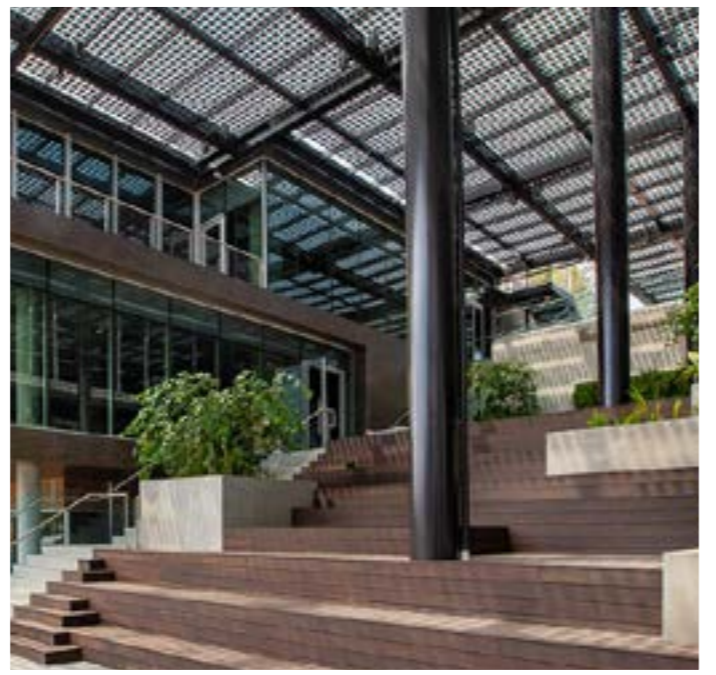
Peak Power (Wp/m ²)	173 Wp per m ²
Visible light transmittance	11%

ENVIRONMENTAL BENEFITS AMSTERDAM

Renewable energy generated	4.001 KWh per m ²
Kg of CO ₂ avoided	2.020 Kg per m ²
Kilometres driven in an electric car	23.009 Km per m ²
Light points fed	7,86 per m ² /day

ECONOMIC BENEFITS AMSTERDAM*

Value of the renewable energy generated	807 € per m ²
Return on investment	6,24 times
Internal rate of return (IRR)	18,9 %
Payback time	6 years
Building's value increase**	353 € per m ²



PV CANOPY
NETHERLANDS
CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

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DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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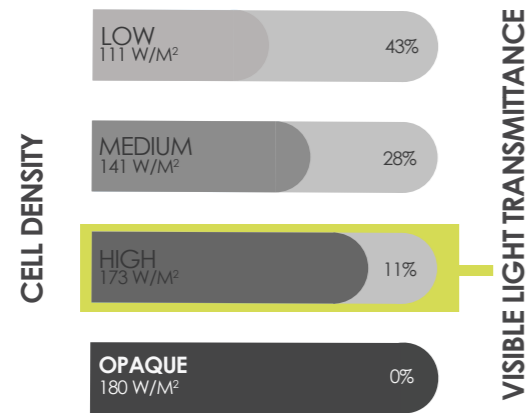
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FEASIBILITY STUDY AMSTERDAM

HIGH CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

Peak Power (Wp/m ²)	173 Wp per m ²
Visible light transmittance	11%

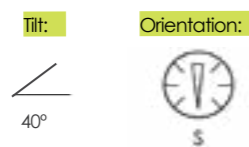
ENVIRONMENTAL BENEFITS AMSTERDAM

Renewable energy generated	4.641 KWh per m ²
Kg of CO ₂ avoided	2.343 Kg per m ²
Kilometres driven in an electric car	26.687 Km per m ²
Light points fed	9,1 per m ² /day

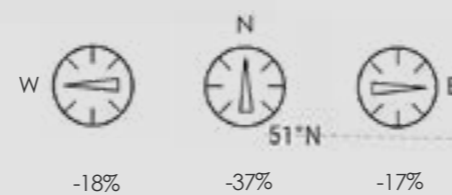
ECONOMIC BENEFITS AMSTERDAM*

Value of the renewable energy generated	807 € per m ²
Return on investment	7,2 times
Internal rate of return (IRR)	21,5 %
Payback time	5 years
Building's value increase**	409 € per m ²

DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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PV BRISE SOLEIL NETHERLANDS

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL



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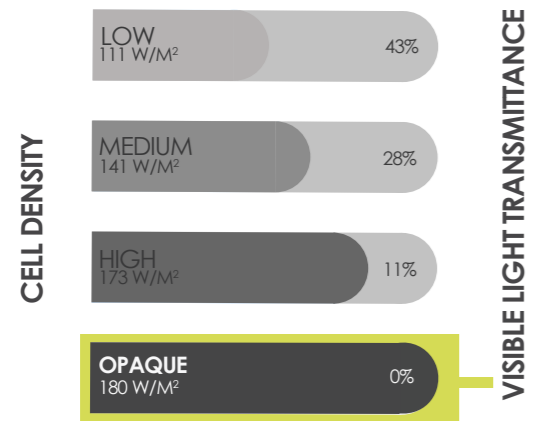
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FEASIBILITY STUDY AMSTERDAM

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

Peak Power (Wp/m ²)	180 Wp per m ²
Visible light transmittance	0%

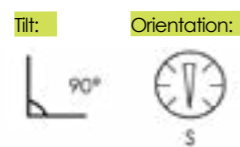
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Light points fed	6,52 per m ² /day

ECONOMIC BENEFITS AMSTERDAM*

Value of the renewable energy generated	807 € per m ²
Return on investment	4,6 times
Internal rate of return (IRR)	14 %
Payback time	8 years
Building's value increase**	293 € per m ²

DATA CONSIDERED FOR CALCULATIONS



PV NOISE BARRIER

NETHERLANDS

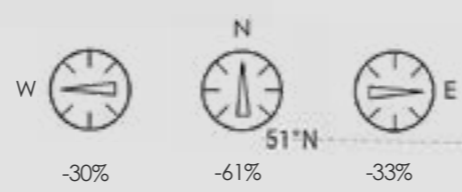
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GLOBAL EPD

SCAN THE QR TO DOWNLOAD OUR EPD



GlobalEPD
A VERIFIED ENVIRONMENTAL DECLARATION



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.epd.org

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



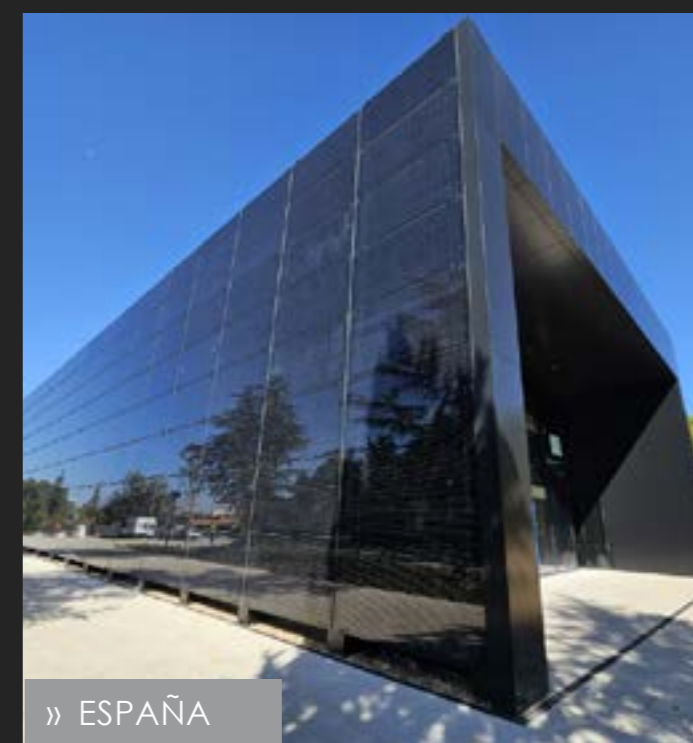
» NIGERIA



» PAÍSES BAJOS



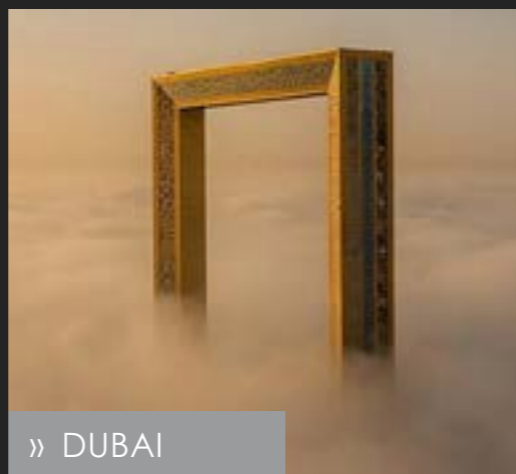
» EEUU



» ESPAÑA



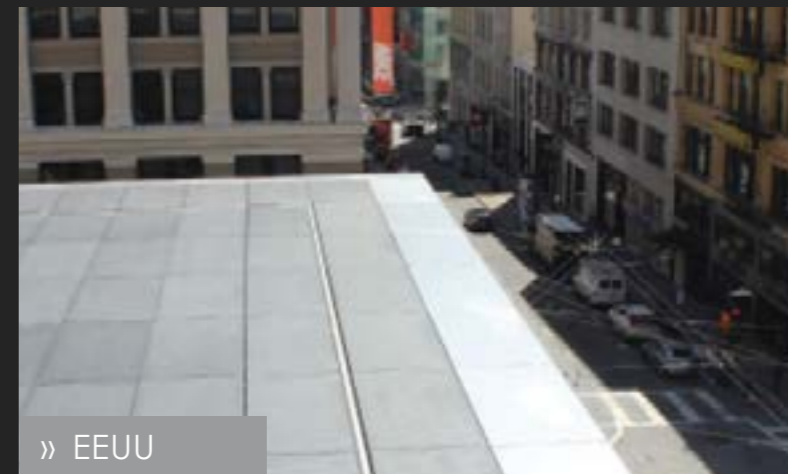
» EEUU



» DUBAI



» DINAMARCA



» EEUU



» EEUU



» EEUU

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.
- **CO₂ 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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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 PVSYS 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.