

onyx SOLAR

FEASIBILITY STUDIES

DISCOVER DIFFERENT CONSTRUCTIVE SOLUTIONS IN GREECE

FEASIBILITY STUDY ATHENS

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

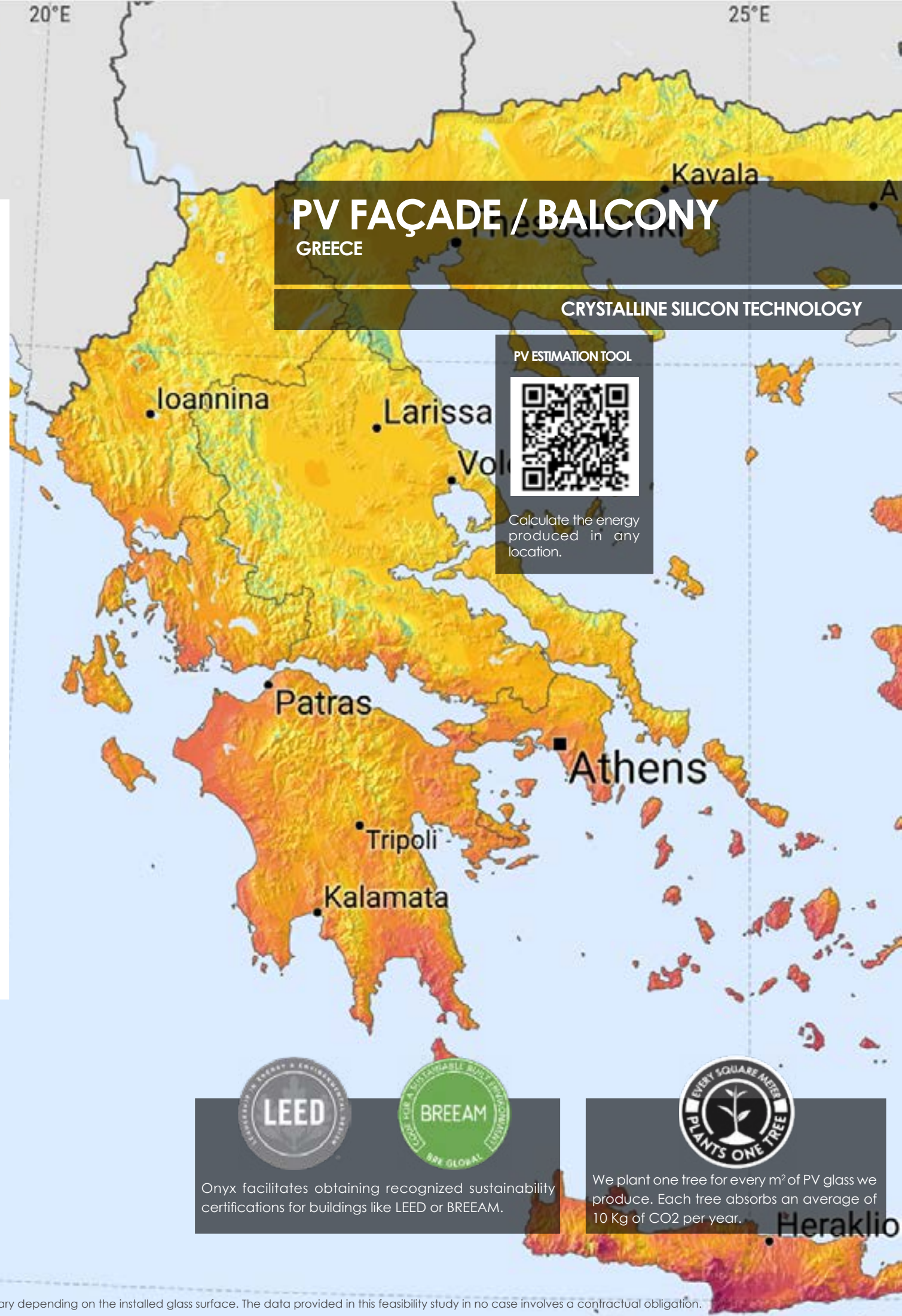
Peak Power (Wp/m ²)	110 Wp per m ²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS ATHENS

Renewable energy generated	1.720 KWh per m ²
Kg of CO ₂ avoided	1.080 Kg per m ²
Kilometres driven in an electric car	9.600 Km per m ²
Light points fed	3,4 per m ² /day

ECONOMIC BENEFITS ATHENS*

Value of the renewable energy generated	400 € per m ²
Return on investment	3,6 times
Internal rate of return (IRR)	9,2 %
Payback time	7,5 years
Building's value increase**	200 € per m ²



PV FAÇADE / BALCONY
GREECE

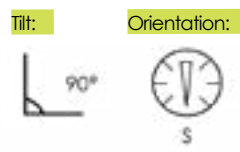
CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

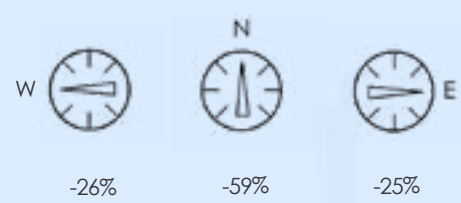


Calculate the energy produced in any location.

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.
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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 ATHENS

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 ATHENS

Renewable energy generated	2.340 KWh per m ²
Kg of CO ₂ avoided	1.480 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

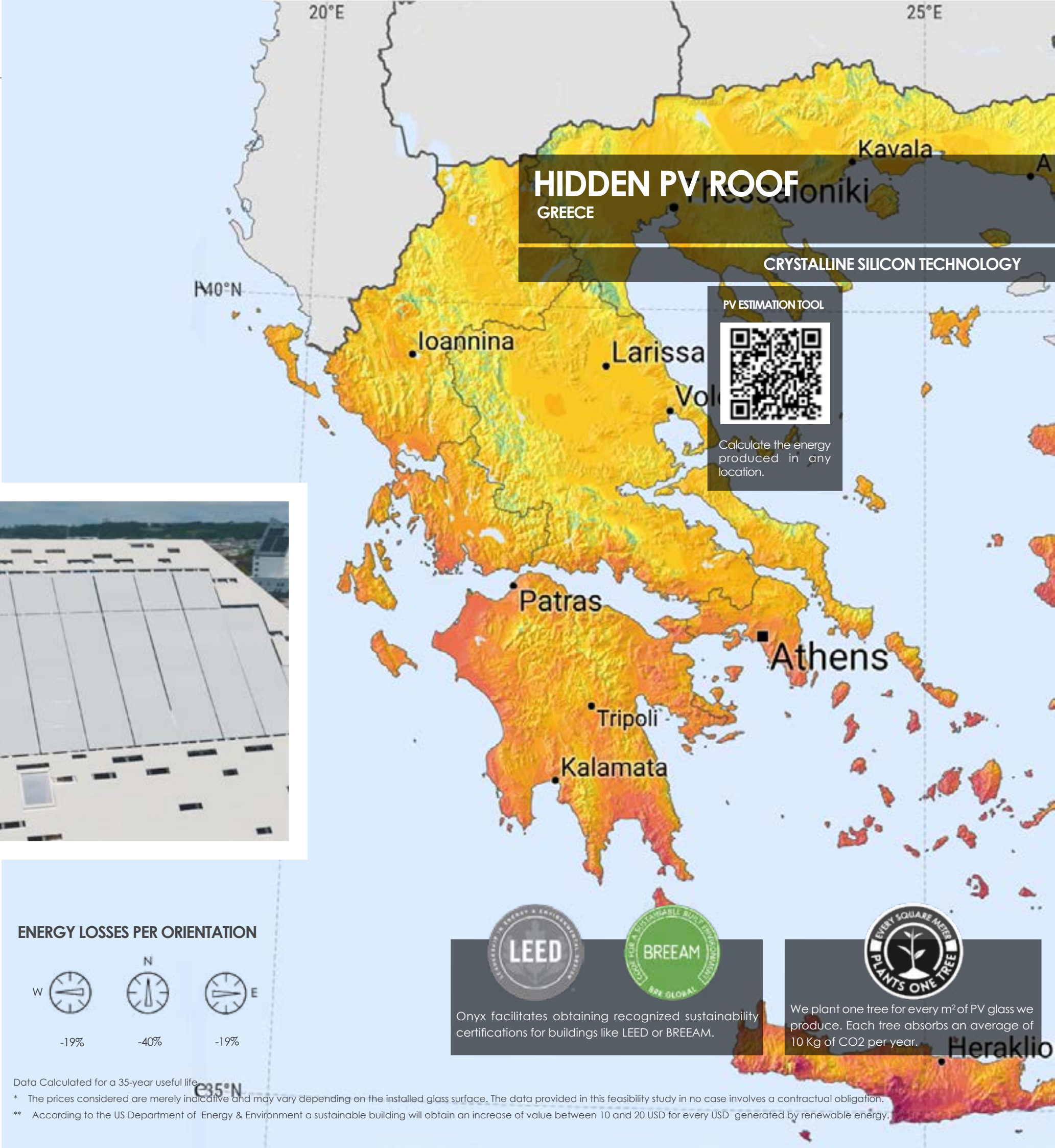
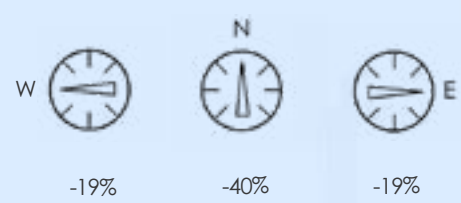
ECONOMIC BENEFITS ATHENS*

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



ENERGY LOSSES PER ORIENTATION



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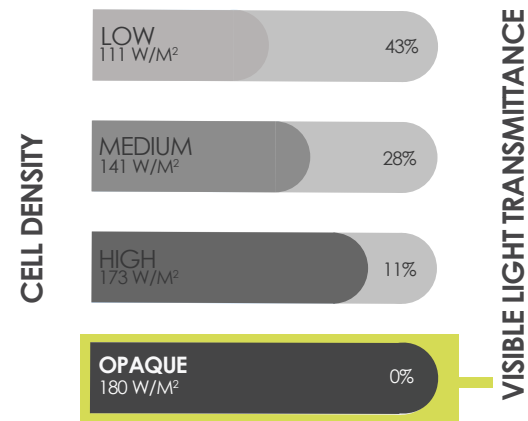
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FEASIBILITY STUDY ATHENS

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS ATHENS

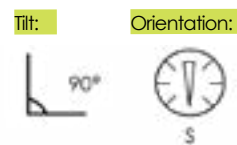
Renewable energy generated	4.295 KWh per m ²
Kg of CO ₂ avoided	2.675 Kg per m ²
Kilometres driven in an electric car	24.696 Km per m ²
Light points fed	8,44 per m ² /day

ECONOMIC BENEFITS ATHENS*

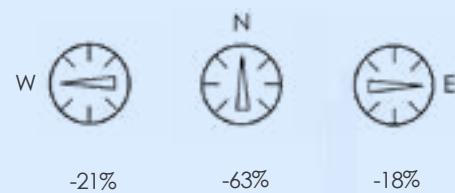
Value of the renewable energy generated	1.006 € per m ²
Return on investment	8,9 times
Internal rate of return (IRR)	22,89 %
Payback time	5 years
Building's value increase**	497 € per m ²



DATA CONSIDERED FOR CALCULATIONS



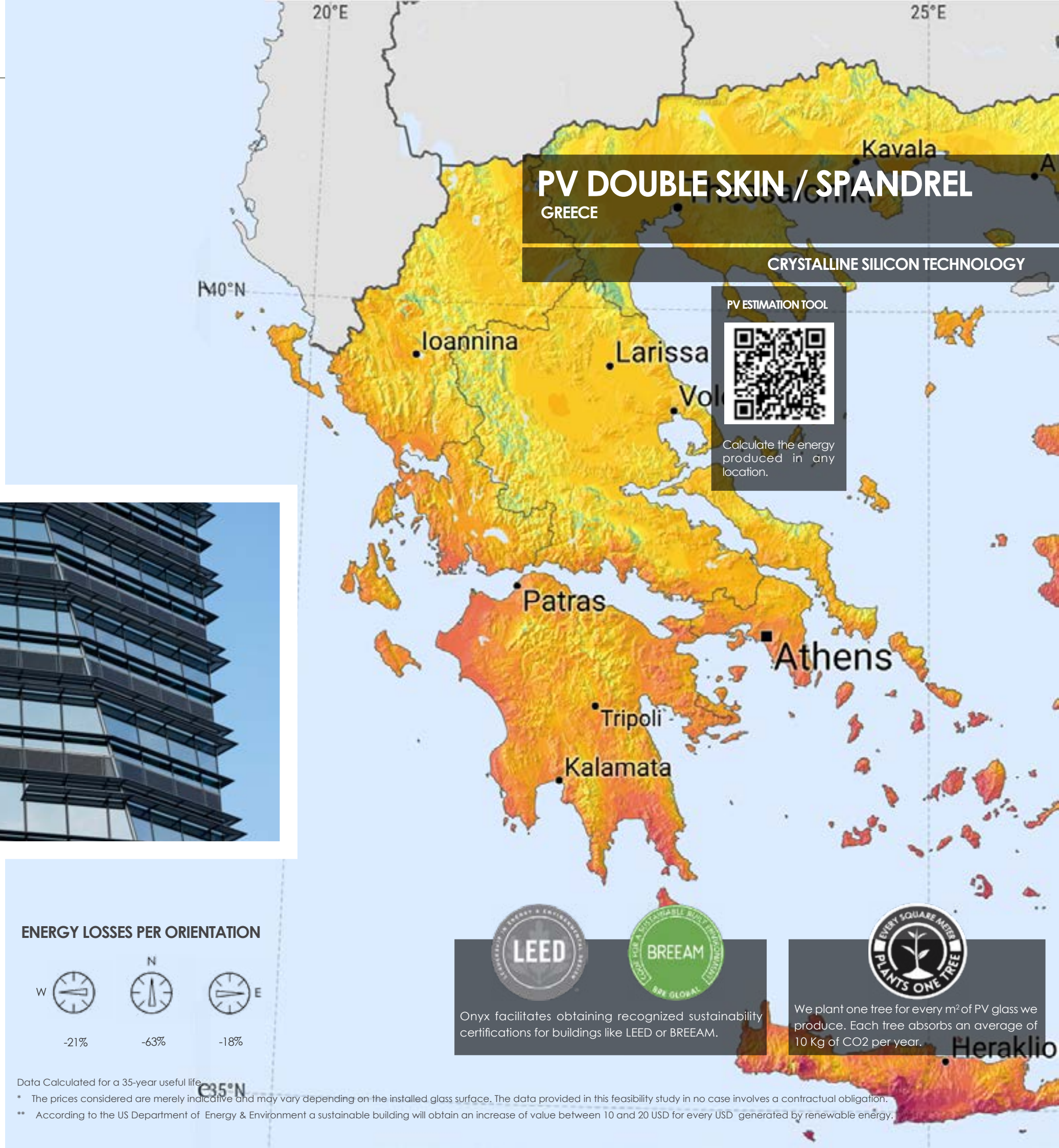
ENERGY LOSSES PER ORIENTATION



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PV DOUBLE SKIN / SPANDREL GREECE

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL



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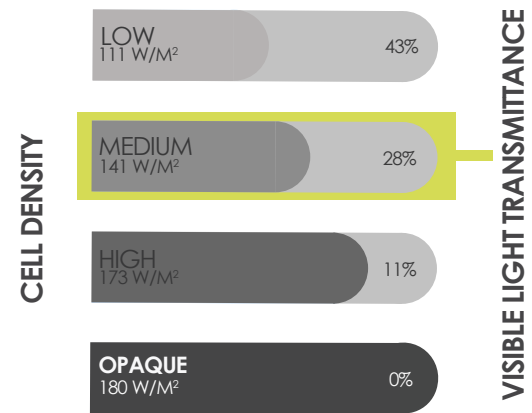
Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

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 ATHENS

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 ATHENS

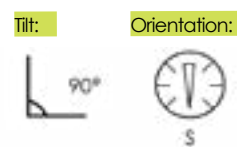
Renewable energy generated	3.364 kWh per m ²
Kg of CO ₂ avoided	2.096 Kg per m ²
Kilometres driven in an electric car	19.345 Km per m ²
Light points fed	6,6 per m ² /day

ECONOMIC BENEFITS ATHENS*

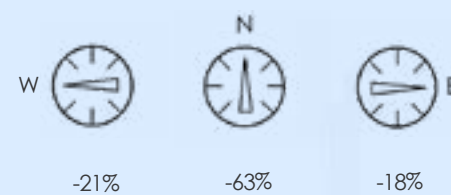
Value of the renewable energy generated	788 € per m ²
Return on investment	4,76 times
Internal rate of return (IRR)	12,4 %
Payback time	9 years
Building's value increase**	389 € per m ²



DATA CONSIDERED FOR CALCULATIONS



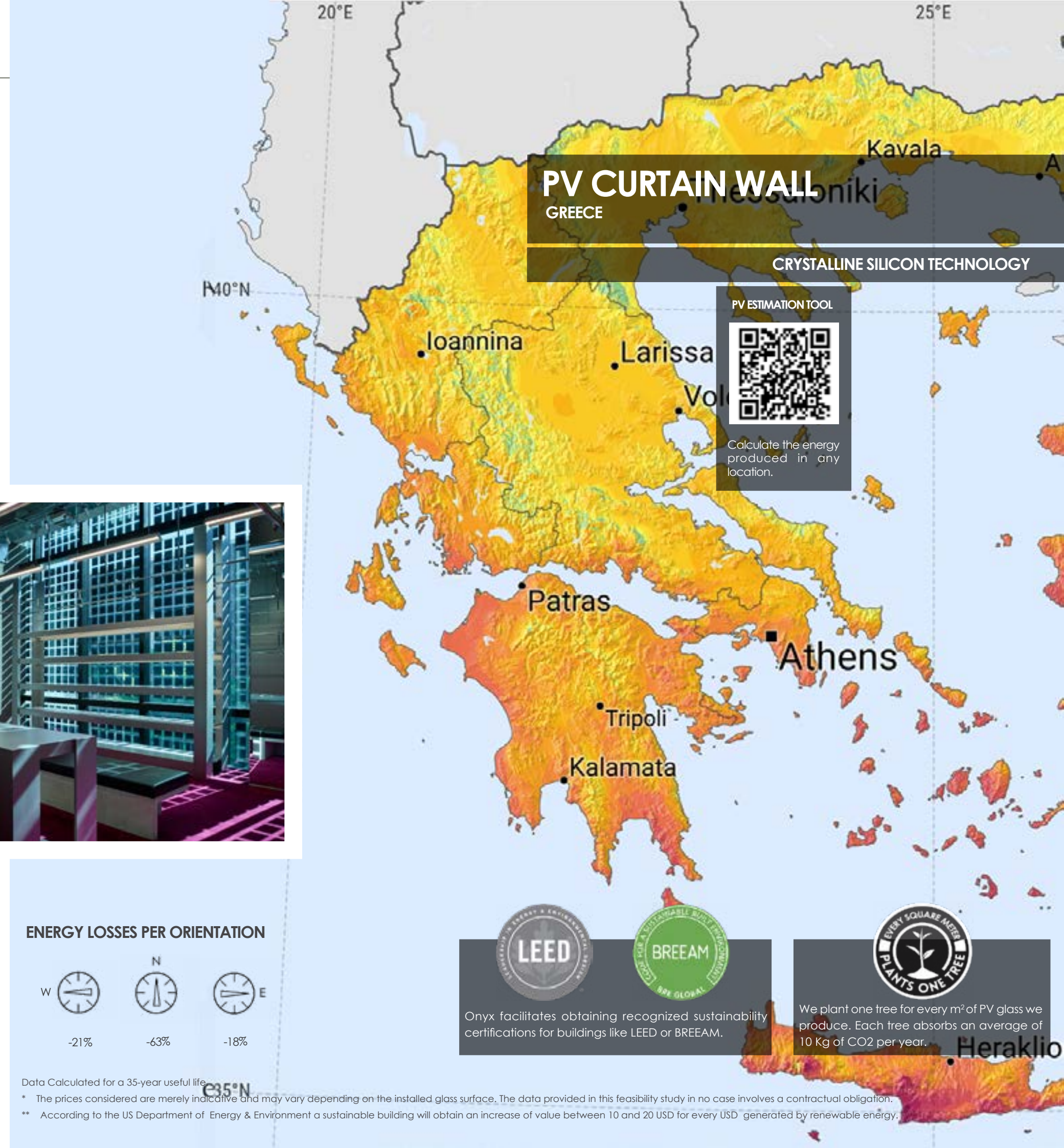
ENERGY LOSSES PER ORIENTATION



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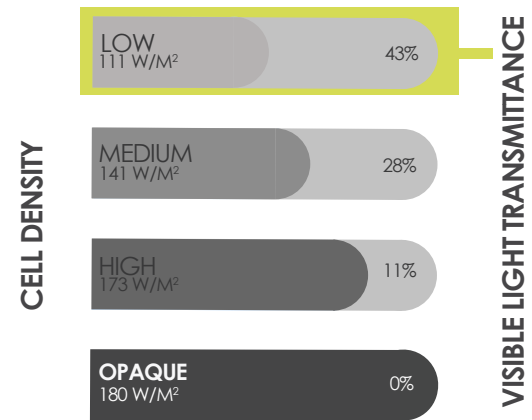


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We plant one tree for every m² of PV glass we produce. Each tree absorbs an average of 10 Kg of CO₂ per year.

FEASIBILITY STUDY ATHENS

LOW CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

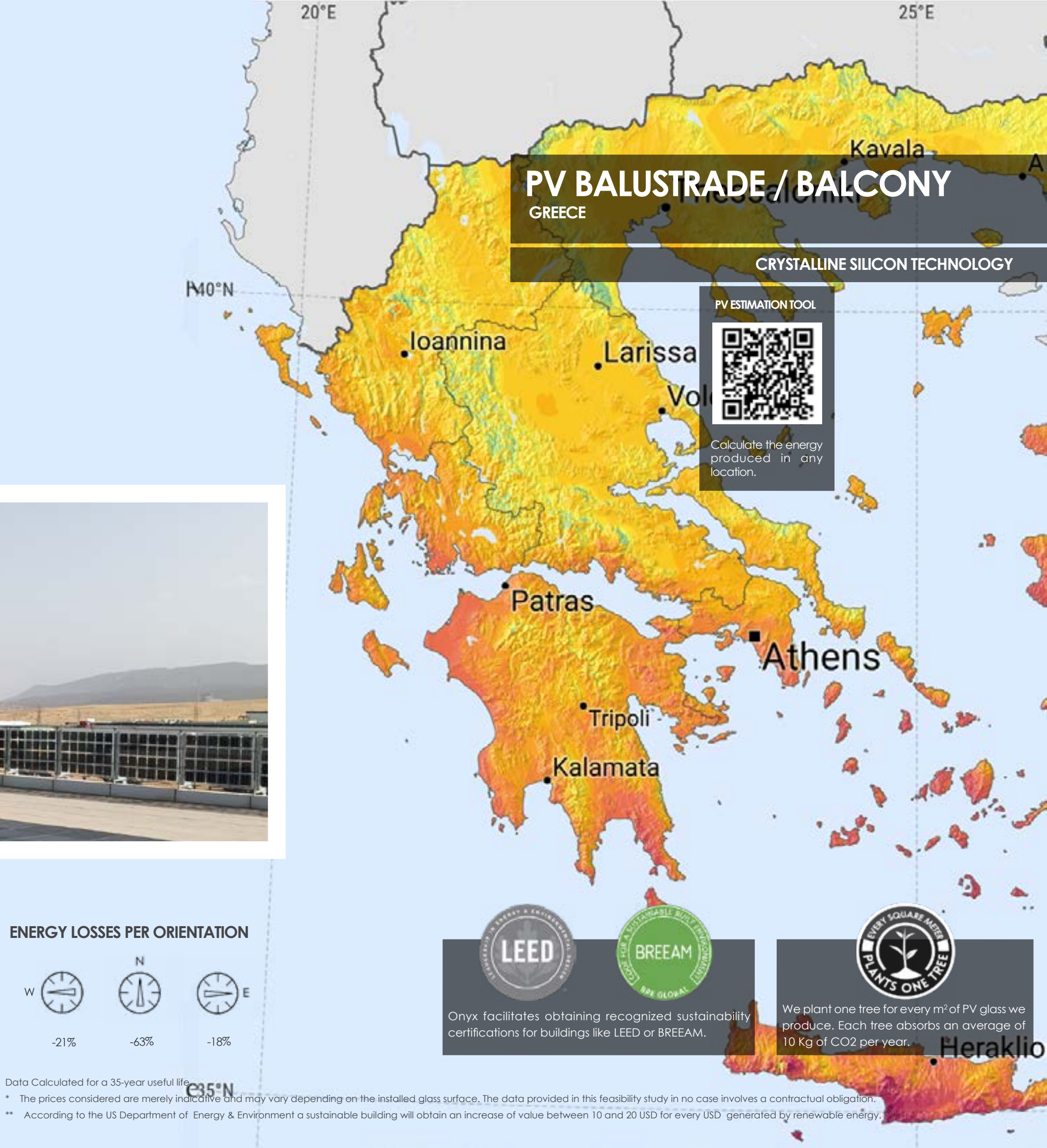
Peak Power (Wp/m²)	111 Wp per m²
Visible light transmittance	43%

ENVIRONMENTAL BENEFITS ATHENS

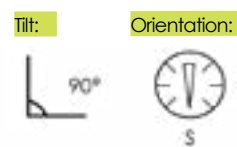
Renewable energy generated	2.648 KWh per m²
Kg of CO ₂ avoided	1.650 Kg per m²
Kilometres driven in an electric car	15.229 Km per m²
Light points fed	5,2 per m²/day

ECONOMIC BENEFITS ATHENS*

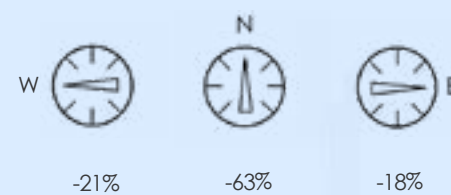
Value of the renewable energy generated	620 € per m²
Return on investment	4,3 times
Internal rate of return (IRR)	11,1 %
Payback time	10 years
Building's value increase**	306 € per m²



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

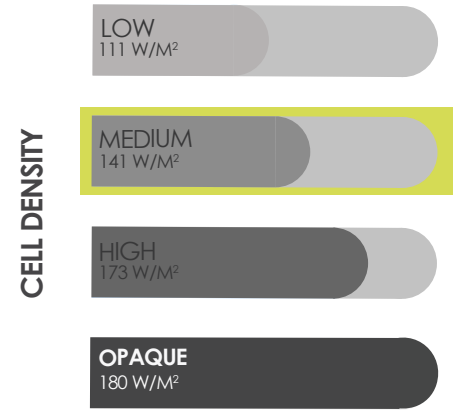
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FEASIBILITY STUDY ATHENS

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

Peak Power (Wp/m ²)	140 Wp per m ²
Visible light transmittance	0%

ENVIRONMENTAL BENEFITS ATHENS

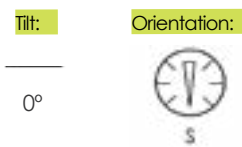
Renewable energy generated	6.707 kWh per m ²
Kg of CO ₂ avoided	4.178 Kg per m ²
Kilometres driven in an electric car	38.567 Km per m ²
Light points fed	13,2 per m ² /day

ECONOMIC BENEFITS ATHENS*

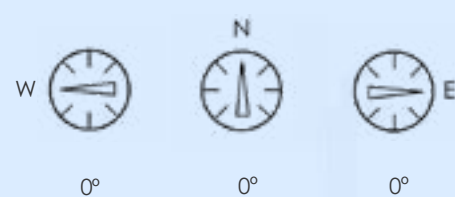
Value of the renewable energy generated	1.571 € per m ²
Return on investment	7 times
Internal rate of return (IRR)	15,65 %
Payback time	7 years
Building's value increase**	776 € per m ²



DATA CONSIDERED FOR CALCULATIONS



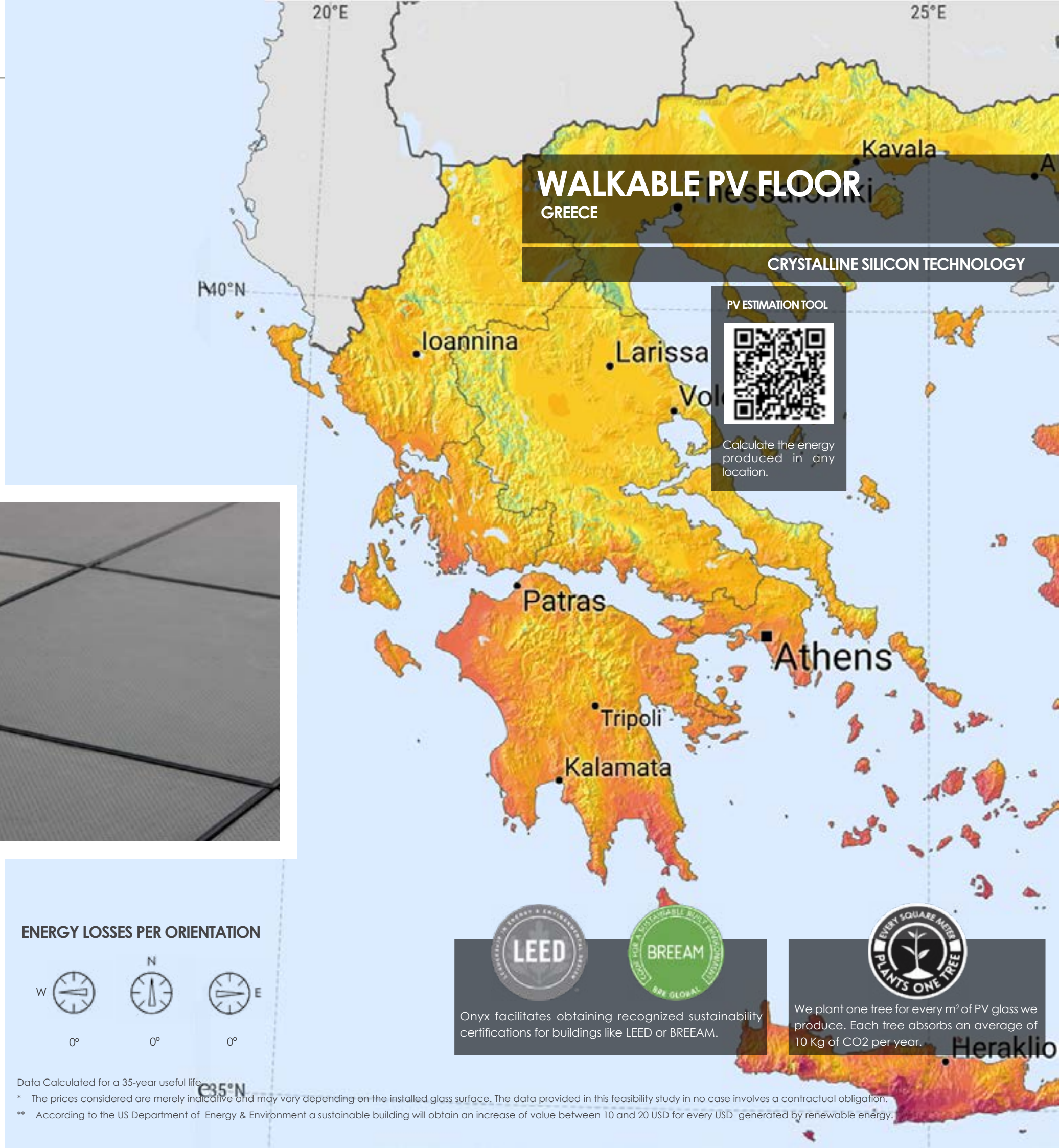
ENERGY LOSSES PER ORIENTATION



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WALKABLE PV FLOOR
GREECE

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL



Calculate the energy produced in any location.



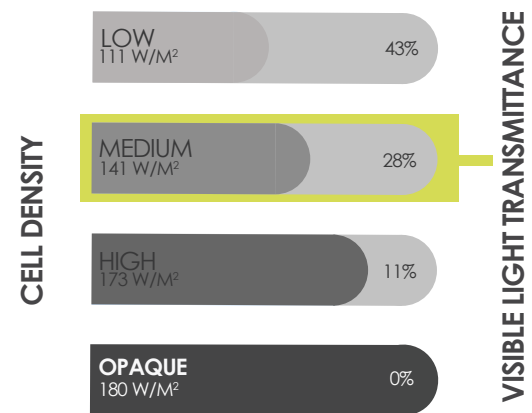
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We plant one tree for every m² of PV glass we produce. Each tree absorbs an average of 10 Kg of CO₂ per year.



FEASIBILITY STUDY ATHENS

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 ATHENS

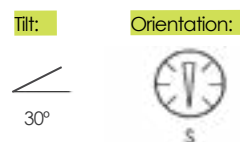
Renewable energy generated	5.853 KWh per m ²
Kg of CO ₂ avoided	3.646 Kg per m ²
Kilometres driven in an electric car	33.657 Km per m ²
Light points fed	11,5 per m ² /day

ECONOMIC BENEFITS ATHENS*

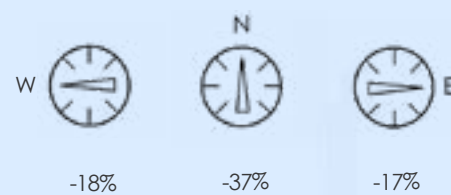
Value of the renewable energy generated	1.371 € per m ²
Return on investment	12,76 times
Internal rate of return (IRR)	32,46 %
Payback time	4 years
Building's value increase**	677 € per m ²



DATA CONSIDERED FOR CALCULATIONS



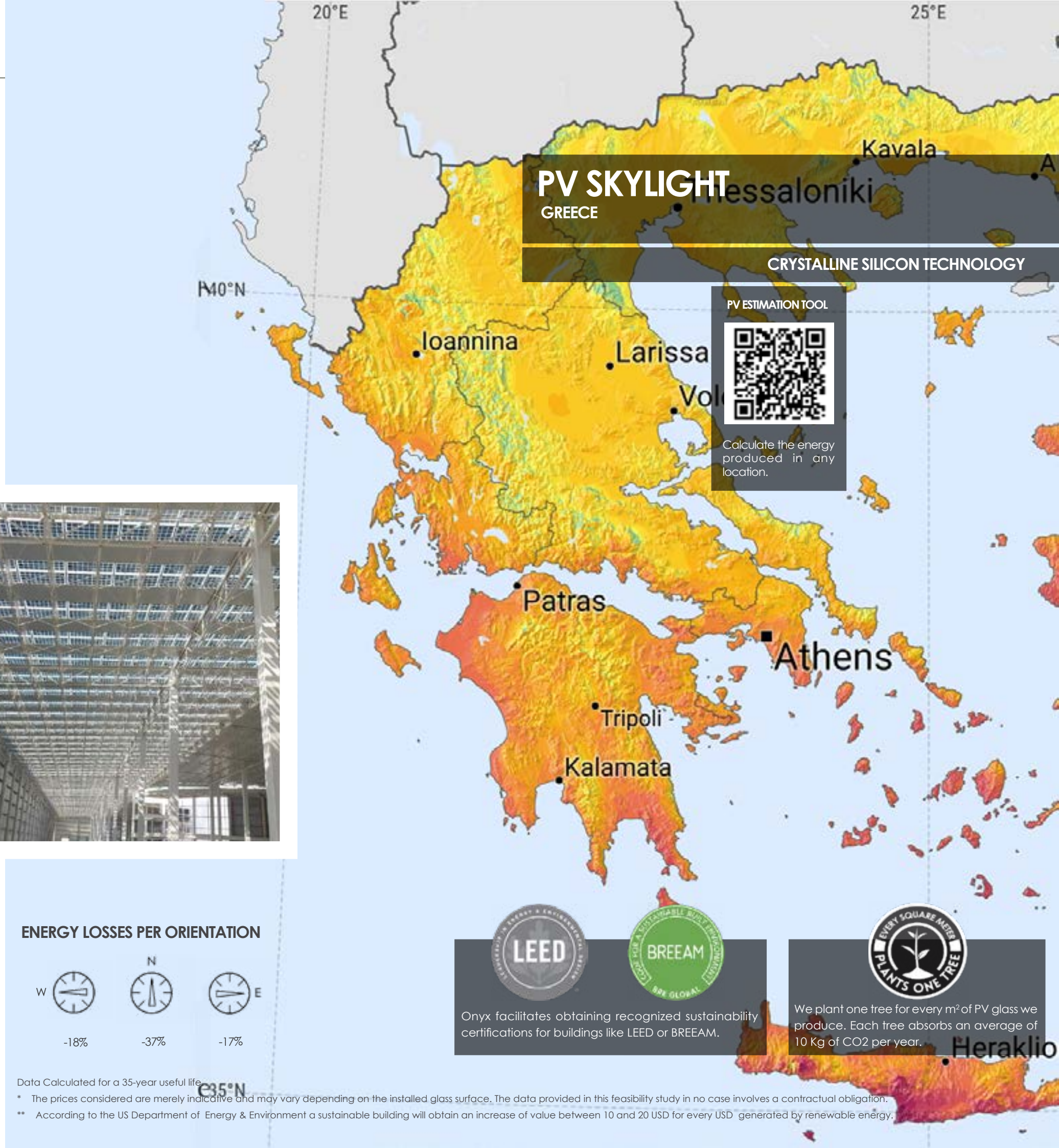
ENERGY LOSSES PER ORIENTATION



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PV SKYLIGHT
GREECE

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL



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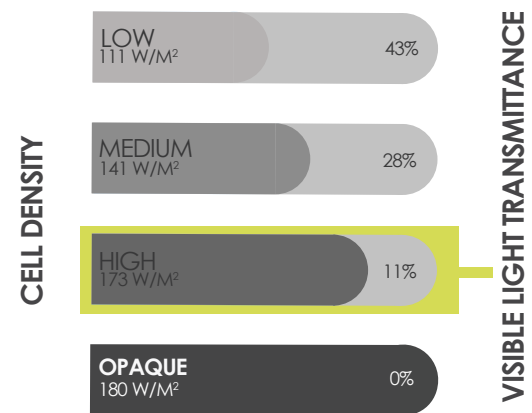
Onyx facilitates obtaining recognized sustainability certifications for buildings like LEED or BREEAM.

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

Heraklio

FEASIBILITY STUDY ATHENS

HIGH CELL DENSITY



CHARACTERISTICS OF THE GLASS

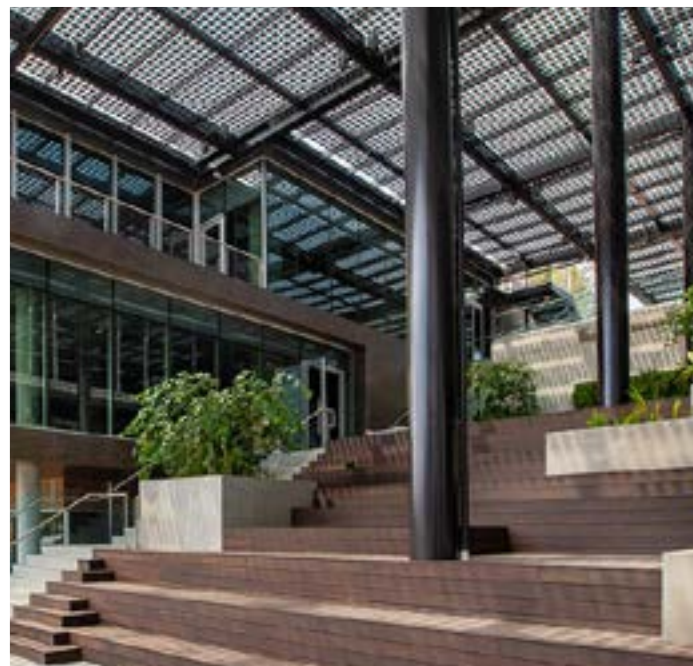
Peak Power (Wp/m ²)	173 Wp per m ²
Visible light transmittance	11%

ENVIRONMENTAL BENEFITS ATHENS

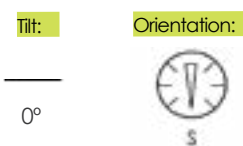
Renewable energy generated	6.446 KWh per m ²
Kg of CO ₂ avoided	4.016 Kg per m ²
Kilometres driven in an electric car	37.068 Km per m ²
Light points fed	12,67 per m ² /day

ECONOMIC BENEFITS ATHENS*

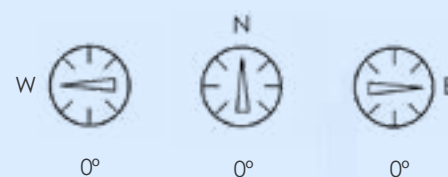
Value of the renewable energy generated	1.510 € per m ²
Return on investment	13,7 times
Internal rate of return (IRR)	34,8 %
Payback time	3 years
Building's value increase**	746 € per m ²



DATA CONSIDERED FOR CALCULATIONS



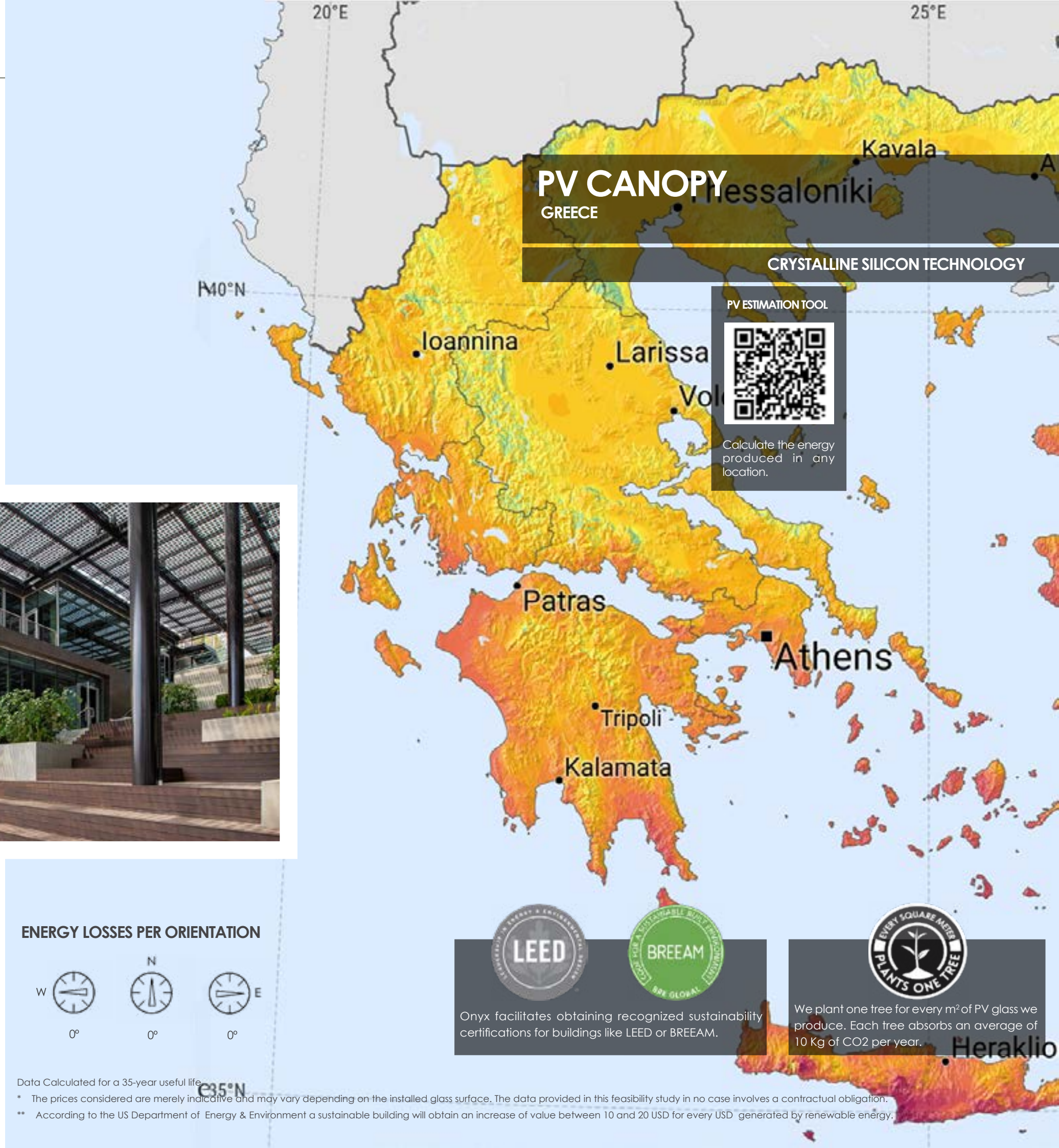
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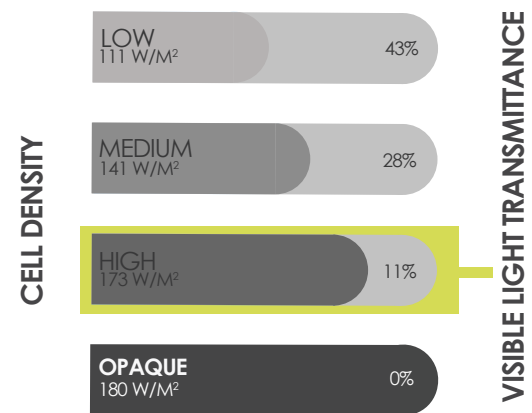
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Heraklio



FEASIBILITY STUDY ATHENS

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 ATHENS

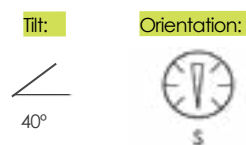
Renewable energy generated	7.181 KWh per m ²
Kg of CO ₂ avoided	4.474 Kg per m ²
Kilometres driven in an electric car	41.296 Km per m ²
Light points fed	14,1 per m ² /day

ECONOMIC BENEFITS ATHENS*

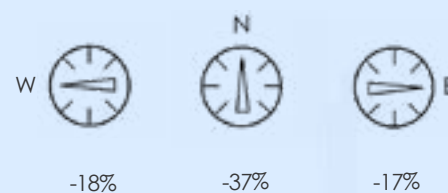
Value of the renewable energy generated	1.682 € per m ²
Return on investment	15,2 times
Internal rate of return (IRR)	38,6 %
Payback time	3 years
Building's value increase**	831 € per m ²



DATA CONSIDERED FOR CALCULATIONS



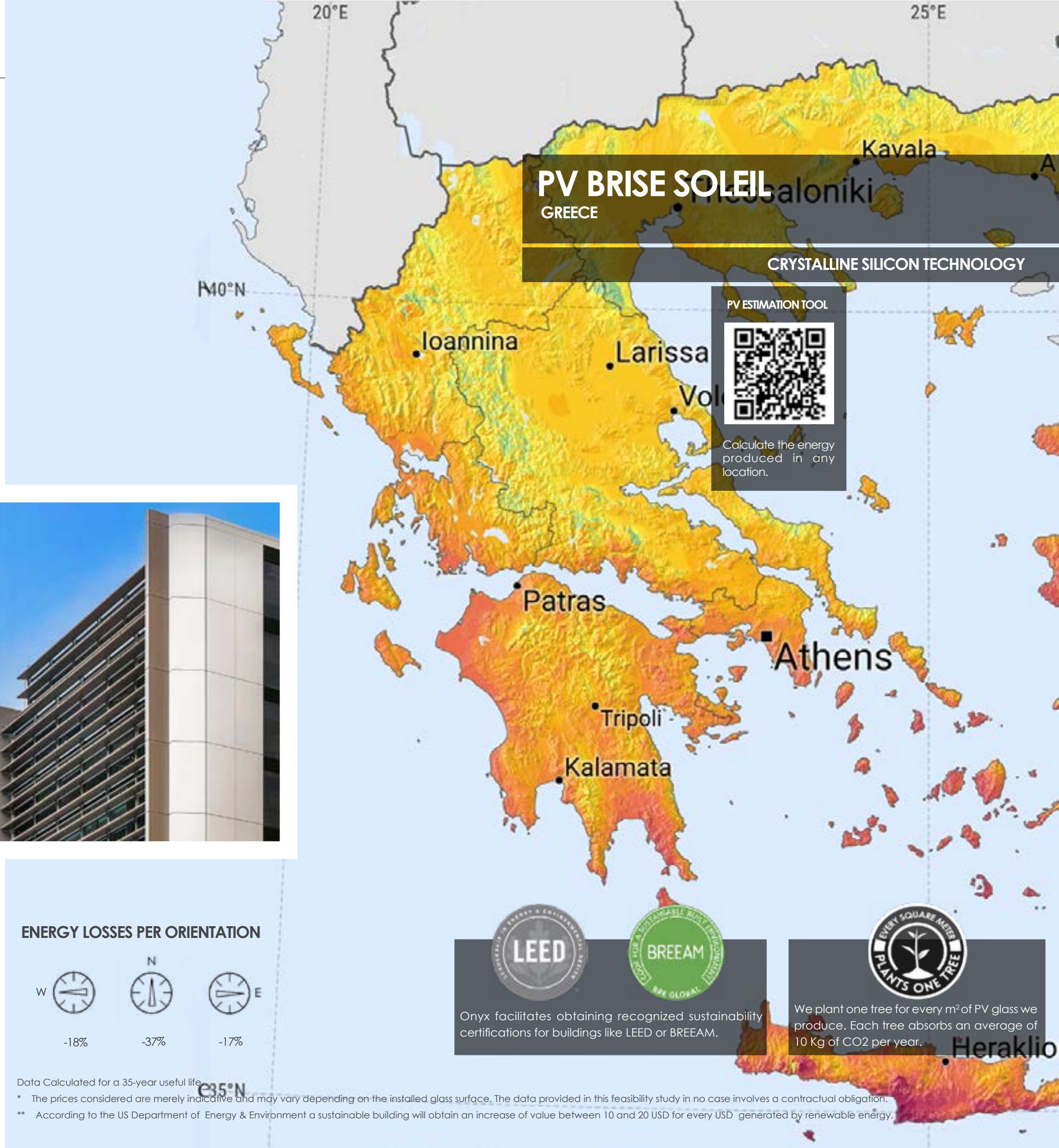
ENERGY LOSSES PER ORIENTATION



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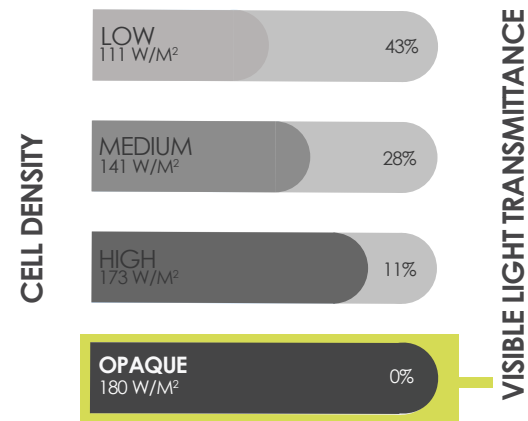


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FEASIBILITY STUDY ATHENS

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS ATHENS

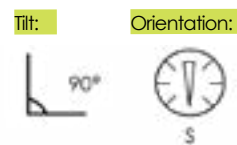
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Kilometres driven in an electric car	24.696 Km per m ²
Light points fed	8,44 per m ² /day

ECONOMIC BENEFITS ATHENS*

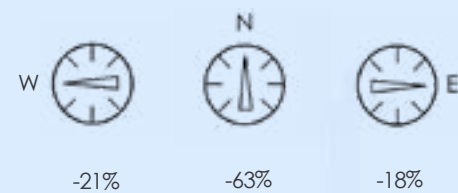
Value of the renewable energy generated	1.006 € per m ²
Return on investment	7,7 x
Internal rate of return (IRR)	20 %
Payback time	6 years
Building's value increase**	500 € per m ²



DATA CONSIDERED FOR CALCULATIONS



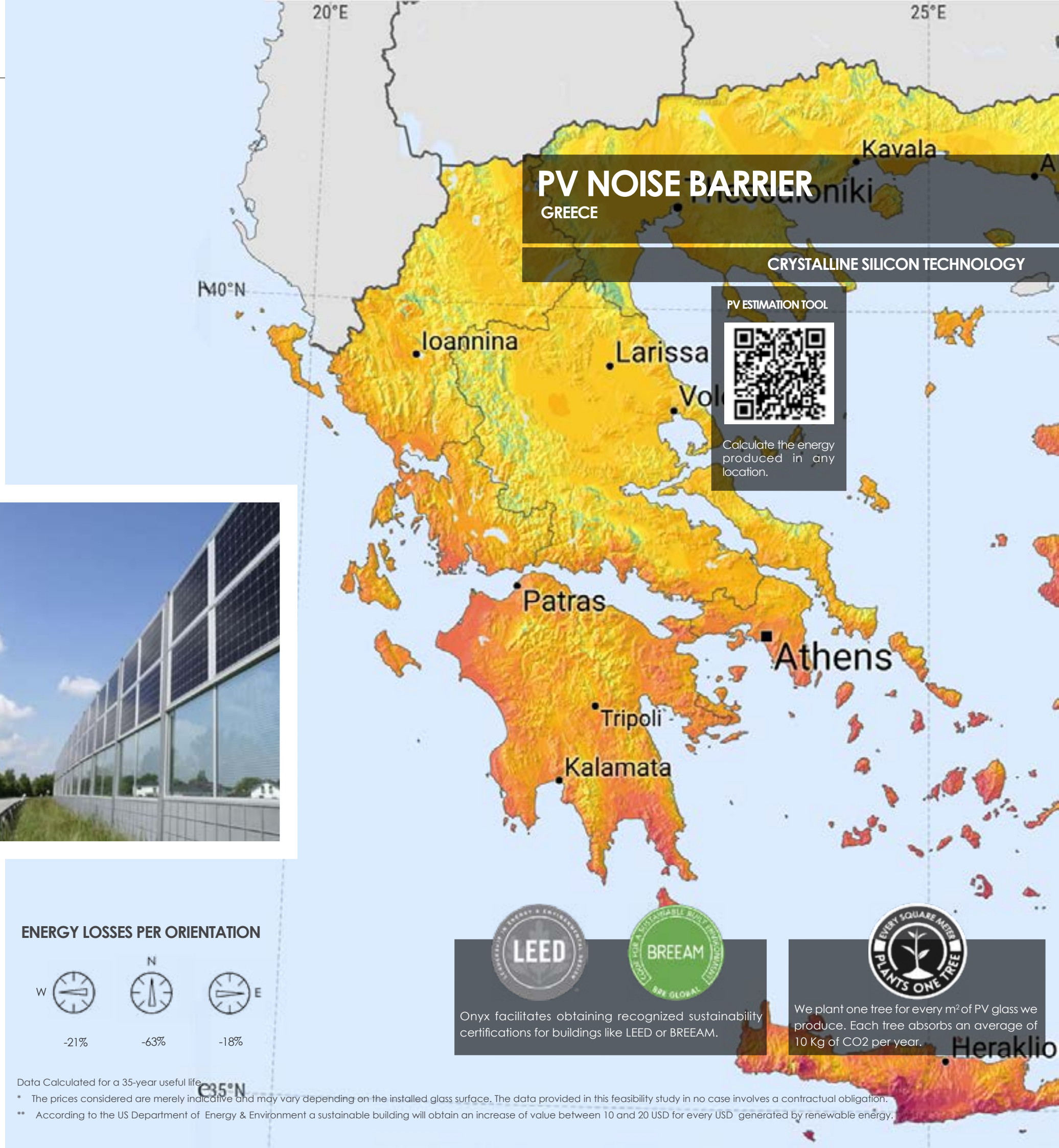
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GLOBAL EPD

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

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.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



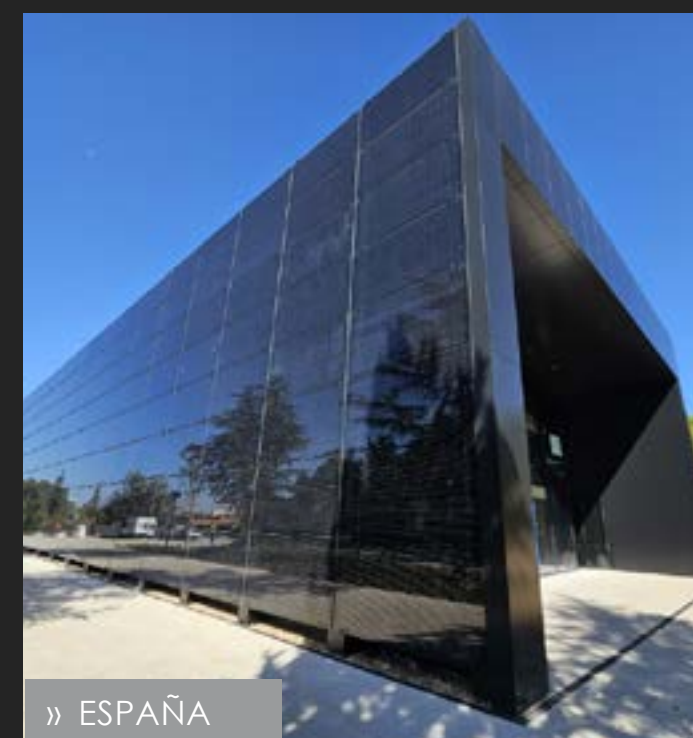
» NIGERIA



» PAÍSES BAJOS



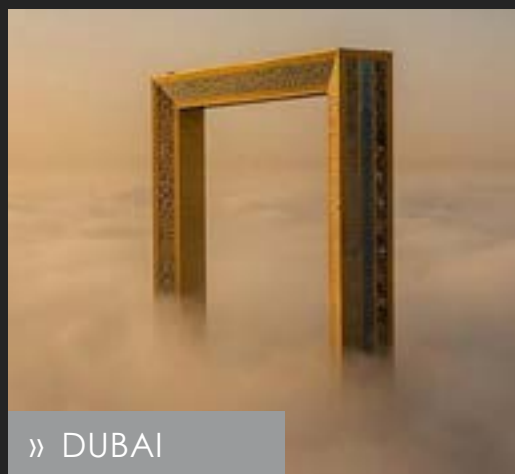
» EEUU



» ESPAÑA



» EEUU



» DUBAI



» DINAMARCA



» EEUU



» EEUU



» EEUU

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.



Scan this QR code to access our catalog.



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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.