

# FEASIBILITY STUDIES

DISCOVER DIFFERENT CONSTRUCTIVE SOLUTIONS IN ISRAEL

## FEASIBILITY STUDY TEL AVIV

### HIDDEN PV IN WHITE COLOR

- INTENSE GREEN  
100 W/M<sup>2</sup>
- WHITE  
110 W/M<sup>2</sup>
- MARBLE BROWN  
115 W/M<sup>2</sup>
- DEEP BLUE  
160 W/M<sup>2</sup>

### CHARACTERISTICS OF THE GLASS

Peak Power (Wp/m <sup>2</sup> )	110 Wp per m <sup>2</sup>
Visible light transmittance	0%

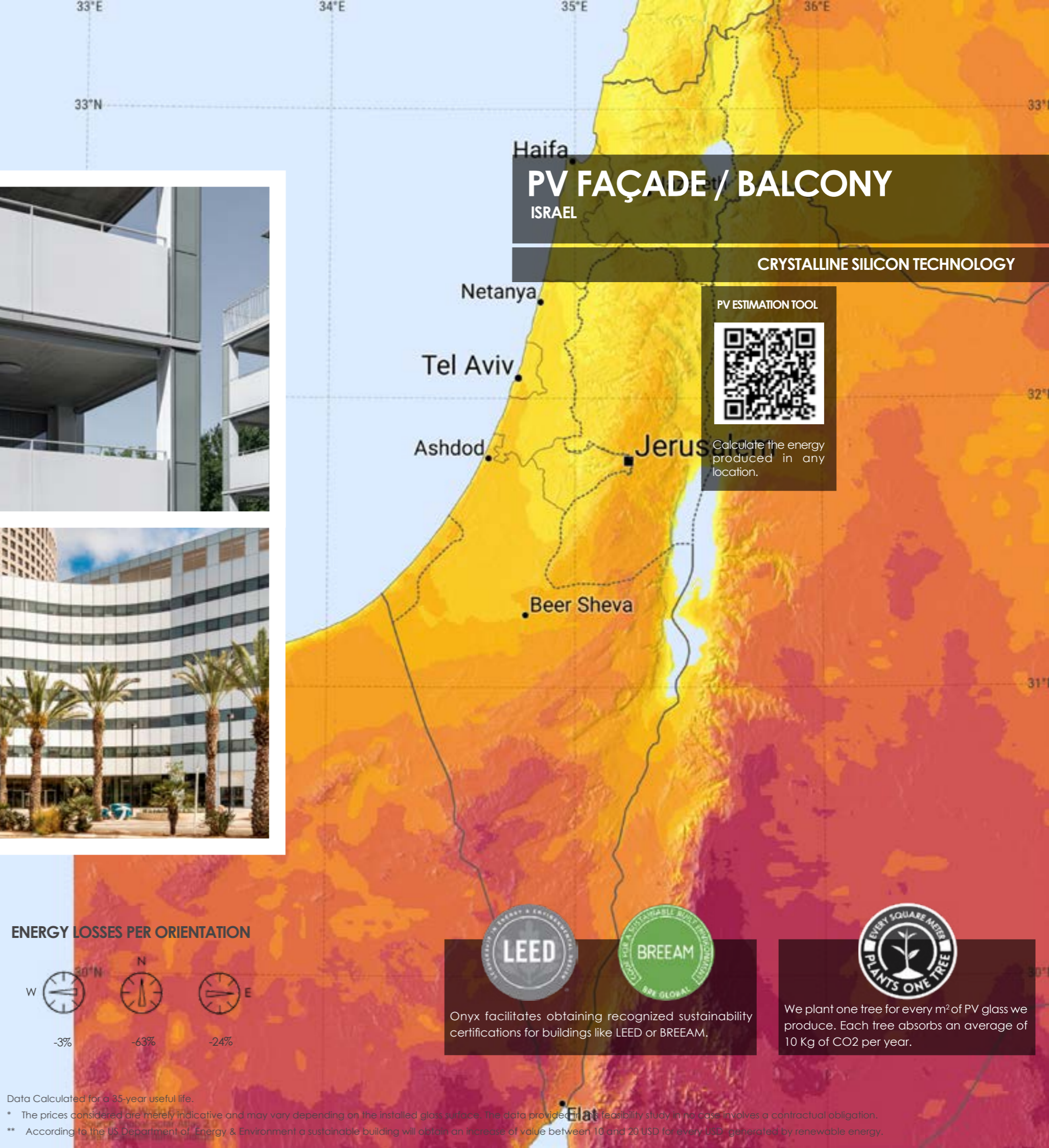
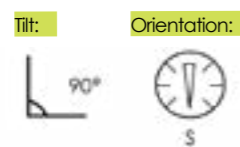
### ENVIRONMENTAL BENEFITS TEL AVIV

Renewable energy generated	2.686 KWh per m <sup>2</sup>
Kg of CO <sub>2</sub> avoided	1.953 Kg per m <sup>2</sup>
Kilometres driven in an electric car	15.449 Km per m <sup>2</sup>
Light points fed	5,28 per m <sup>2</sup> /day

### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	2.342 € per m <sup>2</sup>
Return on investment	8,25 times
Internal rate of return (IRR)	25,15%
Payback time	4 years
Building's value increase**	1.157 € per m <sup>2</sup>

### DATA CONSIDERED FOR CALCULATIONS



## PV FAÇADE / BALCONY

ISRAEL

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 m<sup>2</sup> of PV glass we produce. Each tree absorbs an average of 10 Kg of CO<sub>2</sub> 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 TEL AVIV

## HIDDEN PV IN WHITE COLOR

- INTENSE GREEN  
100 W/M<sup>2</sup>
- WHITE  
110 W/M<sup>2</sup>
- MARBLE BROWN  
115 W/M<sup>2</sup>
- DEEP BLUE  
160 W/M<sup>2</sup>

### CHARACTERISTICS OF THE GLASS

Peak Power (Wp/m <sup>2</sup> )	110 Wp per m <sup>2</sup>
Visible light transmittance	0%

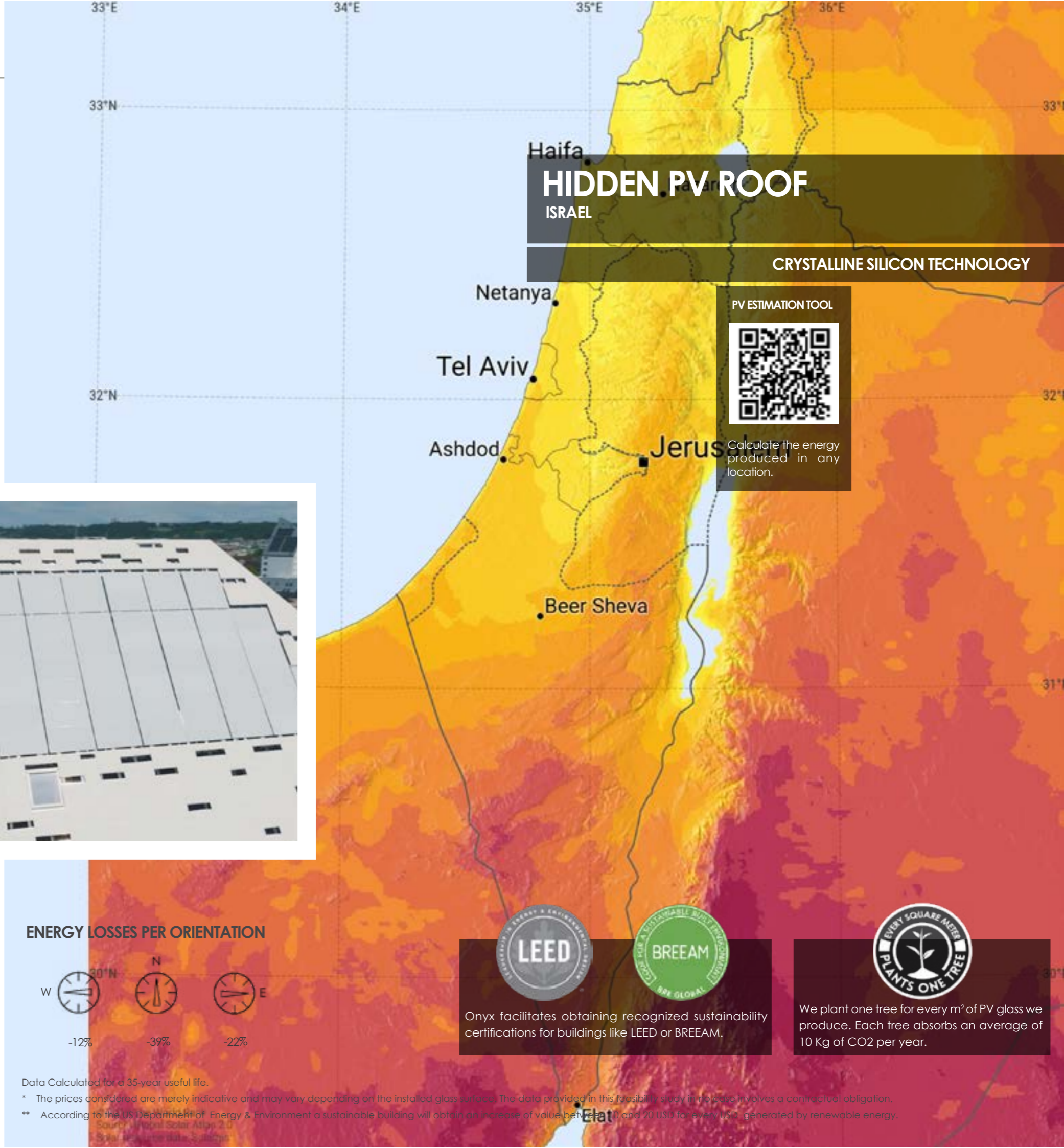
### ENVIRONMENTAL BENEFITS TEL AVIV

Renewable energy generated	3.103 KWh per m <sup>2</sup>
Kg of CO <sub>2</sub> avoided	93 Kg per m <sup>2</sup>
Kilometres driven in an electric car	17.843 Km per m <sup>2</sup>
Light points fed	6,1 per m <sup>2</sup> /day

### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	865 € per m <sup>2</sup>
Return on investment	19,38 times
Internal rate of return (IRR)	48,82%
Payback time	3 years
Building's value increase**	427 € per m <sup>2</sup>

### DATA CONSIDERED FOR CALCULATIONS



# HIDDEN PV ROOF

ISRAEL

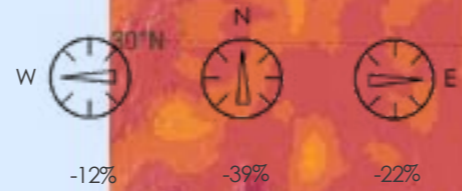
CRYSTALLINE SILICON TECHNOLOGY

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 m<sup>2</sup> of PV glass we produce. Each tree absorbs an average of 10 Kg of CO<sub>2</sub> per year.

Data Calculated for a 35-year useful life.

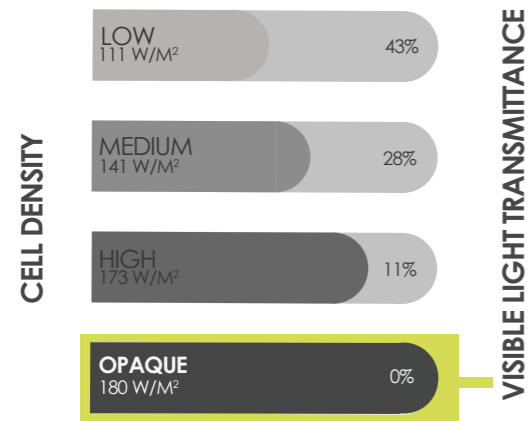
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## FEASIBILITY STUDY TEL AVIV

### OPAQUE PV GLASS



### CHARACTERISTICS OF THE GLASS

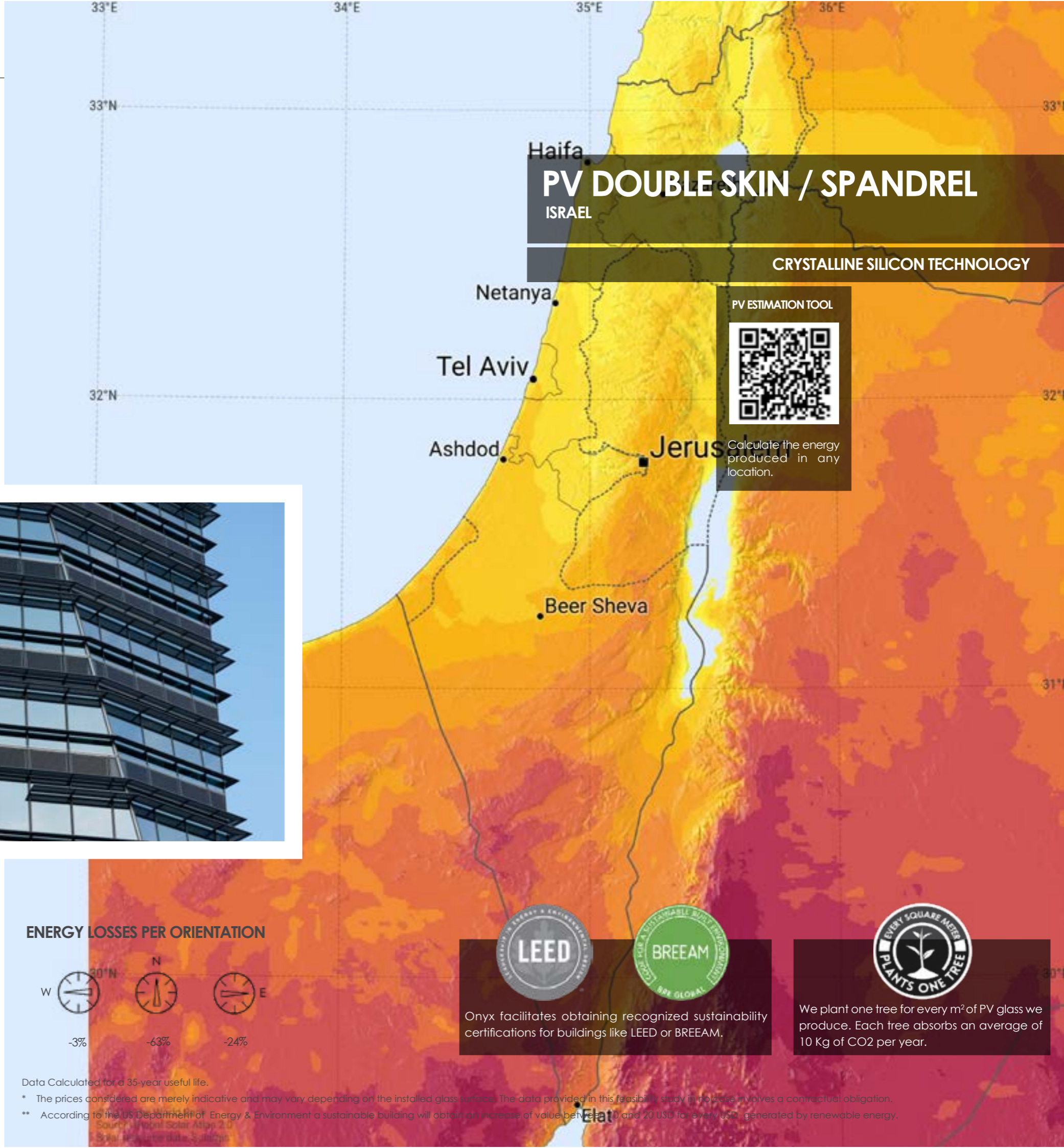
Peak Power (Wp/m <sup>2</sup> )	180 Wp per m <sup>2</sup>
Visible light transmittance	0%

### ENVIRONMENTAL BENEFITS TEL AVIV

Renewable energy generated	4.396 KWh per m <sup>2</sup>
Kg of CO <sub>2</sub> avoided	3.196 Kg per m <sup>2</sup>
Kilometres driven in an electric car	25.281 Km per m <sup>2</sup>
Light points fed	8,64 per m <sup>2</sup> /day

### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	3.833 € per m <sup>2</sup>
Return on investment	9,22 times
Internal rate of return (IRR)	26,35%
Payback time	4 years
Building's value increase**	1.893 € per m <sup>2</sup>



## PV DOUBLE SKIN / SPANDREL

ISRAEL

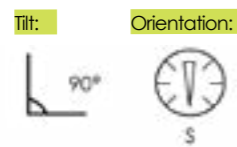
CRYSTALLINE SILICON TECHNOLOGY

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 m<sup>2</sup> of PV glass we produce. Each tree absorbs an average of 10 Kg of CO<sub>2</sub> per year.

Data Calculated for a 35-year useful life.

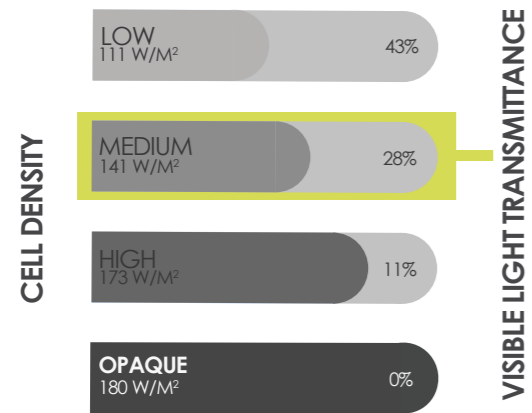
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## FEASIBILITY STUDY TEL AVIV

### MEDIUM CELL DENSITY PV GLASS



#### CHARACTERISTICS OF THE GLASS

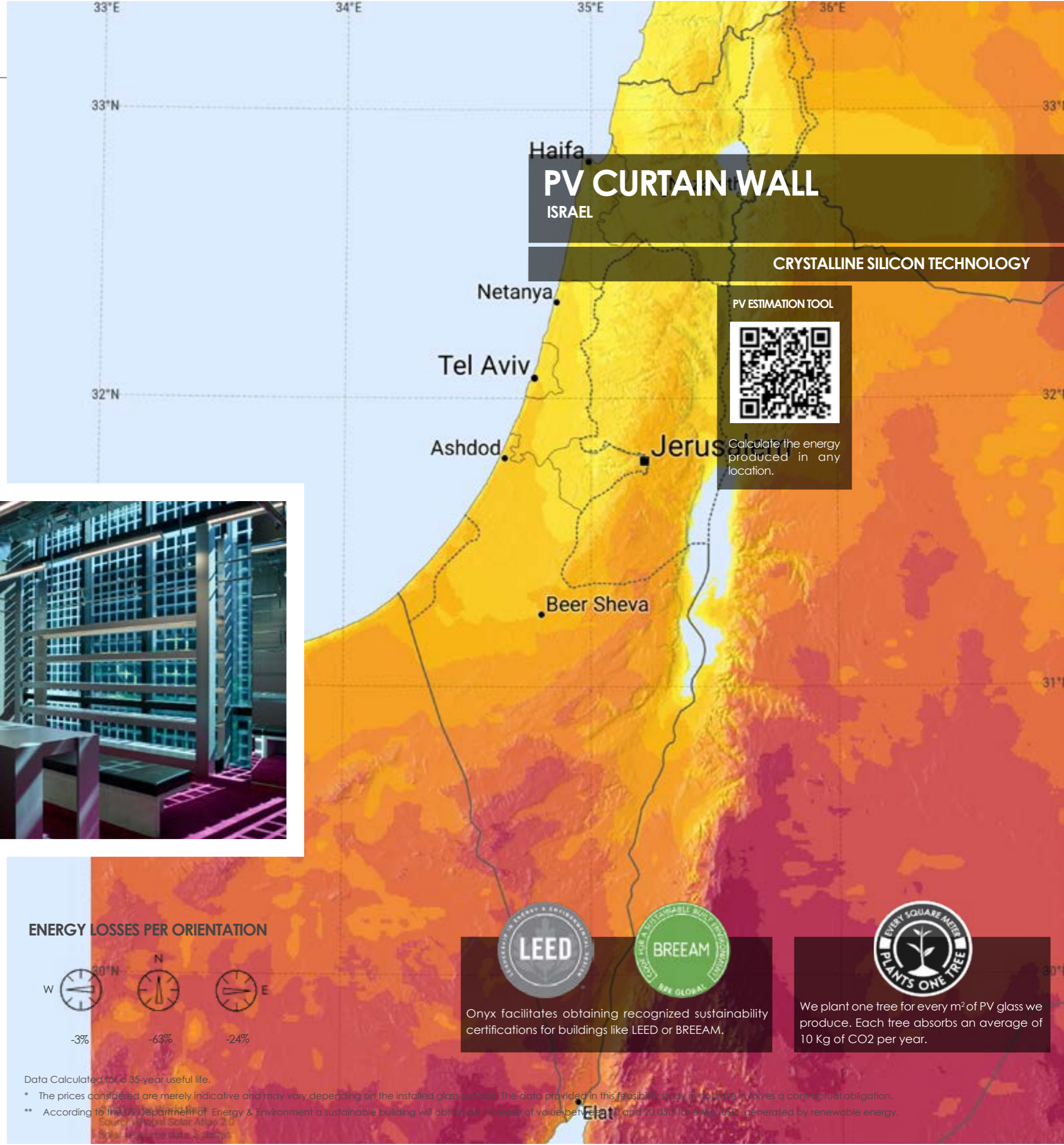
Peak Power (Wp/m²)	141 Wp per m²
Visible light transmittance	28%

#### ENVIRONMENTAL BENEFITS TEL AVIV

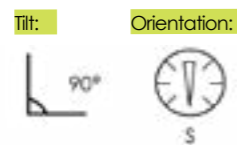
Renewable energy generated	3.444 KWh per m²
Kg of CO <sub>2</sub> avoided	2.503 Kg per m²
Kilometres driven in an electric car	19.803 Km per m²
Light points fed	6,77 per m²/day

#### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	3.002 € per m²
Return on investment	7,55 times
Internal rate of return (IRR)	22,14%
Payback time	5 years
Building's value increase**	1.483 € per m²



#### DATA CONSIDERED FOR CALCULATIONS



#### ENERGY LOSSES PER ORIENTATION



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.

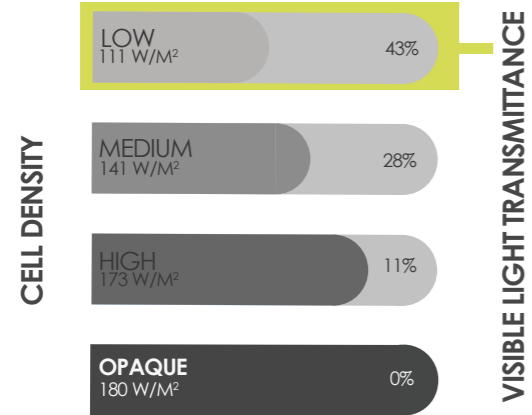


Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

We plant one tree for every m² of PV glass we produce. Each tree absorbs an average of 10 Kg of CO<sub>2</sub> per year.

## FEASIBILITY STUDY TEL AVIV

### LOW CELL DENSITY PV GLASS



### CHARACTERISTICS OF THE GLASS

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

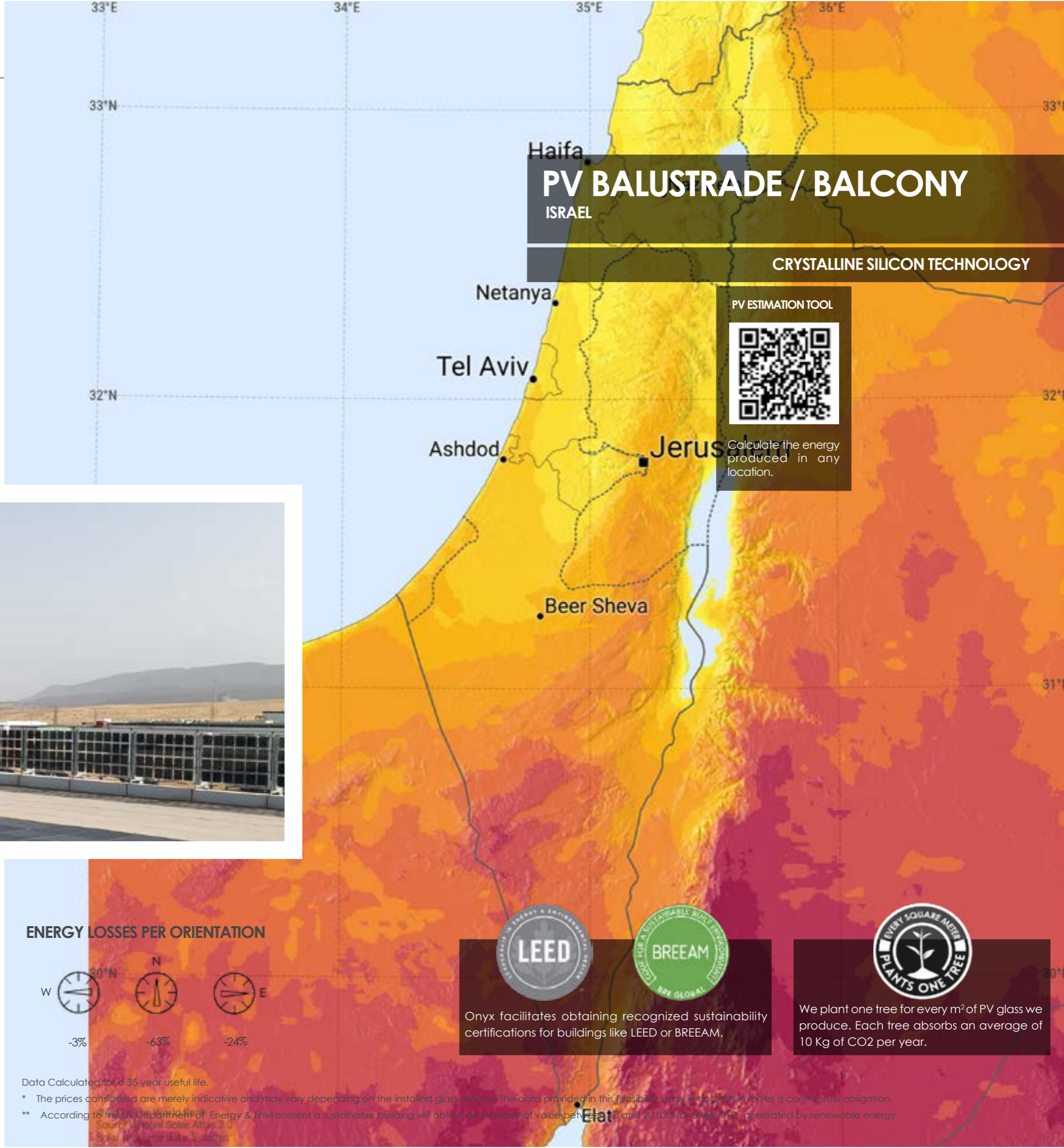
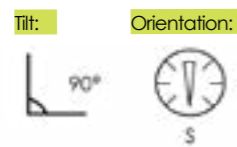
### ENVIRONMENTAL BENEFITS TEL AVIV

Renewable energy generated	2.711 kWh per m <sup>2</sup>
Kg of CO <sub>2</sub> avoided	1.971 Kg per m <sup>2</sup>
Kilometres driven in an electric car	15.590 Km per m <sup>2</sup>
Light points fed	5.33 per m <sup>2</sup> /day

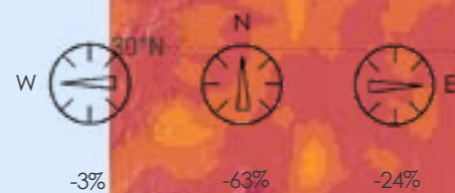
### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	2.364 € per m <sup>2</sup>
Return on investment	7.26 times
Internal rate of return (IRR)	21,57%
Payback time	5 years
Building's value increase**	1.167 € per m <sup>2</sup>

### DATA CONSIDERED FOR CALCULATIONS



### ENERGY LOSSES PER ORIENTATION



Data Calculated for a 35-year useful life.

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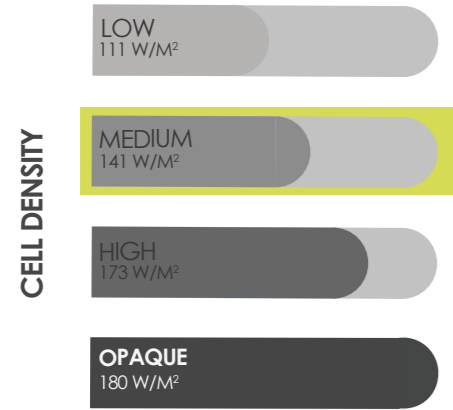
Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

We plant one tree for every m<sup>2</sup> of PV glass we produce. Each tree absorbs an average of 10 Kg of CO<sub>2</sub> per year.



# FEASIBILITY STUDY TEL AVIV

## OPAQUE PV GLASS



### CHARACTERISTICS OF THE GLASS

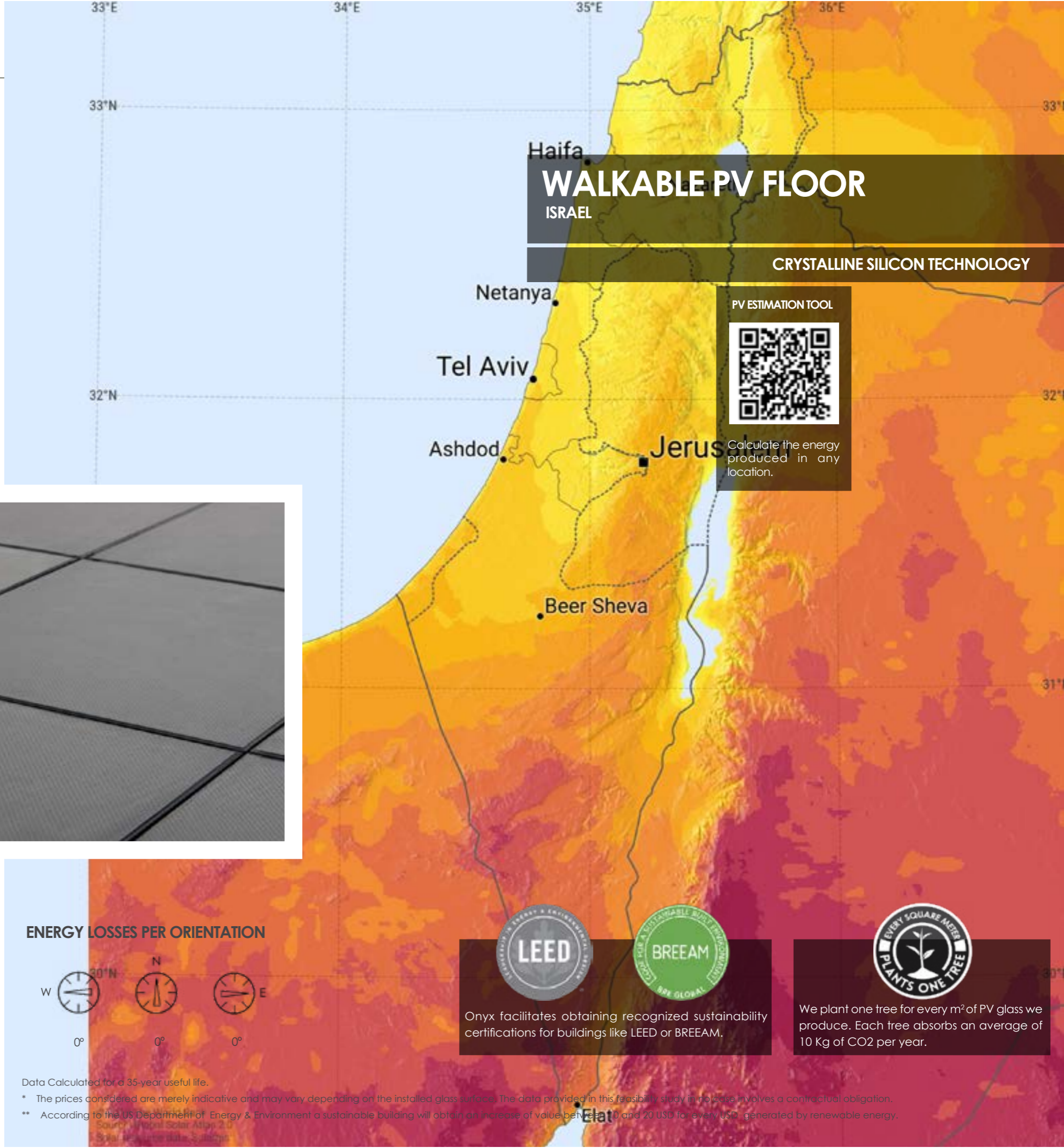
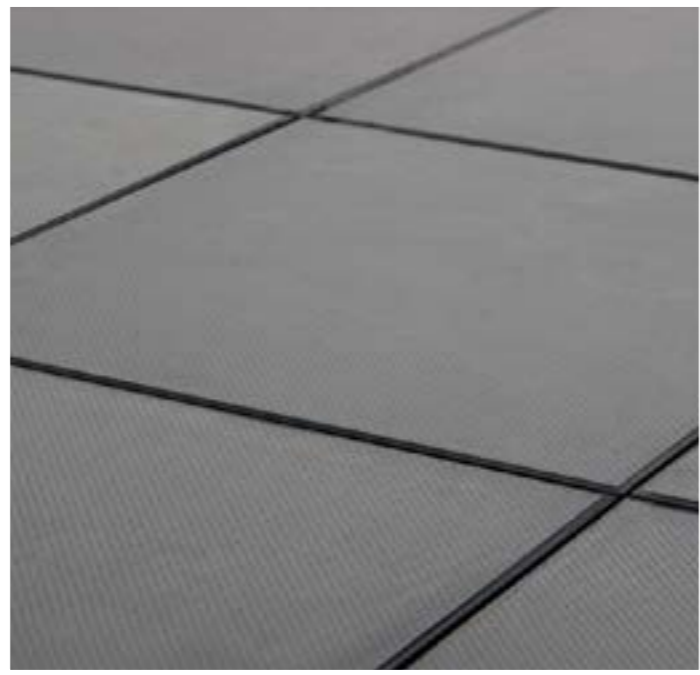
Peak Power (Wp/m²)	140 Wp per m²
Visible light transmittance	0%

### ENVIRONMENTAL BENEFITS TEL AVIV

Renewable energy generated	5.266 KWh per m²
Kg of CO <sub>2</sub> avoided	3.828 Kg per m²
Kilometres driven in an electric car	30.281 Km per m²
Light points fed	10,35 per m²/day

### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	4.591 € per m²
Return on investment	9,64 times
Internal rate of return (IRR)	27,86%
Payback time	4 years
Building's value increase**	2.268 € per m²



**WALKABLE PV FLOOR**  
ISRAEL  
CRYSTALLINE SILICON TECHNOLOGY

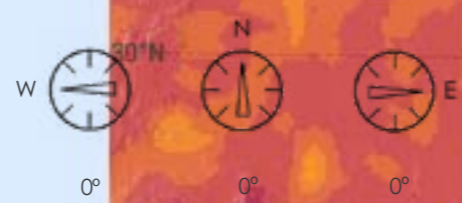
PV ESTIMATION TOOL

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.

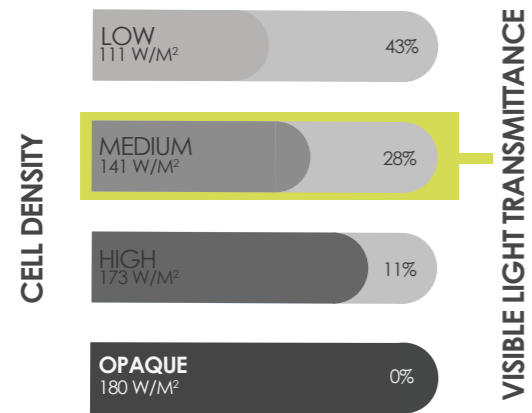
We plant one tree for every m² of PV glass we produce. Each tree absorbs an average of 10 Kg of CO<sub>2</sub> per year.

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.  
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## FEASIBILITY STUDY TEL AVIV

### MEDIUM CELL DENSITY PV GLASS



#### CHARACTERISTICS OF THE GLASS

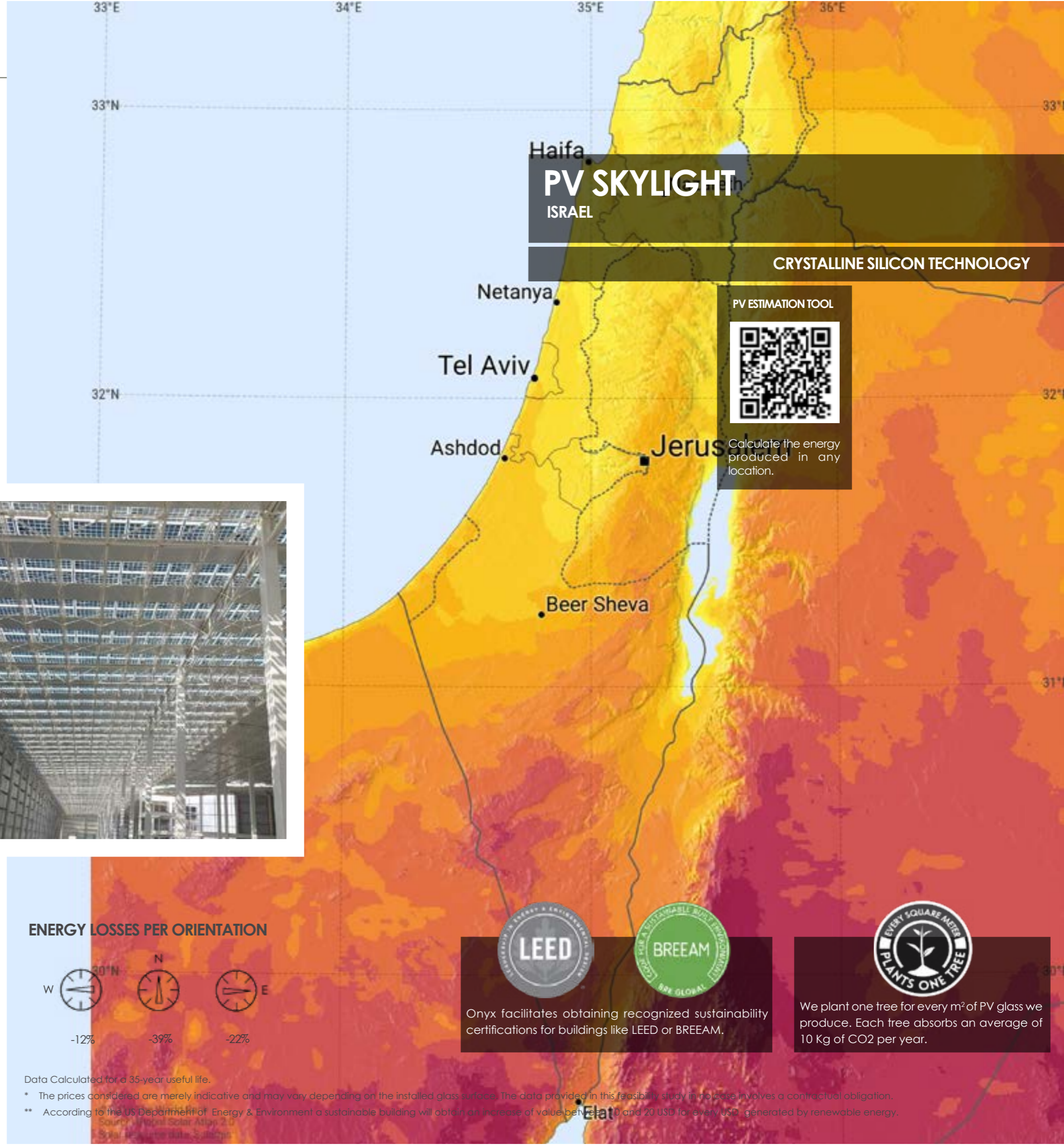
Peak Power (Wp/m²)	141 Wp per m²
Visible light transmittance	28%

#### ENVIRONMENTAL BENEFITS TEL AVIV

Renewable energy generated	5.960 KWh per m²
Kg of CO <sub>2</sub> avoided	4.333 Kg per m²
Kilometres driven in an electric car	34.273 Km per m²
Light points fed	11.71 per m²/day

#### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	5.196 € per m²
Return on investment	15 times
Internal rate of return (IRR)	42,32%
Payback time	3 years
Building's value increase**	2.566 € per m²



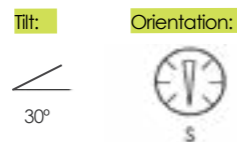
PV ESTIMATION TOOL



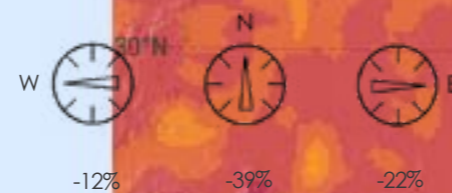
Calculate the energy produced in any location.

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 CO<sub>2</sub> per year.

Data Calculated for a 35-year useful life.

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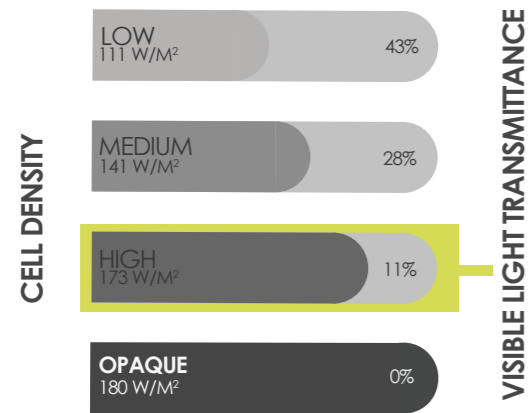
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## FEASIBILITY STUDY TEL AVIV

### HIGH CELL DENSITY



VISIBLE LIGHT TRANSMITTANCE

### CHARACTERISTICS OF THE GLASS

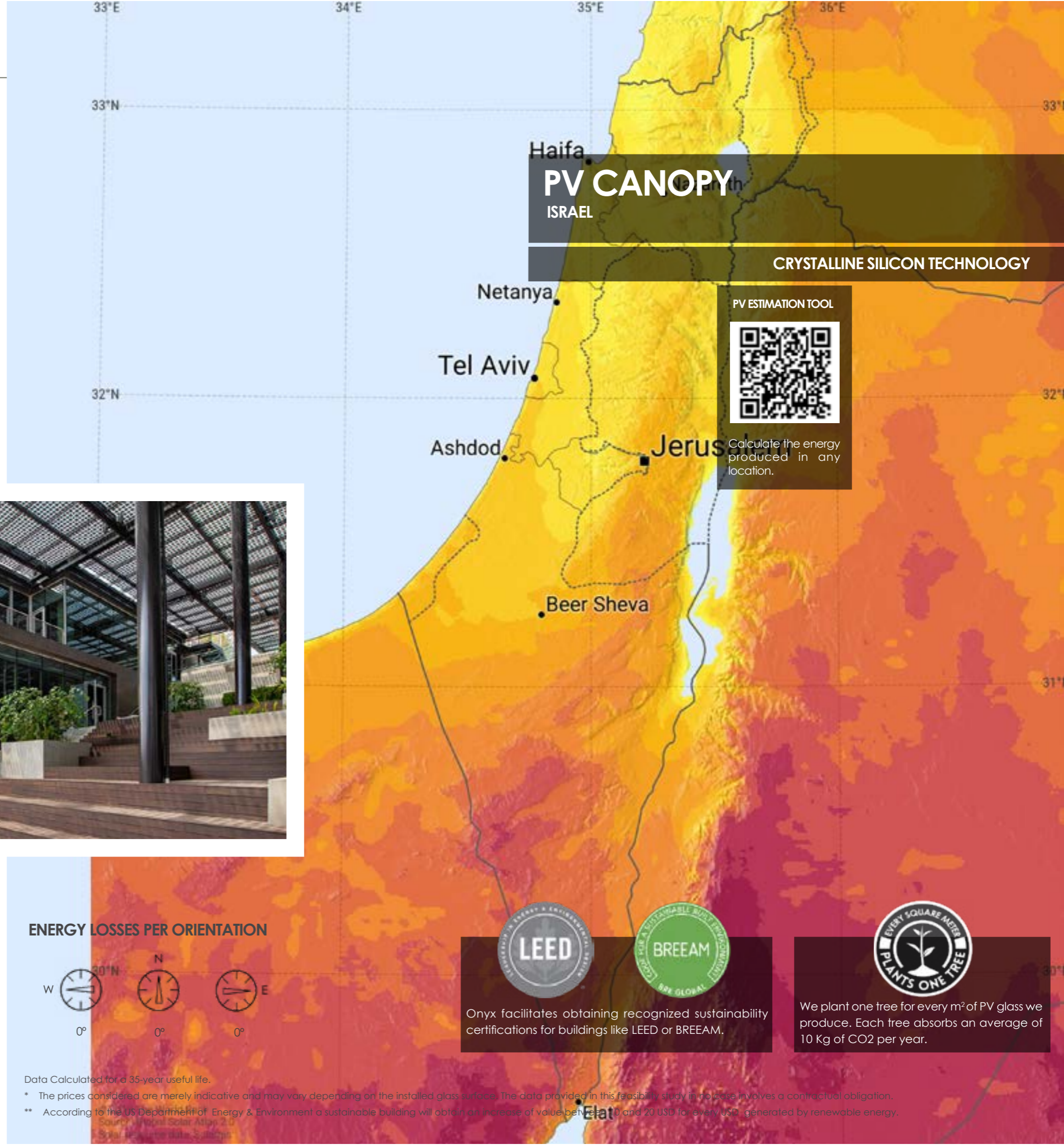
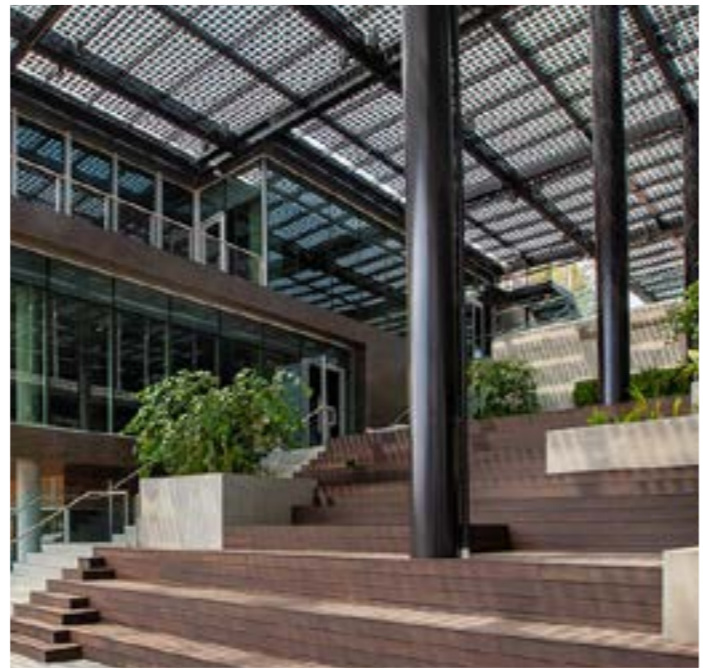
Peak Power (Wp/m²)	173 Wp per m²
Visible light transmittance	11%

### ENVIRONMENTAL BENEFITS TEL AVIV

Renewable energy generated	6.507 KWh per m²
Kg of CO <sub>2</sub> avoided	4.731 Kg per m²
Kilometres driven in an electric car	37.419 Km per m²
Light points fed	12.79 per m²/day

### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	5.673 € per m²
Return on investment	14 times
Internal rate of return (IRR)	39,13%
Payback time	3 years
Building's value increase**	2.802 € per m²



Haifa  
**PV CANOPY**  
ISRAEL

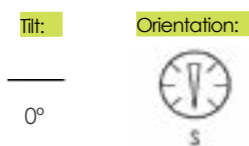
CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

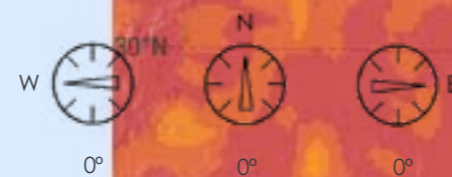


Calculate the energy produced in any location.

### 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 CO<sub>2</sub> per year.

Data Calculated for a 35-year useful life.

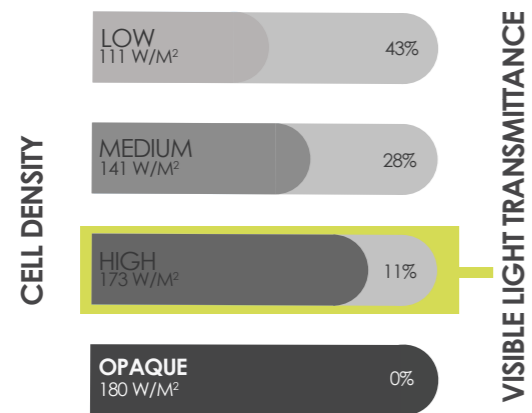
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## FEASIBILITY STUDY TEL AVIV

### HIGH CELL DENSITY PV GLASS



#### CHARACTERISTICS OF THE GLASS

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

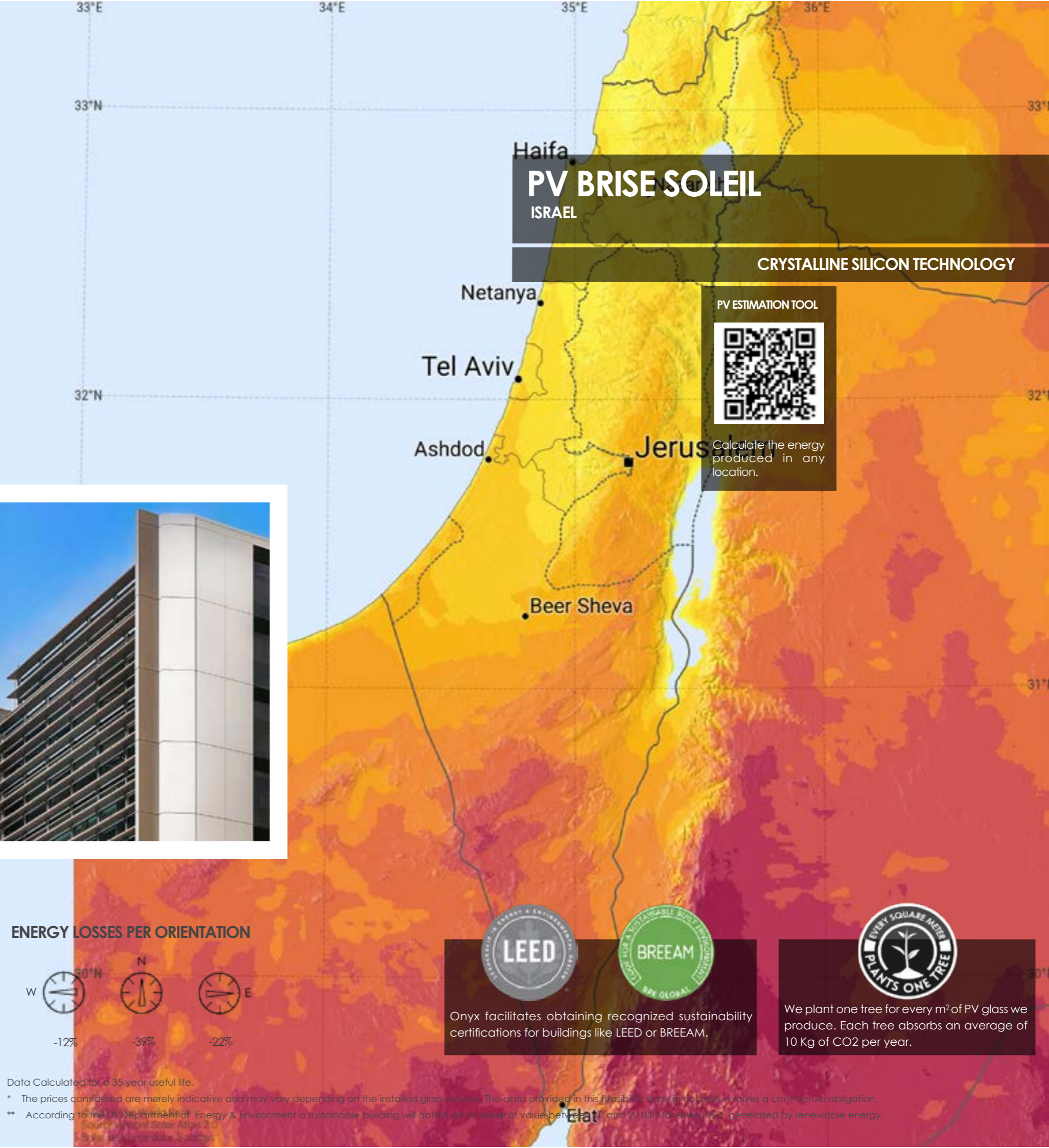
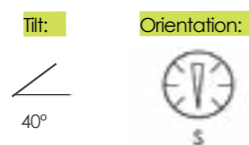
#### ENVIRONMENTAL BENEFITS TEL AVIV

Renewable energy generated	7.313 KWh per m <sup>2</sup>
Kg of CO <sub>2</sub> avoided	5.316 Kg per m <sup>2</sup>
Kilometres driven in an electric car	42.051 Km per m <sup>2</sup>
Light points fed	14,37 per m <sup>2</sup> /day

#### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	6.376 € per m <sup>2</sup>
Return on investment	15,76 times
Internal rate of return (IRR)	43,59%
Payback time	3 years
Building's value increase**	3.149 € per m <sup>2</sup>

#### DATA CONSIDERED FOR CALCULATIONS



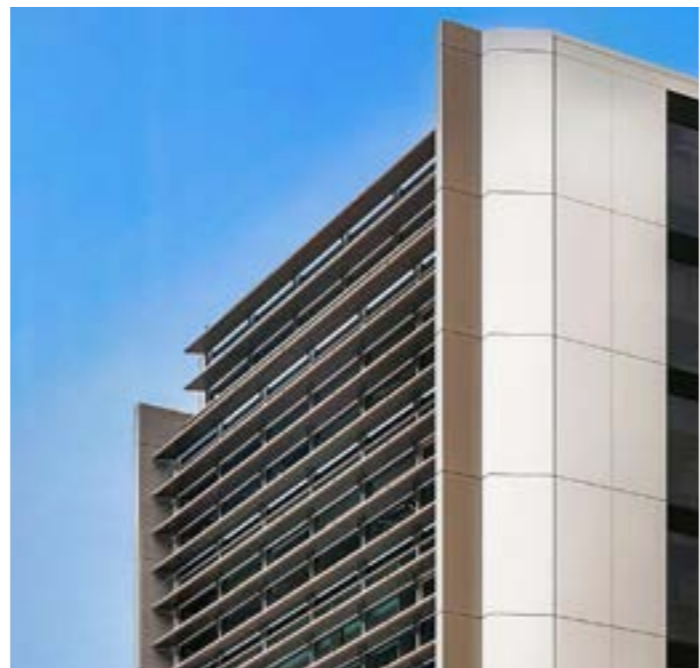
Haifa  
**PV BRISE SOLEIL**  
ISRAEL

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL



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Data Calculated for a 35-year useful life.

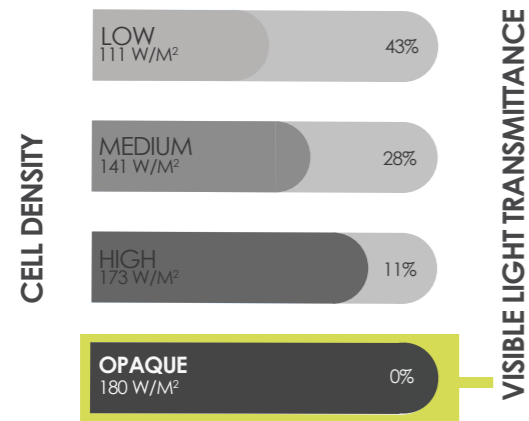
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## FEASIBILITY STUDY TEL AVIV

### OPAQUE PV GLASS



### CHARACTERISTICS OF THE GLASS

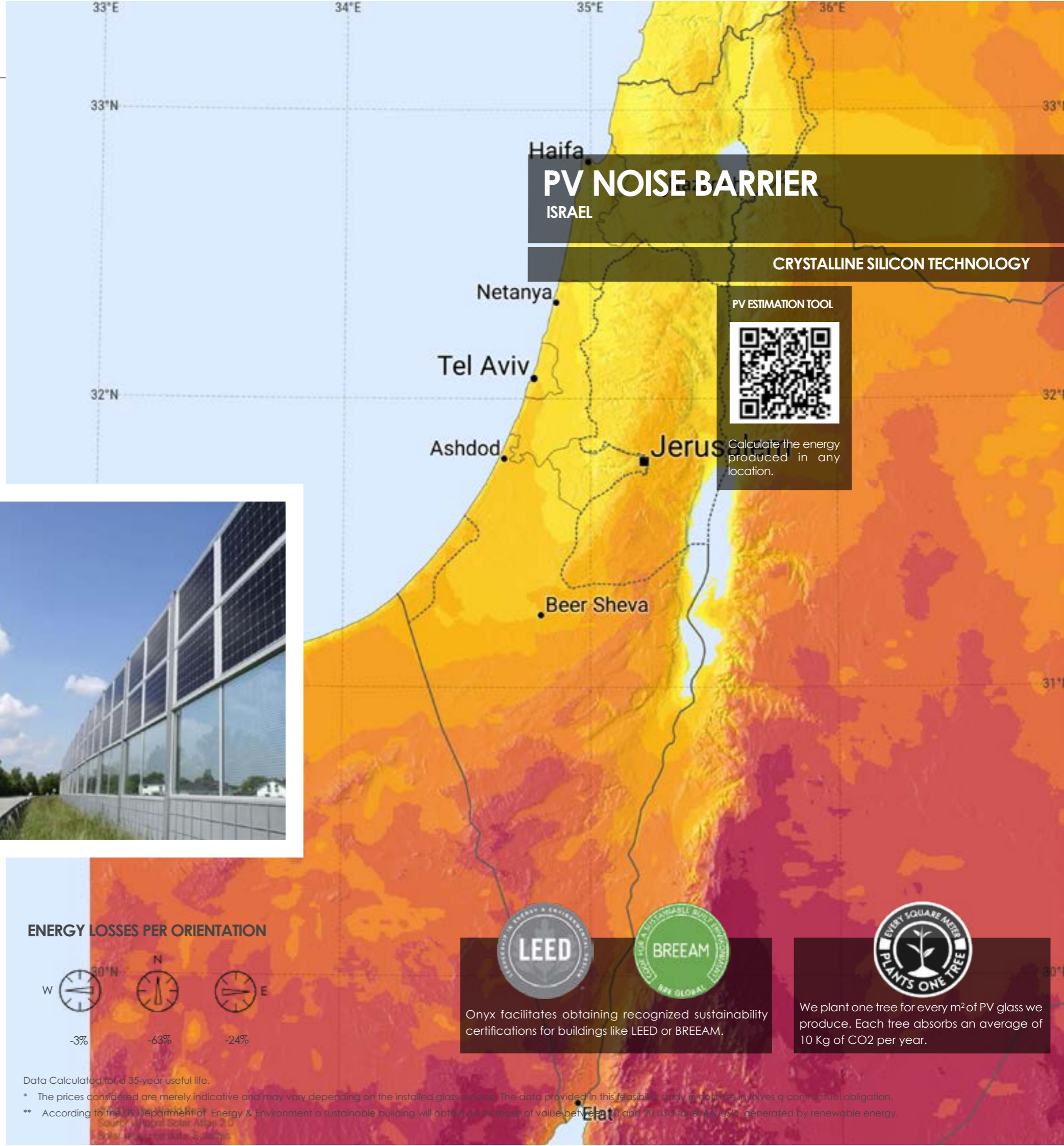
Peak Power (Wp/m <sup>2</sup> )	180 Wp per m <sup>2</sup>
Visible light transmittance	0%

### ENVIRONMENTAL BENEFITS TEL AVIV

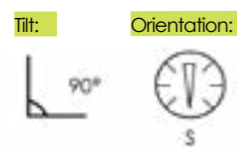
Renewable energy generated	4.396 KWh per m <sup>2</sup>
Kg of CO <sub>2</sub> avoided	3.196 Kg per m <sup>2</sup>
Kilometres driven in an electric car	25.281 Km per m <sup>2</sup>
Light points fed	8,64 per m <sup>2</sup> /day

### ECONOMIC BENEFITS TEL AVIV\*

Value of the renewable energy generated	3.833 € per m <sup>2</sup>
Return on investment	8,88 times
Internal rate of return (IRR)	25,53%
Payback time	4 years
Building's value increase**	1.893 € per m <sup>2</sup>



### DATA CONSIDERED FOR CALCULATIONS



### ENERGY LOSSES PER ORIENTATION



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We plant one tree for every m<sup>2</sup> of PV glass we produce. Each tree absorbs an average of 10 Kg of CO<sub>2</sub> per year.



# 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  
 Expiry date: 30-01-2029

The declared validity is to registration and publication on [www.epd.org](http://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).



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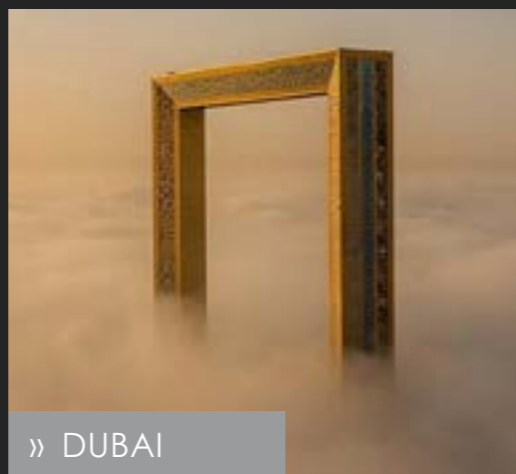
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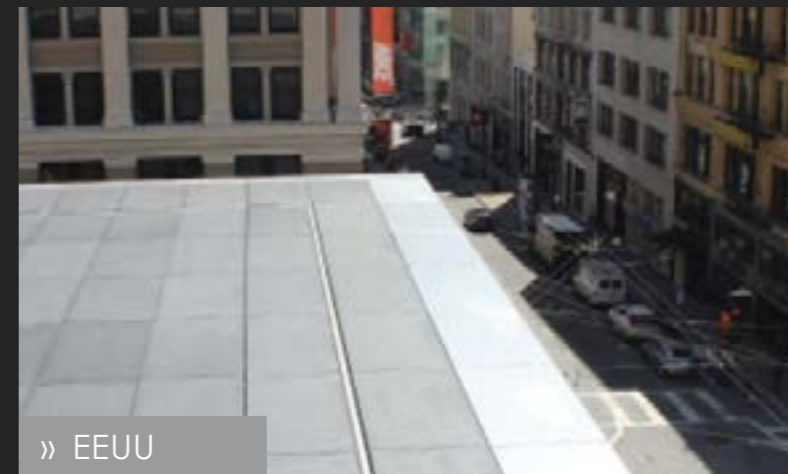
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# UNLOCKING THE POWER OF PHOTOVOLTAIC GLASS:

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<sub>2</sub> 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.