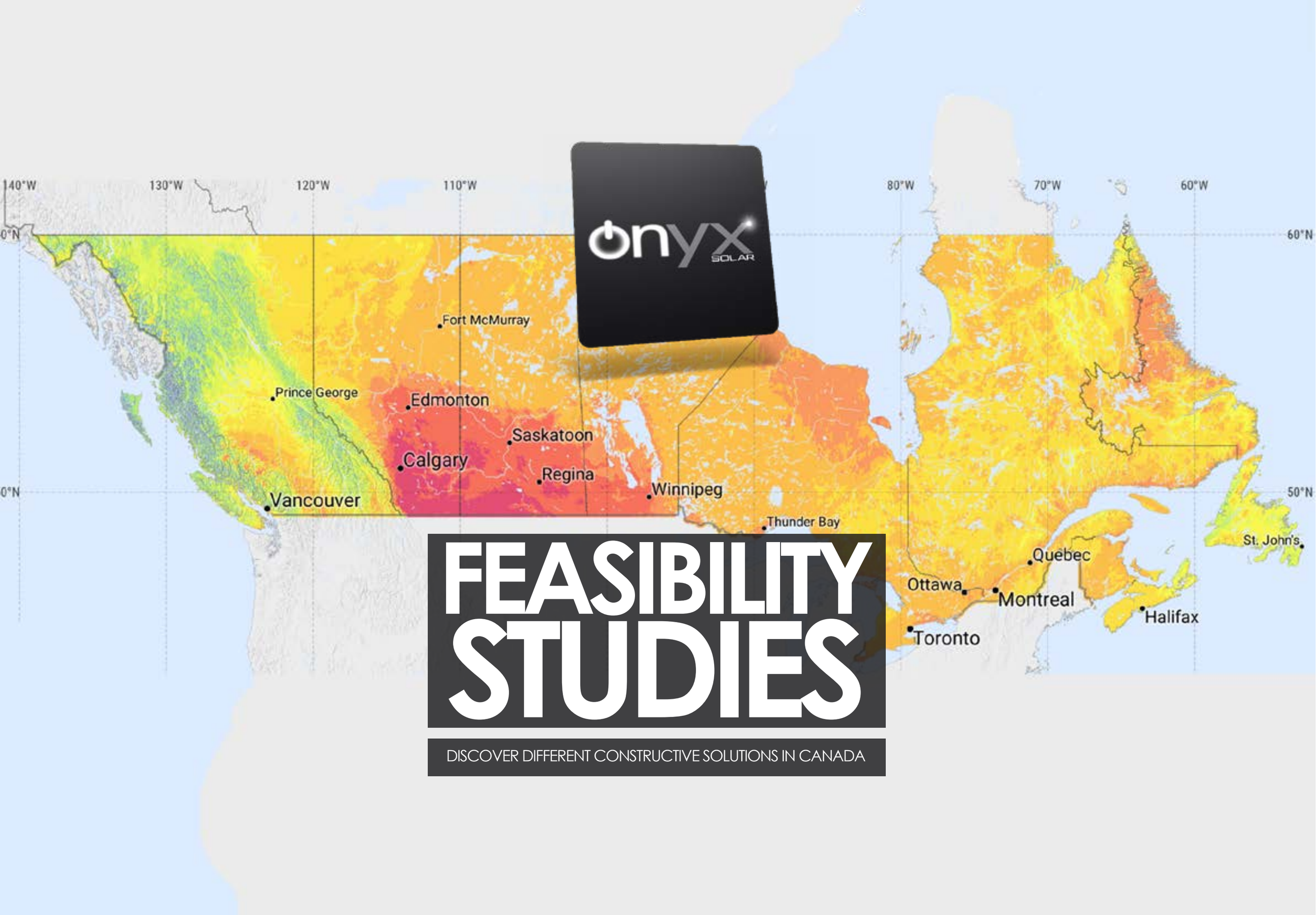


FEASIBILITY STUDIES

DISCOVER DIFFERENT CONSTRUCTIVE SOLUTIONS IN CANADA

FEASIBILITY STUDY EDMONTON

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 EDMONTON

Renewable energy	3.036 KWh per m²
Kg of CO_2 avoided	507 Kg per m²
Kilometres driven in an electric car	17.458 Km per m²
Light points fed	6 per m2/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	450 € per m²
Return on investment	6 times
Internal rate of return (IRR)	66,6 %
Payback time	1 year
Building's value increase**	222 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	2.428 KWh per m²
Payback time (Vancouver)	1,2 years
Renewable energy (Toronto)	3.005 KWh per m²
Payback time (Toronto)	1 year
Renewable energy (Montreal)	3.005 KWh per m²
Payback time (Montreal)	1 year

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

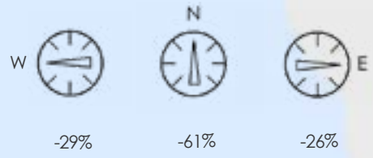
Orientation: S

PV FAÇADE / BALCONY

CANADA

CRYSTALLINE SILICON TECHNOLOGY

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 EDMONTON

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 EDMONTON

Renewable energy	3.940 KWh per m²
Kg of CO_2 avoided	660 Kg per m²
Kilometres driven in an electric car	22.660 Km per m²
Light points fed	7,75 per m²/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	583 € per m²
Return on investment	7,3 times
Internal rate of return (IRR)	73,60 %
Payback time	1 year
Building's value increase**	288 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	3.152 KWh per m²
Payback time (Vancouver)	1.2 years
Renewable energy (Toronto)	3.900 KWh per m²
Payback time (Toronto)	1 year
Renewable energy (Montreal)	3.900 KWh per m²
Payback time (Montreal)	1 year

DATA CONSIDERED FOR CALCULATIONS

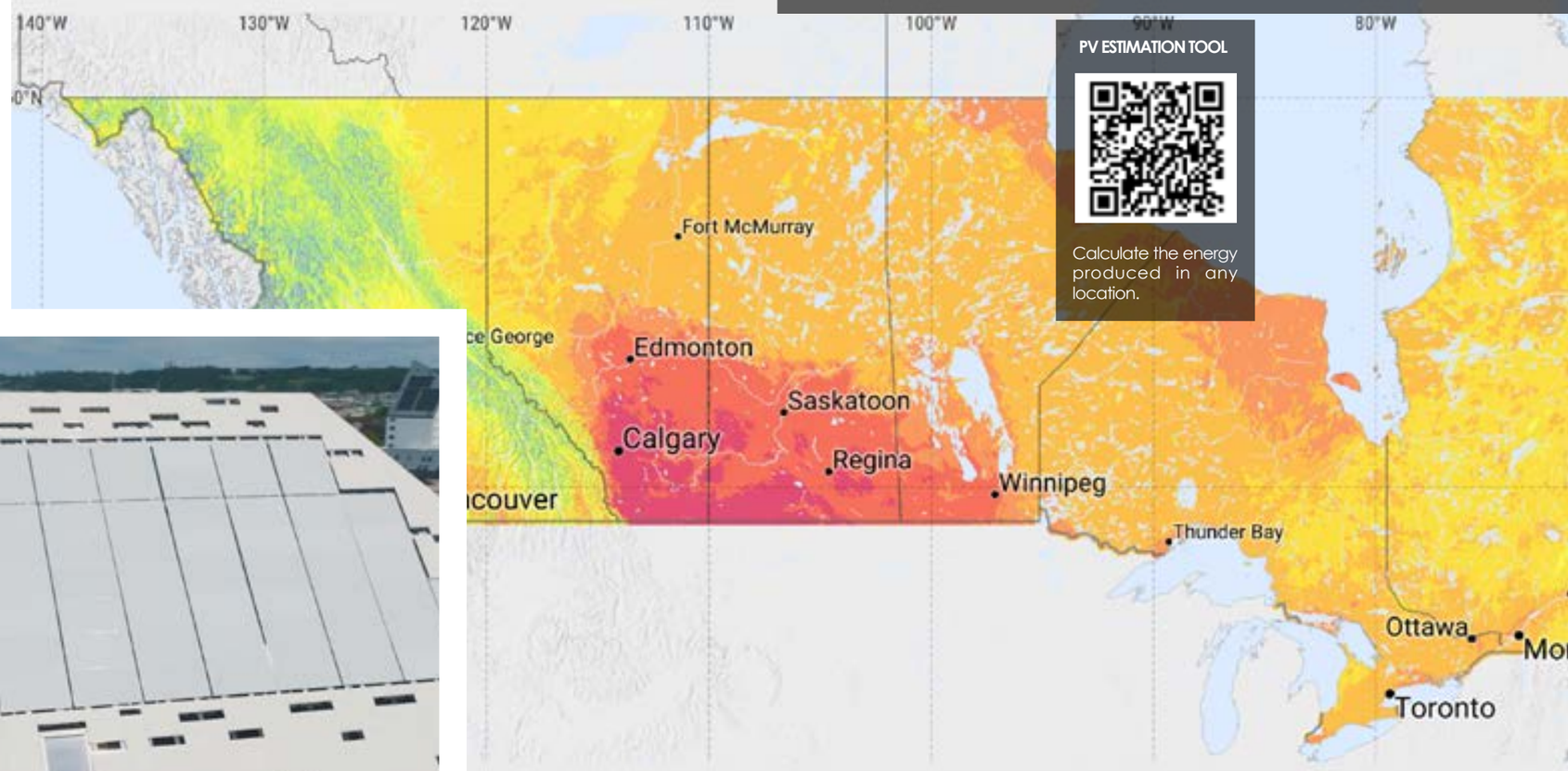
Tilt: 30°

Orientation: S

HIDDEN PV ROOF

CANADA

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 EDMONTON

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 EDMONTON

Renewable energy	4.968 KWh per m²
Kg of CO_2 avoided	830 Kg per m²
Kilometres driven in an electric car	28.578Km per m²
Light points fed	9,8 per m²/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	735 € per m²
Return on investment	714 times
Internal rate of return (IRR)	30 %
Payback time	2 years
Building's value increase**	363 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	3.974 KWh per m²
Payback time (Vancouver)	2,4 years
Renewable energy (Toronto)	4.918 KWh per m²
Payback time (Toronto)	2 years
Renewable energy (Montreal)	4.916 KWh per m²
Payback time (Montreal)	2 years

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

PV DOUBLE SKIN / SPANDREL

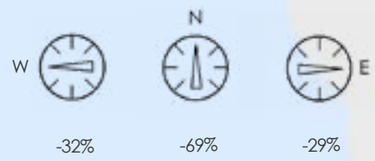
CANADA

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 EDMONTON

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 EDMONTON

Renewable energy	3.892 KWh per m²
Kg of CO_2 avoided	650 Kg per m²
Kilometres driven in an electric car	22.378 Km per m²
Light points fed	7,6 per m²/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	576€ per m²
Return on investment	3,16 times
Internal rate of return (IRR)	16,12 %
Payback time	5 years
Building's value increase**	284 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	3.970 KWh per m²
Payback time (Vancouver)	6 years
Renewable energy (Toronto)	3.810 KWh per m²
Payback time (Toronto)	5 years
Renewable energy (Montreal)	3.809 KWh per m²
Payback time (Montreal)	5 years

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

PV CURTAIN WALL

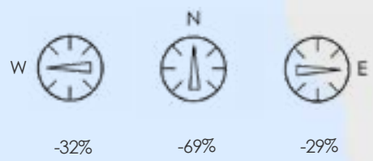
CANADA

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 EDMONTON

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 EDMONTON

Renewable energy	3.063 KWh per m²
Kg of CO_2 avoided	511 Kg per m²
Kilometres driven in an electric car	17.616 Km per m²
Light points fed	6 per m²/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	453 € per m²
Return on investment	3 times
Internal rate of return (IRR)	15 %
Payback time	6 years
Building's value increase**	224 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	2.453 KWh per m²
Payback time (Vancouver)	7.2 years
Renewable energy (Toronto)	2.999 KWh per m²
Payback time (Toronto)	6 years
Renewable energy (Montreal)	2.999 KWh per m²
Payback time (Montreal)	6 years

DATA CONSIDERED FOR CALCULATIONS

Tilt: 90°

Orientation: S

PV BALUSTRADE / BALCONY

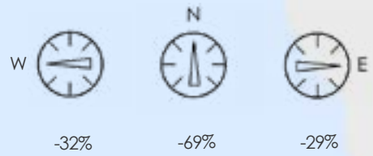
CANADA

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

ENERGY LOSSES PER ORIENTATION



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.

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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 EDMONTON

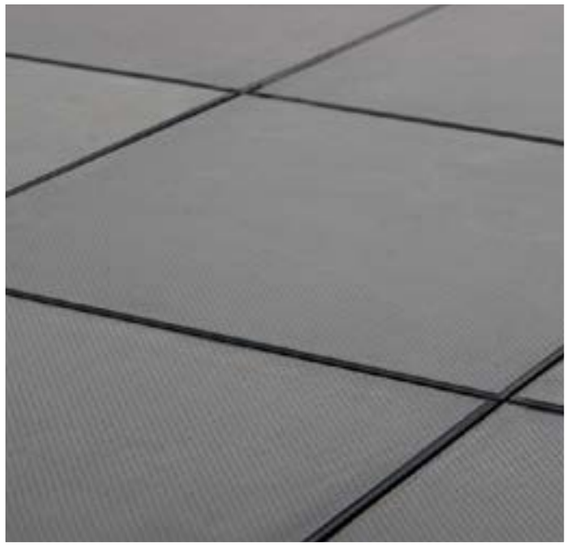
OPAQUE PV GLASS

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 EDMONTON

Renewable energy	3.862 KWh per m²
Kg of CO_2 avoided	645 Kg per m²
Kilometres driven in an electric car	22.207 Km per m²
Light points fed	7,6 per m²/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	571 € per m²
Return on investment	2,4 times
Internal rate of return (IRR)	9,80 %
Payback time	10 years
Building's value increase**	282 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	3.089 KWh per m²
Payback time (Vancouver)	12 years
Renewable energy (Toronto)	3.781 KWh per m²
Payback time (Toronto)	10 years
Renewable energy (Montreal)	3.779 KWh per m²
Payback time (Montreal)	10 years

DATA CONSIDERED FOR CALCULATIONS

Tilt: 0°

Orientation: S

WALKABLE PV FLOOR

CANADA

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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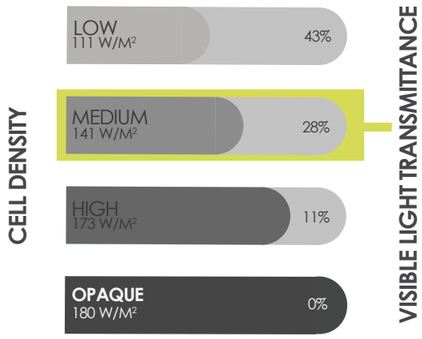
FEASIBILITY STUDY EDMONTON

MEDIUM CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS EDMONTON

Renewable energy	5.051 KWh per m²
Kg of CO_2 avoided	843 Kg per m²
Kilometres driven in an electric car	29.046 Km per m²
Light points fed	9,95 per m²/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	747 € per m²
Return on investment	5,1 times
Internal rate of return (IRR)	32,53%
Payback time	2 years
Building's value increase**	369 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	4.040 KWh per m²
Payback time (Vancouver)	2,4 years
Renewable energy (Toronto)	4.951 KWh per m²
Payback time (Toronto)	2 years
Renewable energy (Montreal)	4.950 KWh per m²
Payback time (Montreal)	2 years

DATA CONSIDERED FOR CALCULATIONS

PV SKYLIGHT

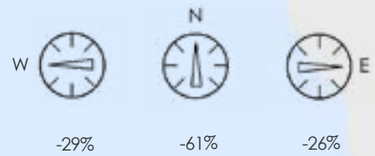
CANADA

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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** 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 EDMONTON

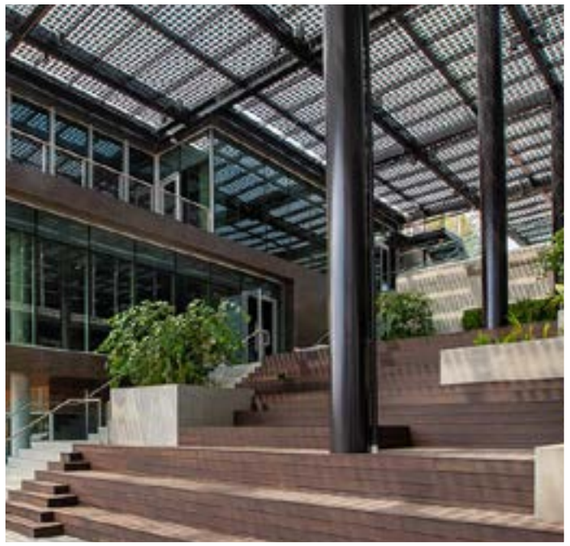
HIGH CELL DENSITY

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 EDMONTON

Renewable energy	4.738 KWh per m²
Kg of CO_2 avoided	791 Kg per m²
Kilometres driven in an electric car	27.247 Km per m²
Light points fed	9,31 per m²/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	701 € per m²
Return on investment	4,5 times
Internal rate of return (IRR)	29,7 %
Payback time	2 years
Building's value increase**	346 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	3.790 KWh per m²
Payback time (Vancouver)	2,4 years
Renewable energy (Toronto)	4.645 KWh per m²
Payback time (Toronto)	2,4 years
Renewable energy (Montreal)	4.643 KWh per m²
Payback time (Montreal)	2,4 years

DATA CONSIDERED FOR CALCULATIONS

Tilt: 0°

Orientation: S

PV CANOPY

CANADA

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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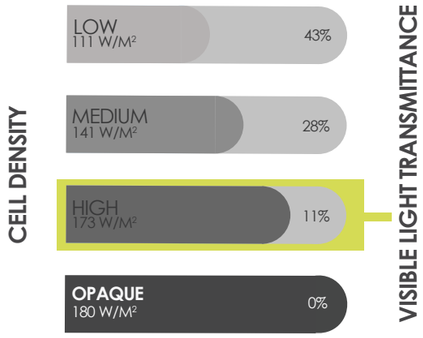
FEASIBILITY STUDY EDMONTON

HIGH CELL DENSITY PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS EDMONTON

Renewable energy	6.197 KWh per m²
Kg of CO_2 avoided	1.035 Kg per m²
Kilometres driven in an electric car	35.638 Km per m²
Light points fed	12,18 per m²/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	917 € per m²
Return on investment	5,6 times
Internal rate of return (IRR)	35,35 %
Payback time	1 year
Building's value increase**	453 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	4.960 KWh per m²
Payback time (Vancouver)	1,2 years
Renewable energy (Toronto)	6.081 KWh per m²
Payback time (Toronto)	1 year
Renewable energy (Montreal)	6.078 KWh per m²
Payback time (Montreal)	1 year

DATA CONSIDERED FOR CALCULATIONS

Tilt: 40°

Orientation: S

PV BRISE SOLEIL

CANADA

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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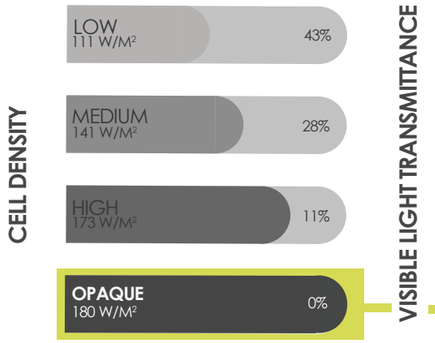
FEASIBILITY STUDY EDMONTON

OPAQUE PV GLASS



CHARACTERISTICS OF THE GLASS

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

ENVIRONMENTAL BENEFITS EDMONTON

Renewable energy	4.968 KWh per m²
Kg of CO_2 avoided	830 Kg per m²
Kilometres driven in an electric car	28.568 Km per m²
Light points fed	9,75 per m²/day

ECONOMIC BENEFITS EDMONTON*

Value of the renewable energy	735 € per m²
Return on investment	4,2 times
Internal rate of return (IRR)	26,6 %
Payback time	2 years
Building's value increase**	363 € per m²

RESULTS IN OTHER LOCATIONS OF CANADA

Renewable energy (Vancouver)	3.974 KWh per m²
Payback time (Vancouver)	2.4 years
Renewable energy (Toronto)	4.904 KWh per m²
Payback time (Toronto)	2 years
Renewable energy (Montreal)	4.902 KWh per m²
Payback time (Montreal)	2 years

DATA CONSIDERED FOR CALCULATIONS

PV NOISE BARRIER

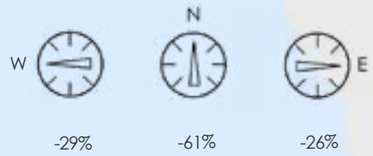
CANADA

CRYSTALLINE SILICON TECHNOLOGY

PV ESTIMATION TOOL

Calculate the energy produced in any location.

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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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

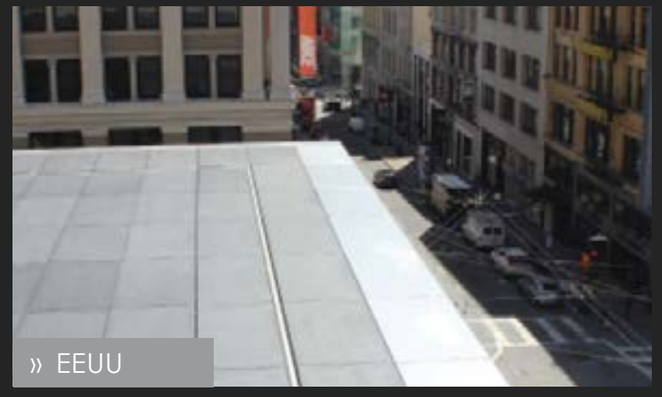
» EEUU

» ESPAÑA

» EEUU

» DUBAI

» DINAMARCA



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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_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.

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