

FEASIBILITY STUDIES

DISCOVER DIFFERENT CONSTRUCTIVE SOLUTIONS IN UAE

FEASIBILITY STUDY DUBAI

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 DUBAI

Renewable energy	1.725 KWh per m ²
Kg of CO ₂ avoided	297 Kg per m ²
Kilometres driven in an electric car	10.371 Km per m ²
Light points fed	3,5 per m ² /day

ECONOMIC BENEFITS DUBAI*

Value of the renewable energy	270AED per m ²
Return on investment	8 times
Internal rate of return (IRR)	11 %
Payback time	4 years
Building's value increase**	130AED per m ²



PV FAÇADE / BALCONY

UNITED ARAB EMIRATES

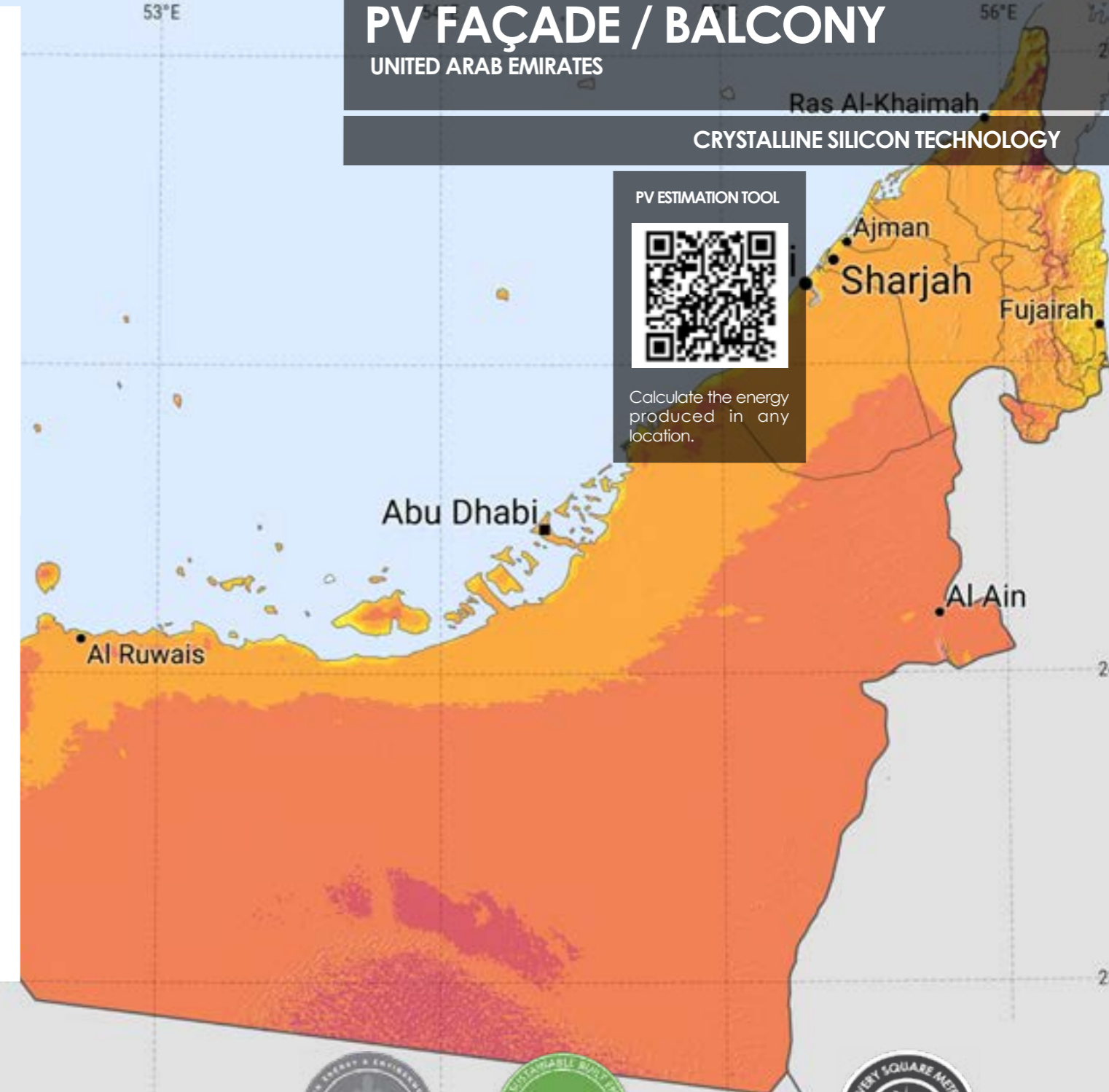
Ras Al-Khaimah

CRYSTALLINE SILICON TECHNOLOGY

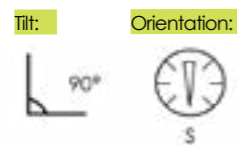
PV ESTIMATION TOOL



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 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 DUBAI

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%

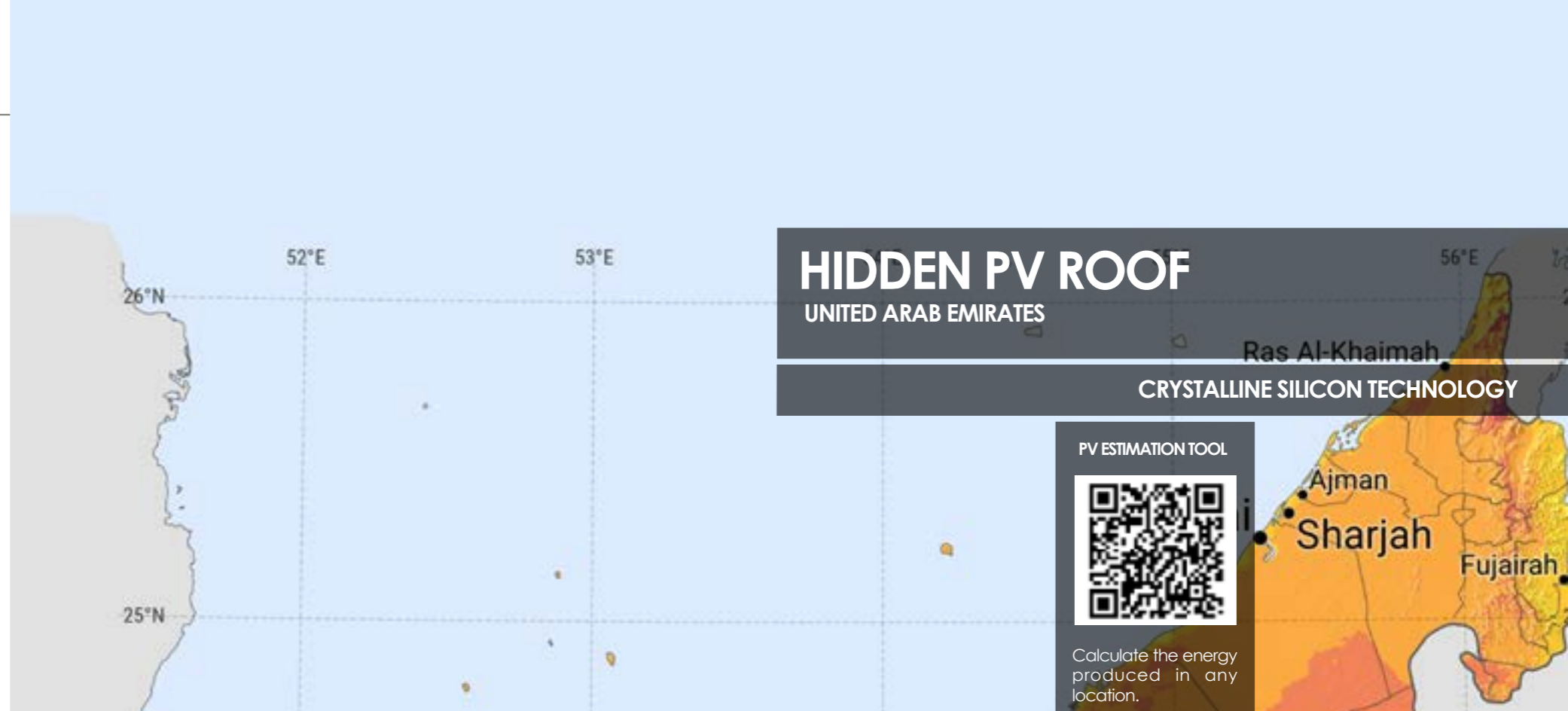
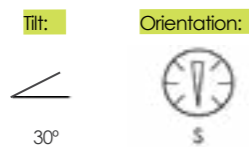
ENVIRONMENTAL BENEFITS DUBAI

Renewable energy	1.678 KWh per m ²
Kg of CO ₂ avoided	460 Kg per m ²
Kilometres driven in an electric car	9.438 Km per m ²
Light points fed	3 per m ² /day

ECONOMIC BENEFITS DUBAI*

Value of the renewable energy	651AED per m ²
Return on investment	11 times
Internal rate of return (IRR)	6 %
Payback time	8,5 years
Building's value increase**	325AED per m ²

DATA CONSIDERED FOR CALCULATIONS



HIDDEN PV ROOF

UNITED ARAB EMIRATES

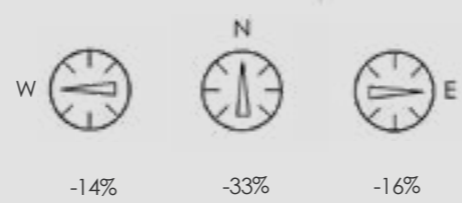
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ENERGY LOSSES PER ORIENTATION



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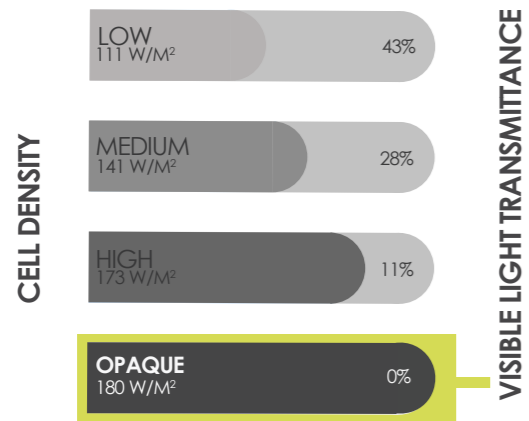
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FEASIBILITY STUDY DUBAI

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS DUBAI

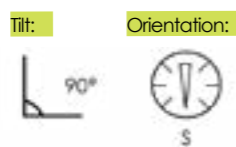
Renewable energy	4.965 KWh per m ²
Kg of CO ₂ avoided	2.979 Kg per m ²
Kilometres driven in an electric car	28.552 Km per m ²
Light points fed	9.76 per m ² /day

ECONOMIC BENEFITS DUBAI*

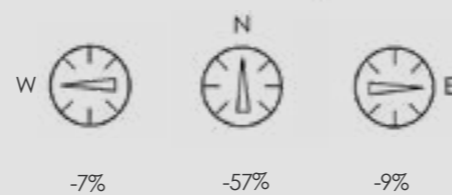
Value of the renewable energy	3.143 AED per m ²
Return on investment	9 times
Internal rate of return (IRR)	20,54%
Payback time	6 years
Building's value increase**	1.299 AED per m ²



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.

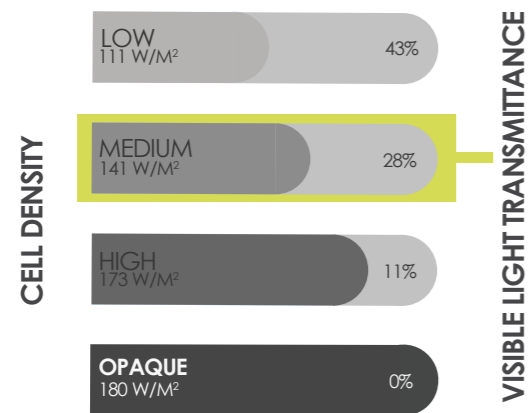
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FEASIBILITY STUDY DUBAI

MEDIUM CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

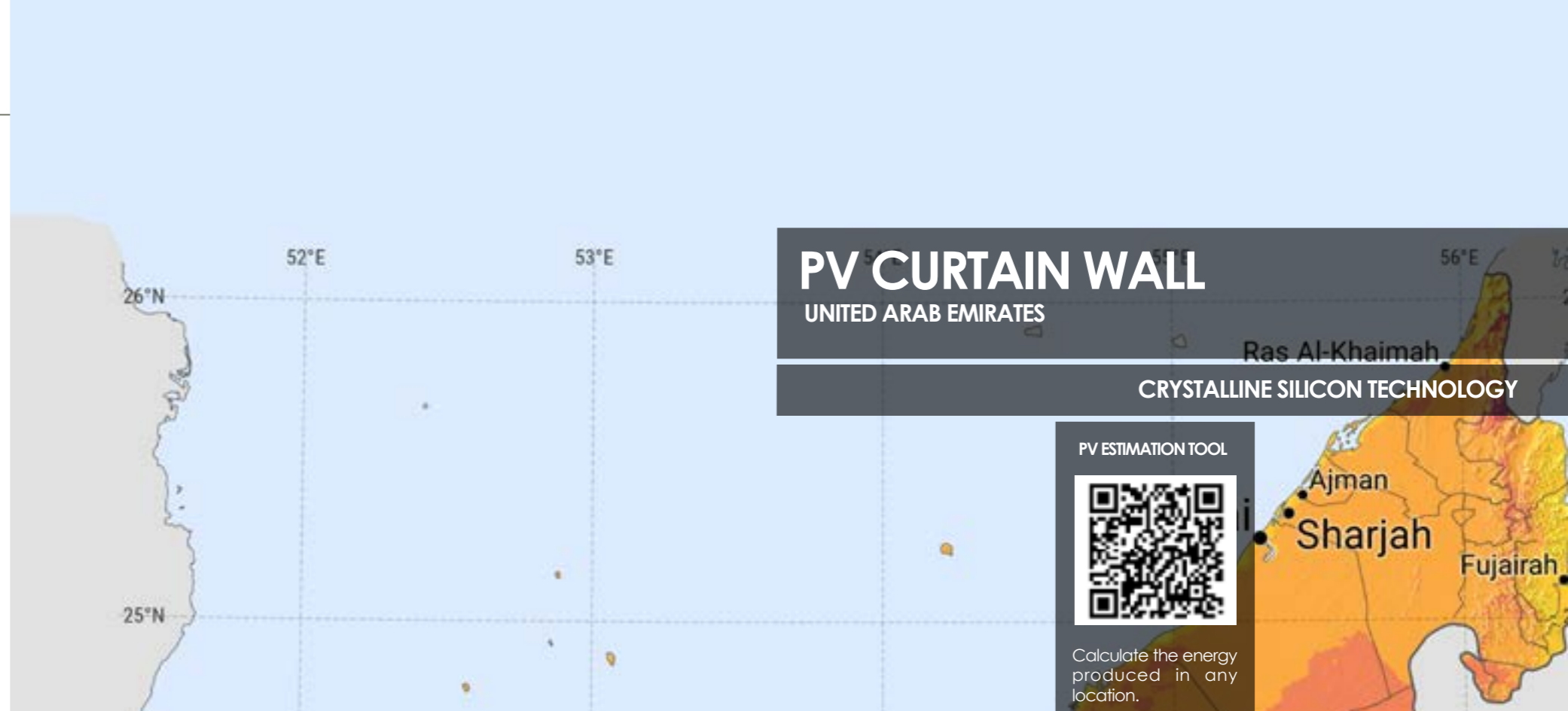
Peak Power (Wp/m²)	141 Wp per m²
Visible light transmittance	28%

ENVIRONMENTAL BENEFITS DUBAI

Renewable energy	3.889 kWh per m²
Kg of CO ₂ avoided	2.333 Kg per m²
Kilometres driven in an electric car	22.365 Km per m²
Light points fed	7.64 per m²/day

ECONOMIC BENEFITS DUBAI*

Value of the renewable energy	2.462 AED per m²
Return on investment	7 times
Internal rate of return (IRR)	16.32%
Payback time	7 years
Building's value increase**	1.018 AED per m²



PV CURTAIN WALL

UNITED ARAB EMIRATES

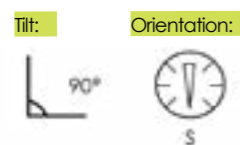
Ras Al-Khaimah
CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

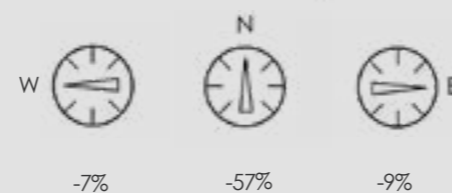


Calculate the energy produced in any location.

DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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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.

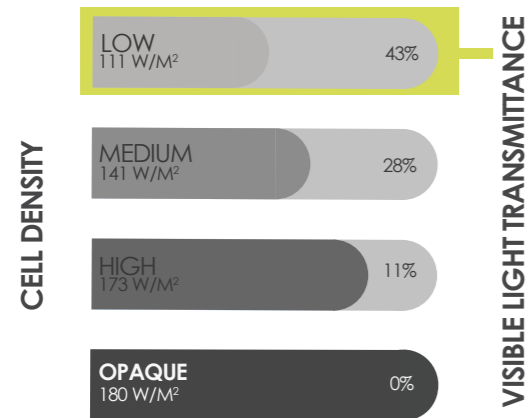
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FEASIBILITY STUDY DUBAI

LOW CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS DUBAI

Renewable energy	3.062 kWh per m²
Kg of CO ₂ avoided	1.837 Kg per m²
Kilometres driven in an electric car	17.607 Km per m²
Light points fed	6 per m²/day

ECONOMIC BENEFITS DUBAI*

Value of the renewable energy	1.938 AED per m²
Return on investment	6,7 times
Internal rate of return (IRR)	15,58 %
Payback time	7 years
Building's value increase**	801 AED per m²



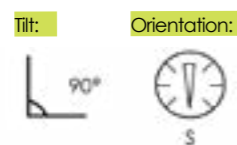
PV BALUSTRADE / BALCONY

UNITED ARAB EMIRATES
 Ras Al-Khaimah
 CRYSTALLINE SILICON TECHNOLOGY

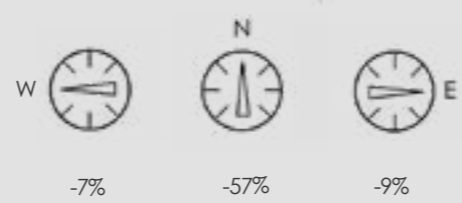
PV ESTIMATION TOOL

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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.

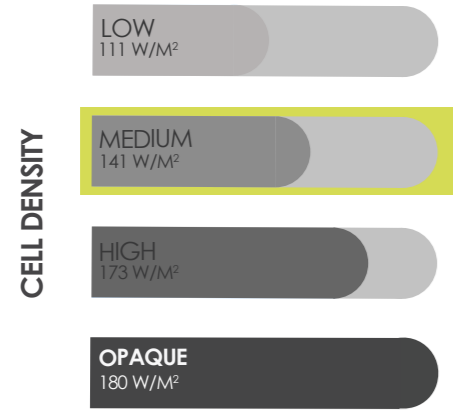
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FEASIBILITY STUDY DUBAI

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

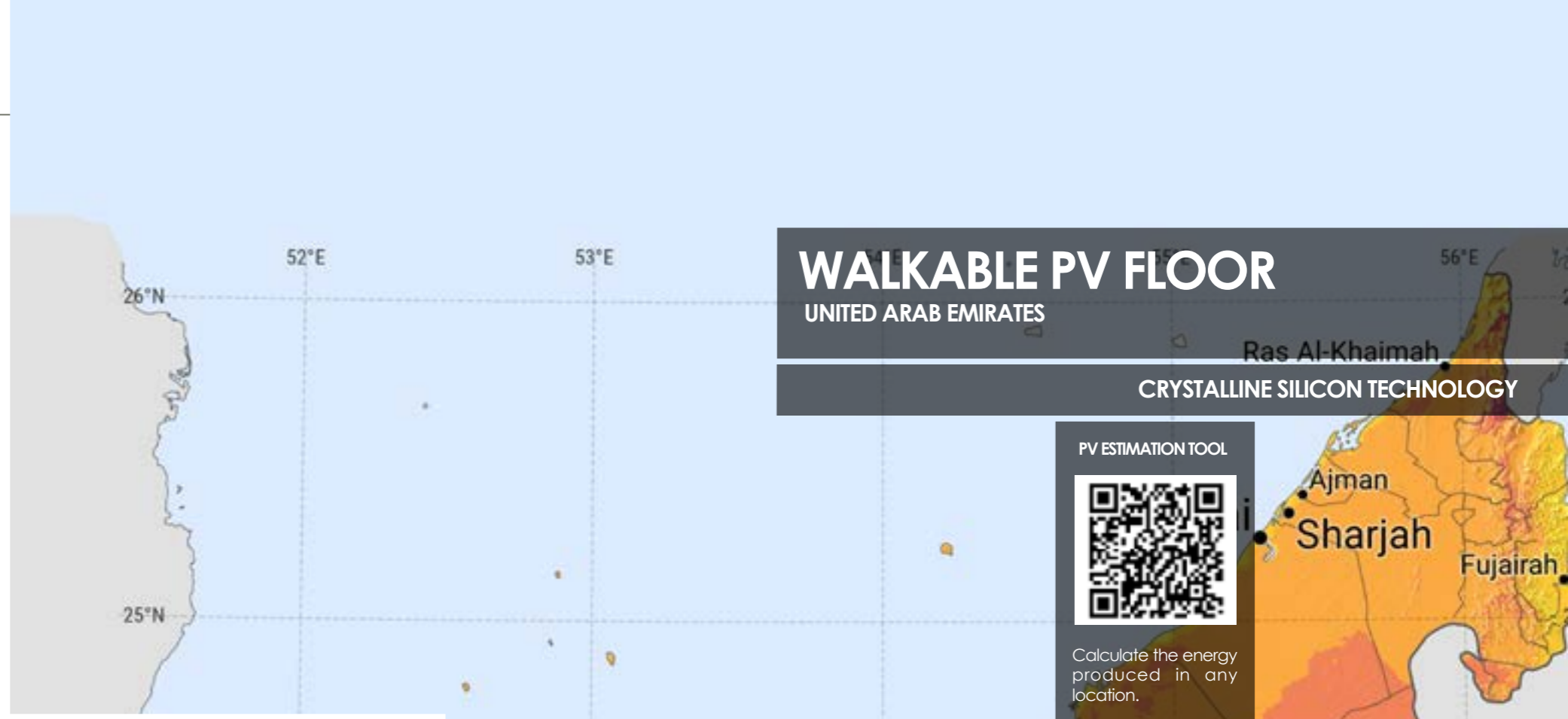
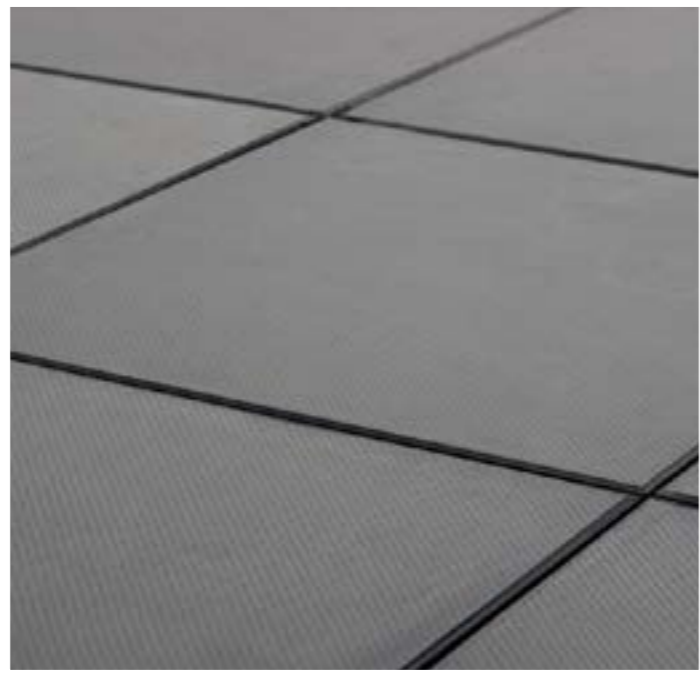
Peak Power (Wp/m²)	140 Wp per m²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS DUBAI

Renewable energy	4.157 kWh per m²
Kg of CO ₂ avoided	3.940 Kg per m²
Kilometres driven in an electric car	37.759 Km per m²
Light points fed	12,90 per m²/day

ECONOMIC BENEFITS DUBAI*

Value of the renewable energy	1.428 AED per m²
Return on investment	9,68 times
Internal rate of return (IRR)	21,89%
Payback time	5 years
Building's value increase**	1.718 AED per m²



WALKABLE PV FLOOR

UNITED ARAB EMIRATES

CRYSTALLINE SILICON TECHNOLOGY

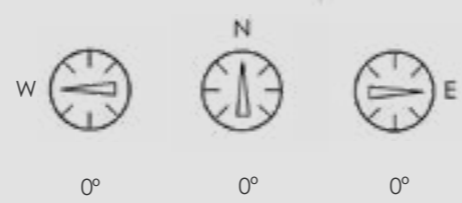
PV ESTIMATION TOOL

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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.

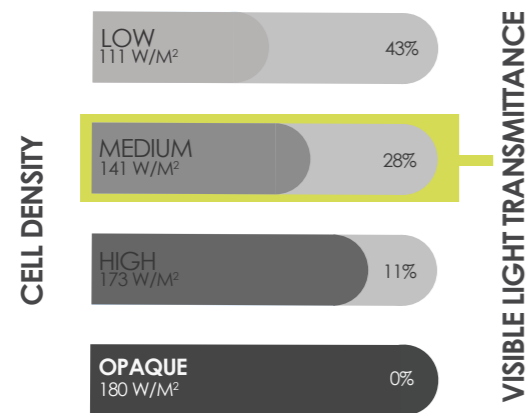
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FEASIBILITY STUDY DUBAI

MEDIUM CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

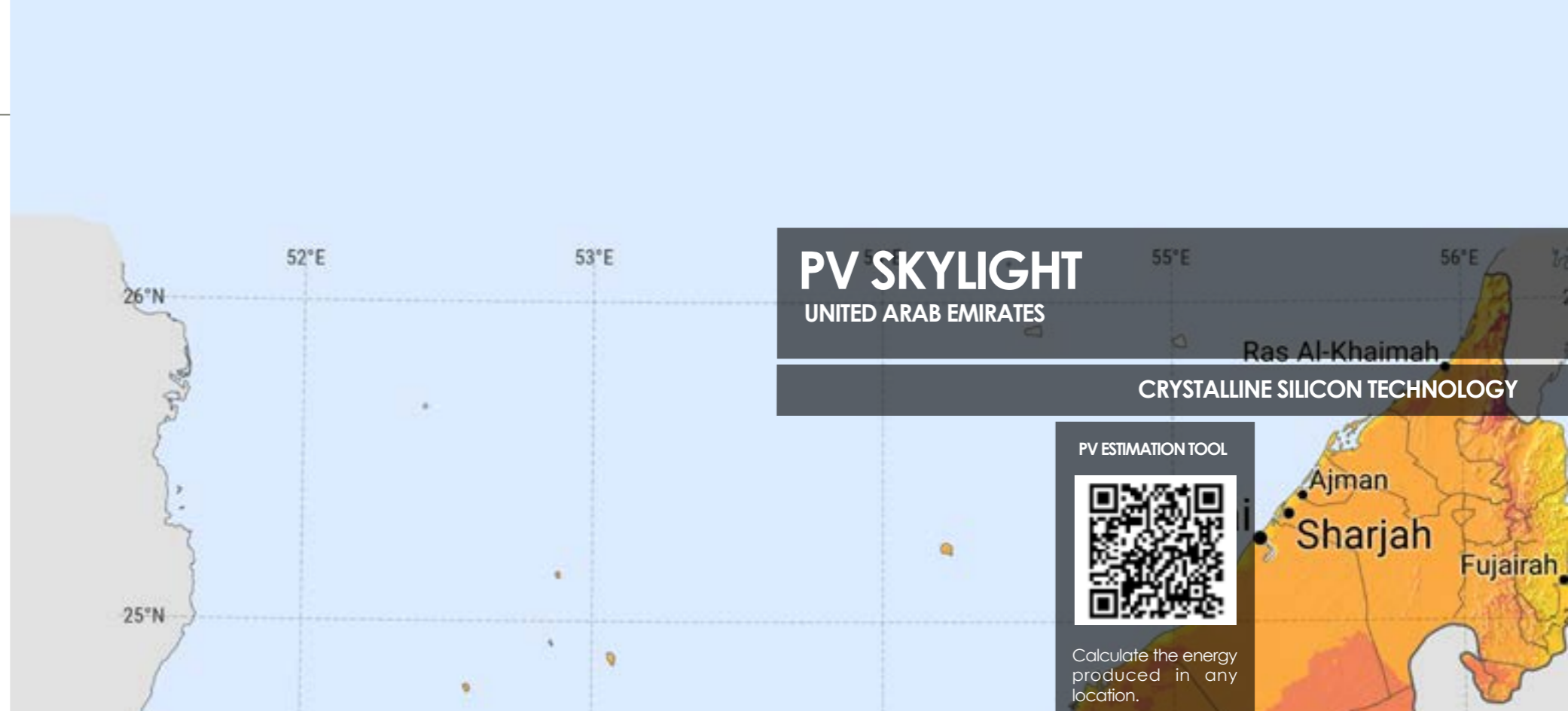
Peak Power (Wp/m ²)	141 Wp per m ²
Visible light transmittance	28%

ENVIRONMENTAL BENEFITS DUBAI

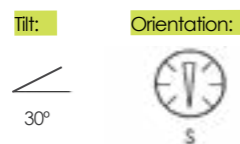
Renewable energy	7.103 KWh per m ²
Kg of CO ₂ avoided	4.262 Kg per m ²
Kilometres driven in an electric car	40.847 Km per m ²
Light points fed	14 per m ² /day

ECONOMIC BENEFITS DUBAI*

Value of the renewable energy	4.497 AED per m ²
Return on investment	15,44 times
Internal rate of return (IRR)	34 %
Payback time	4 years
Building's value increase**	1.859 AED per m ²



DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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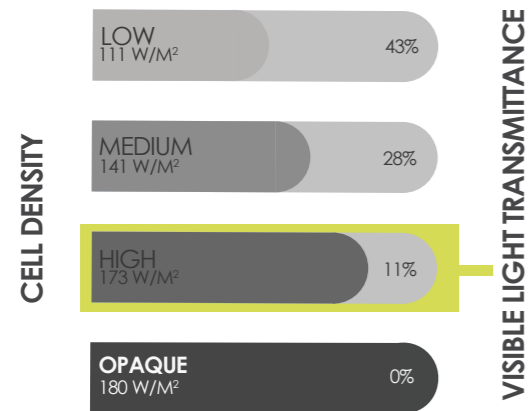
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FEASIBILITY STUDY DUBAI

HIGH CELL DENSITY



CHARACTERISTICS OF THE GLASS

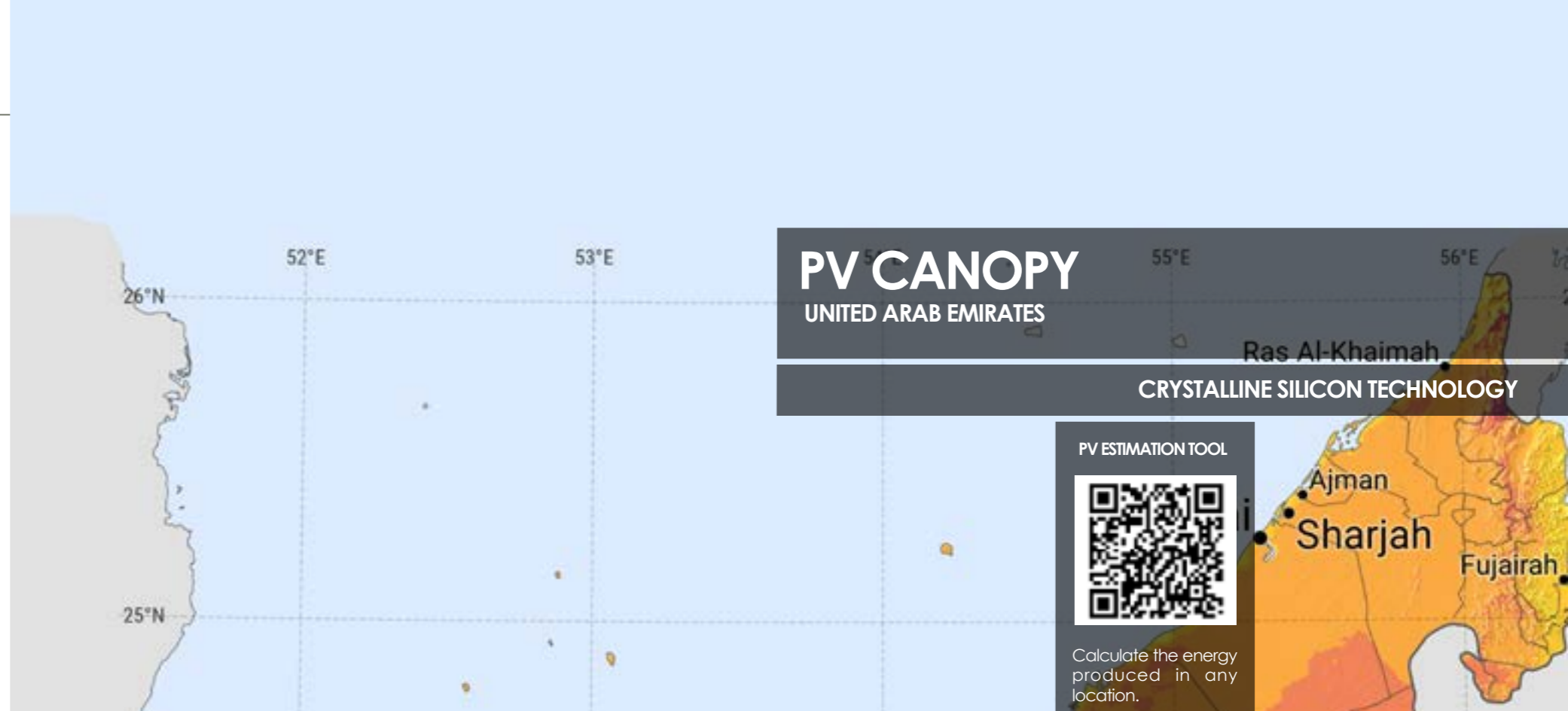
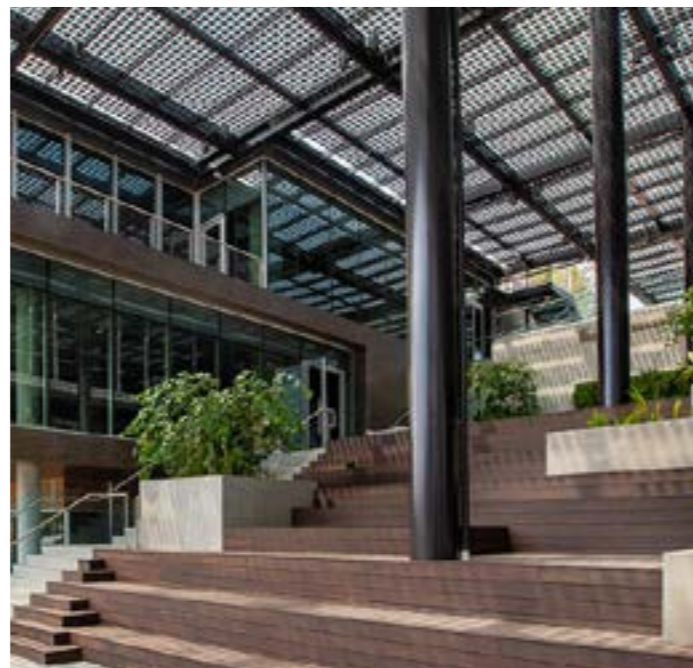
Peak Power (Wp/m ²)	173 Wp per m ²
Visible light transmittance	11%

ENVIRONMENTAL BENEFITS DUBAI

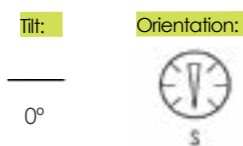
Renewable energy	8.057 KWh per m ²
Kg of CO ₂ avoided	4.834 Kg per m ²
Kilometres driven in an electric car	46.328 Km per m ²
Light points fed	15.83 per m ² /day

ECONOMIC BENEFITS DUBAI*

Value of the renewable energy	5.100 AED per m ²
Return on investment	15,19 times
Internal rate of return (IRR)	33 %
Payback time	4 years
Building's value increase**	2.108 AED per m ²



DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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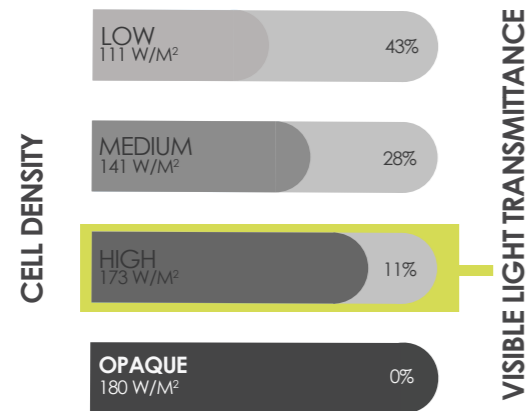
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FEASIBILITY STUDY DUBAI

HIGH CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

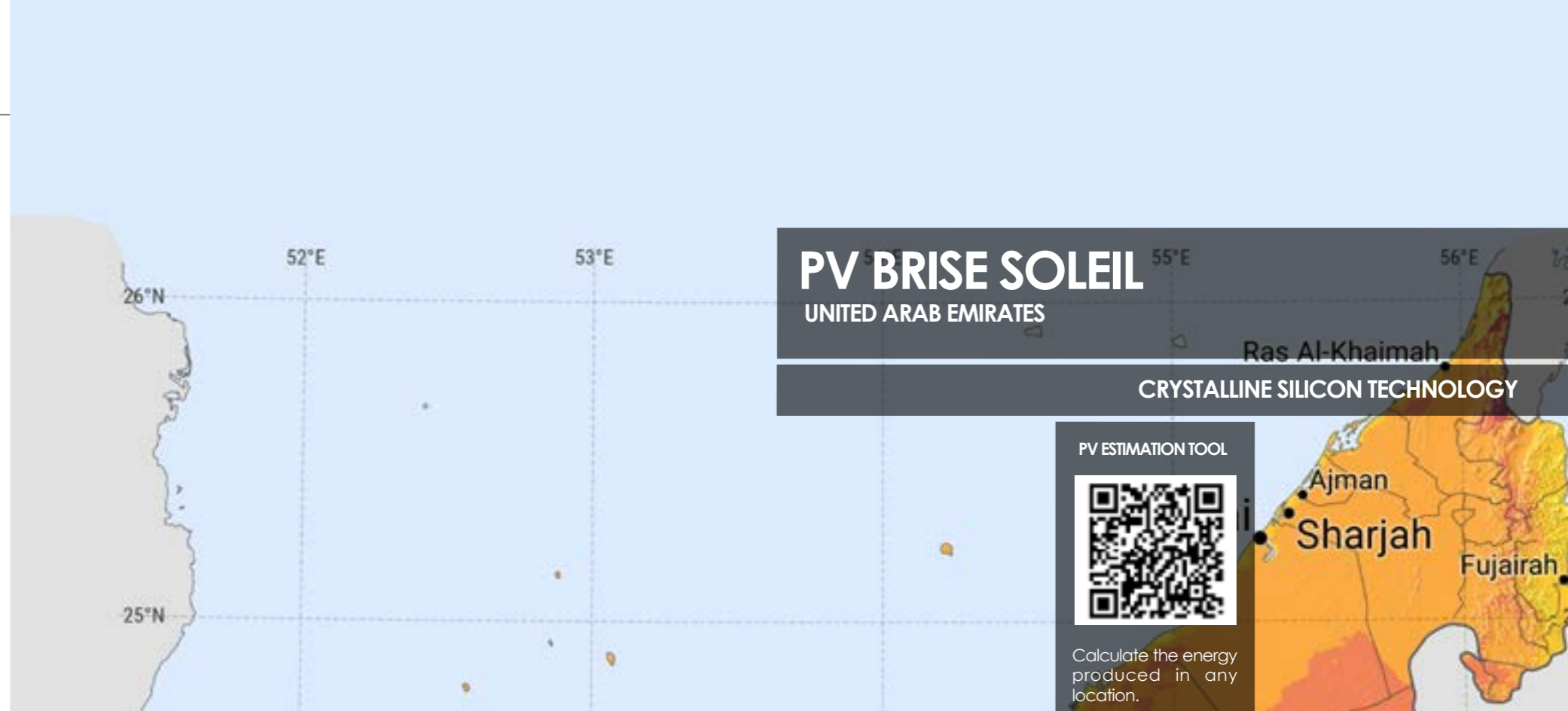
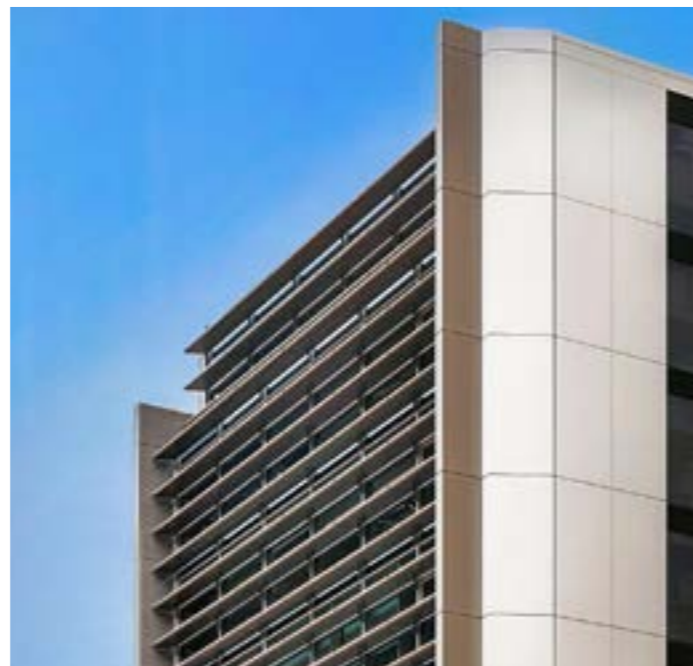
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ENVIRONMENTAL BENEFITS DUBAI

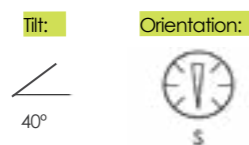
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Light points fed	15.83 per m ² /day

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Return on investment	15,19 times
Internal rate of return (IRR)	33,32%
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Building's value increase**	2.108 AED per m ²



DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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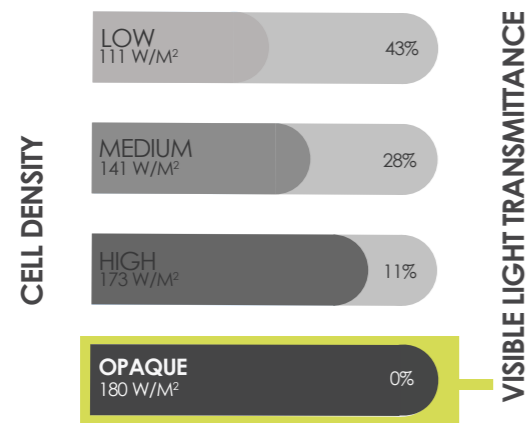
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FEASIBILITY STUDY DUBAI

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

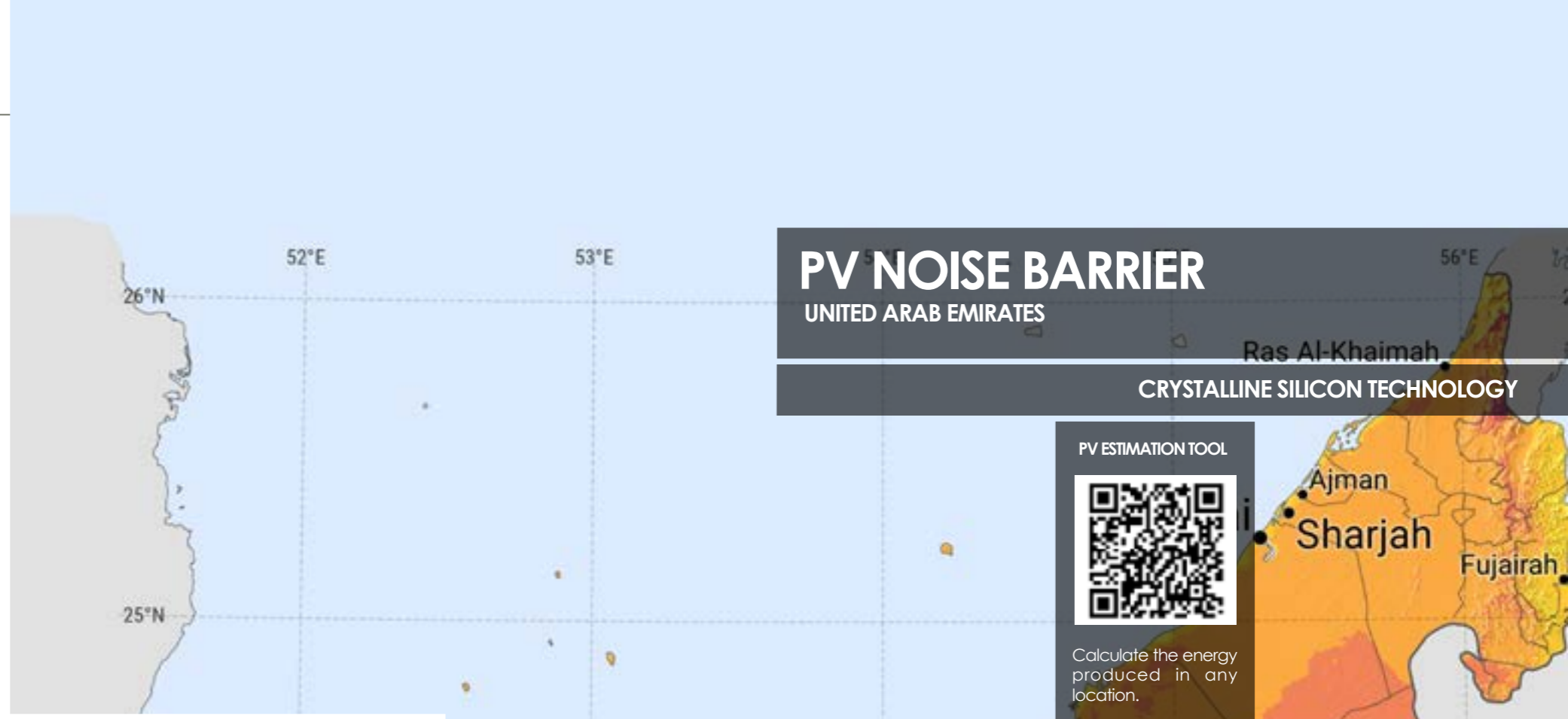
Peak Power (Wp/m ²)	180 Wp per m ²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS DUBAI

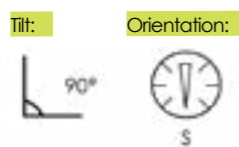
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Kg of CO ₂ avoided	2.979 Kg per m ²
Kilometres driven in an electric car	28.552 Km per m ²
Light points fed	9.76 per m ² /day

ECONOMIC BENEFITS DUBAI*

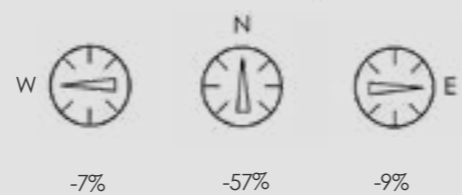
Value of the renewable energy	3.143 AED per m ²
Return on investment	8,62 times
Internal rate of return (IRR)	19,65%
Payback time	6 years
Building's value increase**	1.299 AED per m ²



DATA CONSIDERED FOR CALCULATIONS



ENERGY LOSSES PER ORIENTATION



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GLOBAL EPD

SCAN THE QR TO DOWNLOAD OUR EPD



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**.



GlobalEPD
A VERIFIED ENVIRONMENTAL DECLARATION



Environmental
Product
Declaration

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

AENOR

CRYSTALLINE PHOTOVOLTAIC
SOLAR GLASS

Gi/GM07244
 Gi/GM07211
 Gi/GM03644
 Gi/GM01688A

First publication date: 31-01-2024
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The declared validity is to registration and publication on www.epd.org

GlobalEPD Code: GlobalEPD EN15804-063

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.