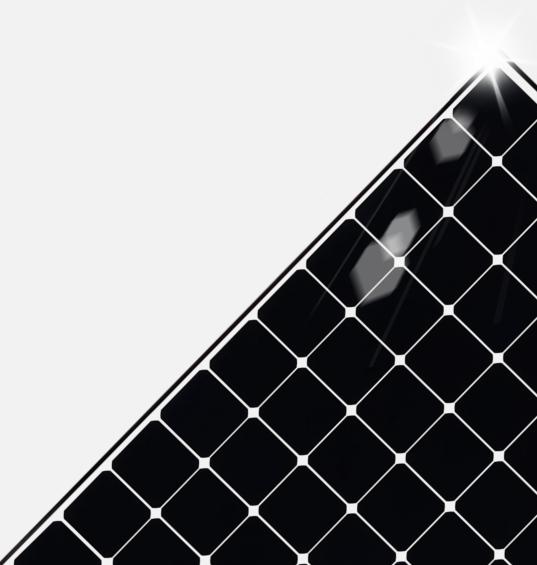


LG Solar 2020



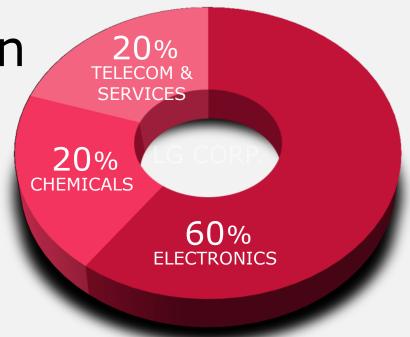
LG Group

Holding Structure

USD 142 Billion

REVENUE (KRW 160 Trillion)

70 COMPANIES



ELECTRONICS 15

- -LG Electronics
- -LG Display
- -LG Innotek

CHEMICALS 26

- -LG Chem
- LG Household & Health Care

TELECOM 29 & SERVICES

- LG U+ - LG CNS

LG Electronics: business overview

LG Electronics provides clean and efficient energy to customers through 'Energy solution' business.



LG Electronics

FACTS & FIGURES

125 Global Operations

77.000

Workforce

111 Subsidiaries

> **14** Branch Offices

61.4 Billion USD Sales

Design Center

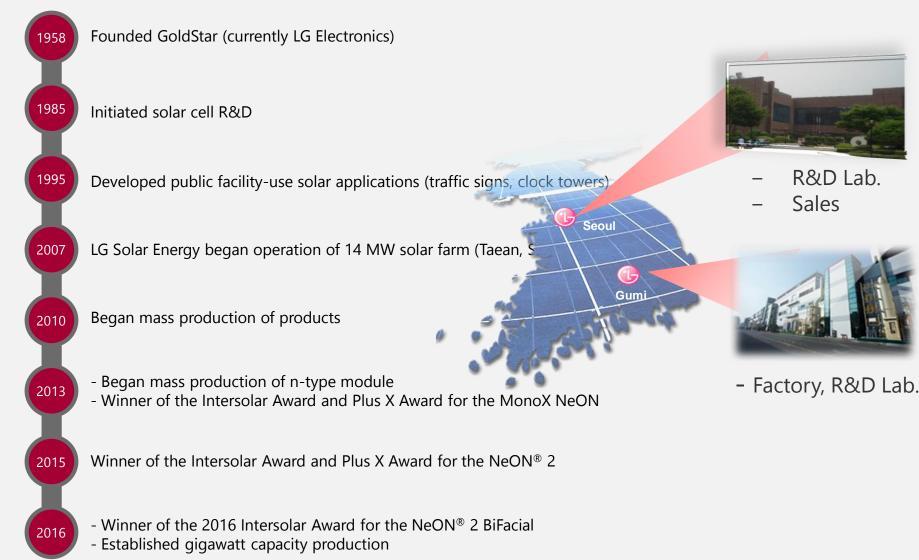
6



LG Solar

History of LG Solar

LG Electronics has been working for more than 70 years, and focused on Solar business for 30 years.



History of LG Solar

LG Electronics has been recognized by world's authoritative institutions for its quality.

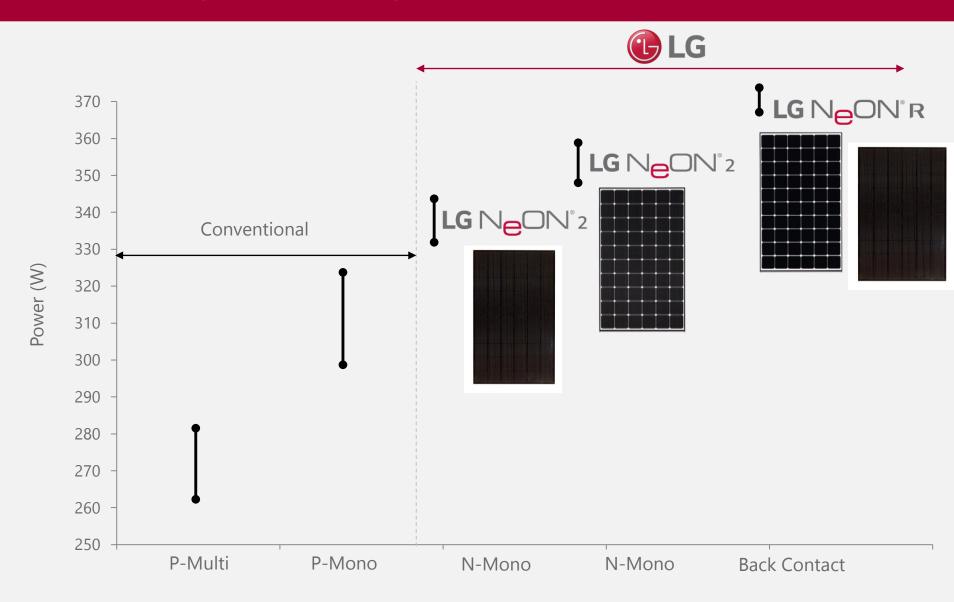


History of LG Solar



LG Solar

2020 LG Solar product Line-up (60cell based)



2020 LG Solar product Line-up







LG N_eON° 2 BiFacial

- 355 Wp

- Black frame
- Nice look (CELLO)
- Ideal to increase kWh/m²
- 340 Wp
- Full black
- Nice look (CELLO)
- Ideal to increase kWh/m²
- 405 Wp (front only)
- 72 cells
- Ideal for commercial greenfield systems
- 375 Wp
 - Black frame
 - No electrodes on front cells
 - LG's "BEST"

-360 Wp

- Black frame

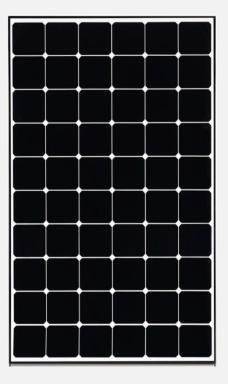
PRIME

- No electrodes on front cells



Product introduction

- LG NeON[®] R is new powerful product with global top level performance.
- It features enhanced warranty, durability, performance under real environment.



(Preliminary)	
LG N _e ON° r	
60	
365 ~ 375	
20.9 ~ 21.7	

[Key feature]



- High power luxury module.
- Maximize system volume on limited roof-top



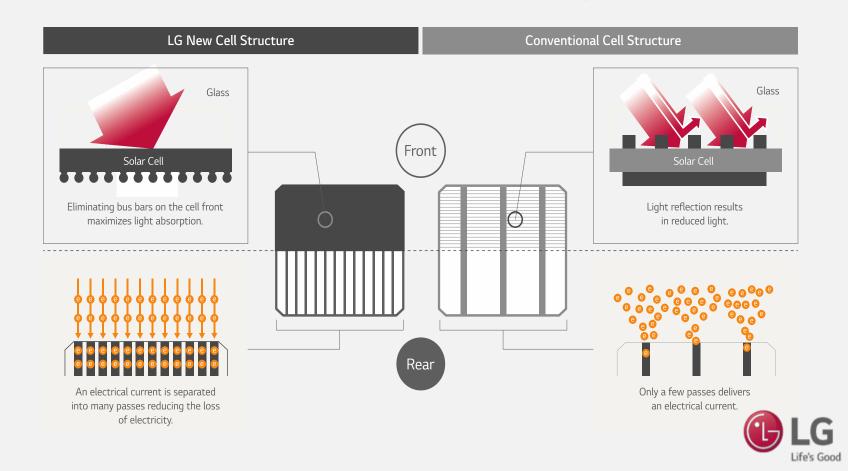
• Better performance on a hot sunny day



• True black with no metal on the cell front

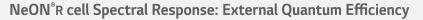
NeON R technology

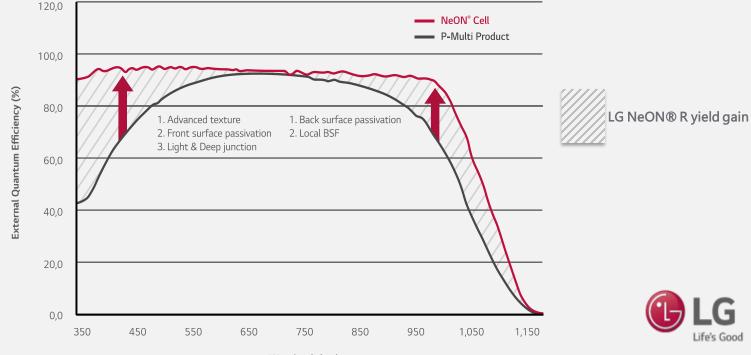
SPECIAL FEATURES OF LG NeON[®]_R: No losses from contacts on the front. Every photon is used.



NeON R Special Features

NeON[®] R modules produce more electricity than "normal" modules even when the sun does not shine so brightly (e.g. cloudy day, morning or afternoon).

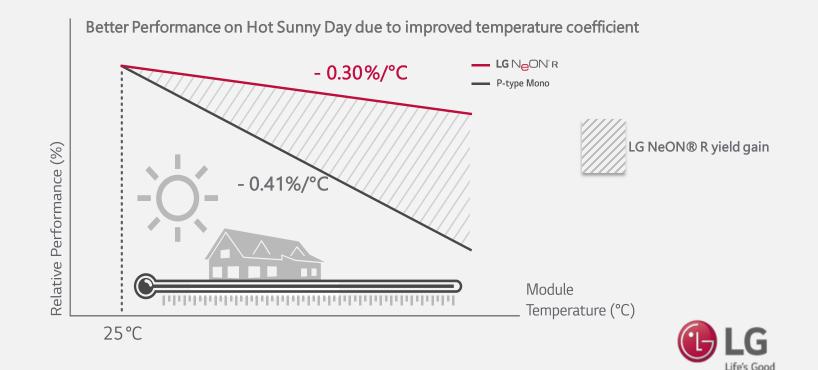




Wavelegth (nm)

NeON R Special Features

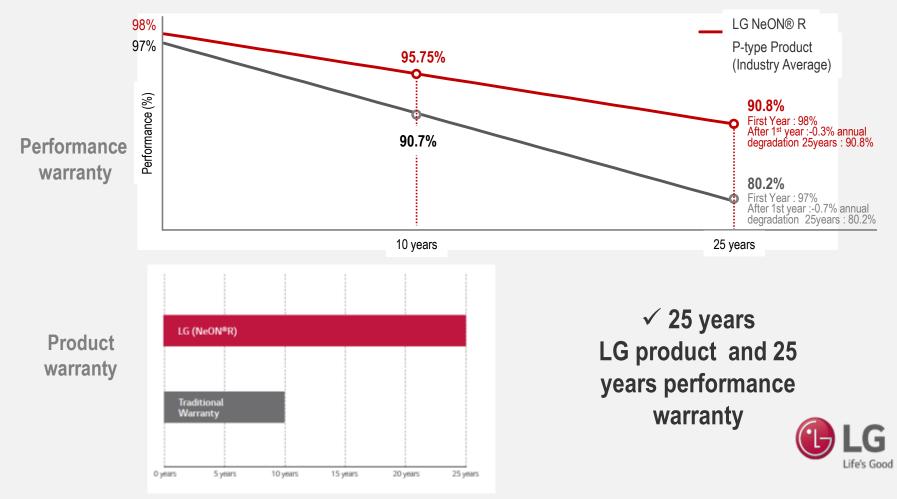
In contrast to "normal" modules, NeON[®] R modules deliver more electricity even at high temperatures.



NeON® R

NeON R Special Features

NeON[®] R modules have significantly better warranties than "normal" modules.



NeON R Special Features

NeON® R modules not only generate more energy they are also extremely resilient.

SNOW LOAD

5,400Pa front load (represents snow height of more than 1,8 meters)



WIND LOAD

5,400Pa (represents wind speed of up to 93 m/s)



Required standard:

LG NeON[®]R:

Snow load: Snow load:

2,400 PascalWind load: 2,400 Pascal5,400 Pascal (represents snow height of more than 1,8 meters)Wind load: 5,400 Pascal (represents wind speed of up to 93 m/s)





NeON R Special Features

With LG NeON[®] R modules, you can generate much more electricity on your roof.



Life's Good

The power (module efficiency) of NeON[®]R reaches 370 W (21.4 %). NeON[®]R is the right solution for home owners who want to get more electricity within a limited roof space.

Product introduction

$LG N_{e}ON^{\circ} 2 | LG N_{e}ON^{\circ} 2Black$

- LG NeON[®] 2 generates high energy, and makes it suitable for a wide range of application.
- 2015 Intersolar AWARD Winner •



*This material is for use in LG Electronics' internal only. Use of this material for any other purpose is strictly prohibit.

[Technical Data]

		LG N _C ON [°] 2 Black
# of cell	60	60
Power(W)	350 ~ 355	325 ~ 340
Efficiency(%)	20 ~ 20.3.	19.1 ~ 19.6

[Key feature]

- High generation performance



• Better performance on a hot sunny day



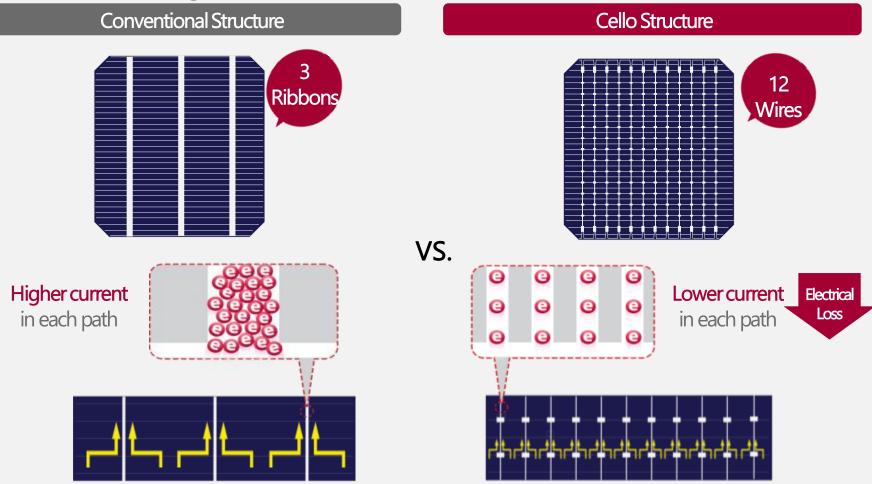
- N type cell for minimizing initial power decline



• More power and less loss with Cello Technology

Cello* technology

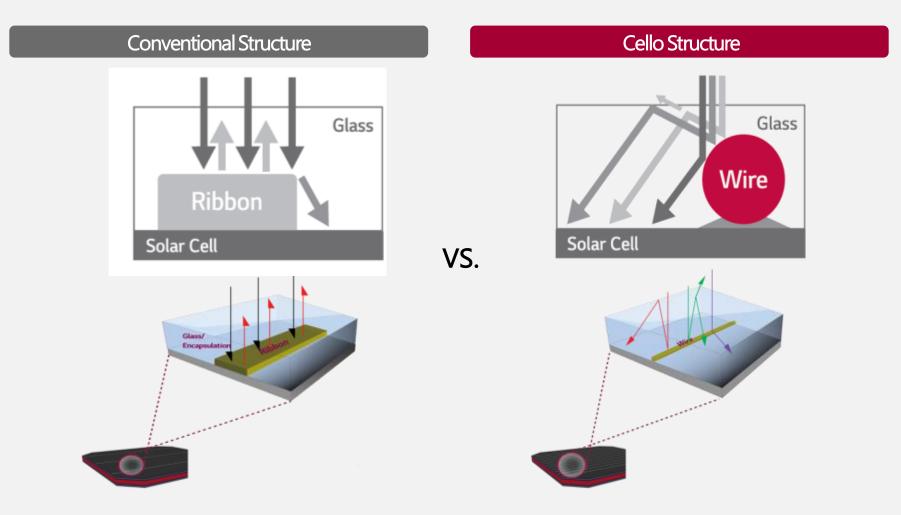
The Cello technology reduces the electrical loss by spreading the current of 3 ribbons to each of 12 wires, designed to reduce electrical resistance.



* Cello : Cell connection with electrically low loss, low stress and optical Absorption enhancement

Cello* technology

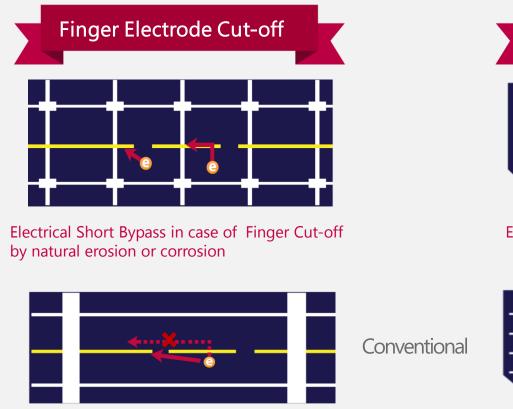
The Cello technology facilitate harvesting of the light by scattering the light hitting on the wire in various angles.

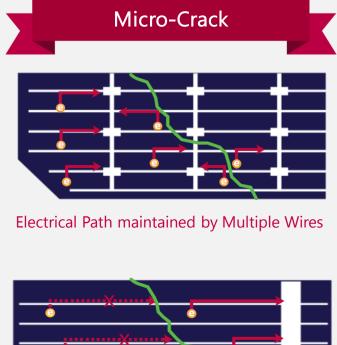


* Cello : Cell connection with electrically low loss, low stress and optical Absorption enhancement

Cello technology

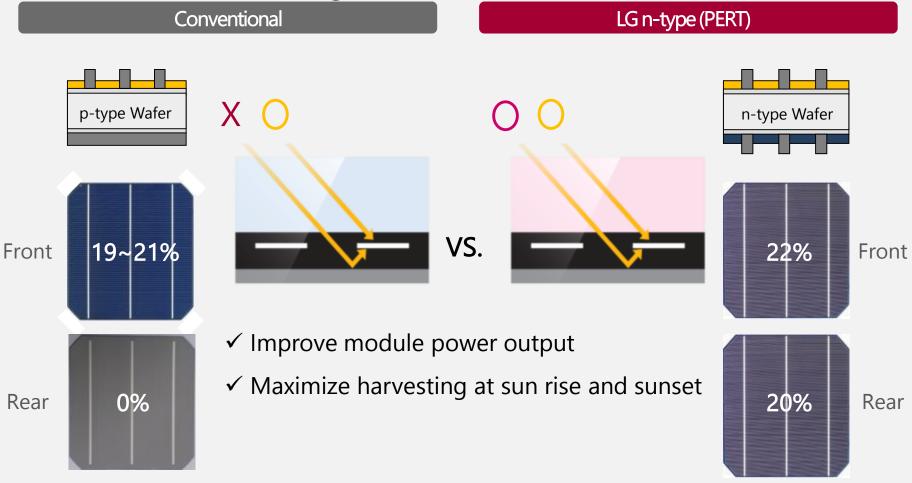
NeON2 is designed for stable long-term operation. Cello Technology can mitigate the power generation loss even if finger cut-off or micro-crack occur naturally.





n-type technology

Compared to the conventional module, LG n-type module generates more power due to the utilization of the reflected light from the back side of the module.

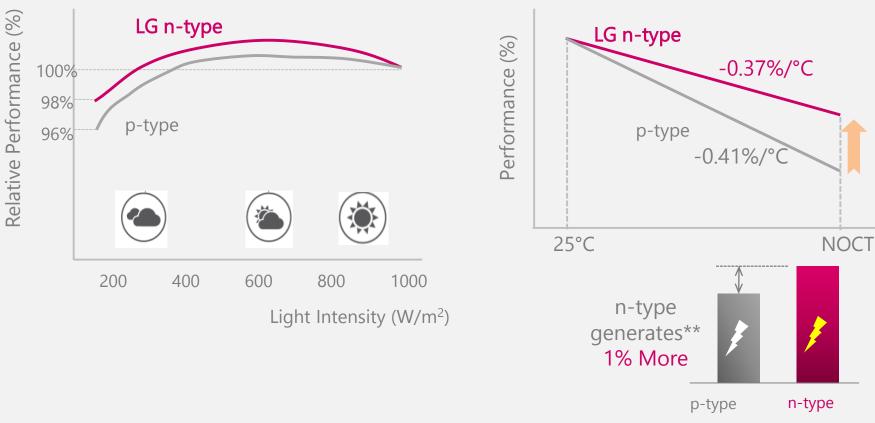


n-type technology

LG n-type generates more power on both of cloudy and sunny day.

Low illumination condition

LG n-type generate more power compared to p-type module at low illumination condition.



* Nominal Operating Cell Temperature, ** Base on PV Syst simulation (Sunny

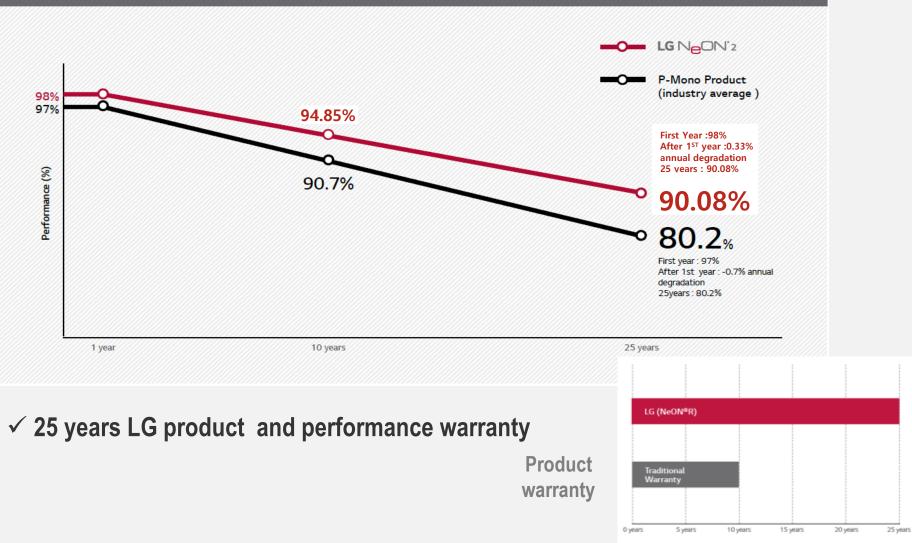
NOCT*

LG n-type generate more power compared to

p-type module on a sunny day.

Enhanced Product and Performance Warranty

LG NeON°2



Introduction

LG N_eON[®] 2 BiFacial

- LG NeON[®] 2 BiFacial generates electricity on both sides at the same time.
- By both side generation, it can achieve up to 30% more energy than standard PV module.



[echnical Data]	
	(Preliminary)
# of cell	72
Power(W)	390~ 395
Efficiency(%)	18.5 ~ 18.8

[Key feature]



- Double sided generation
- More energy up to 30%



BOS saving with additional generation

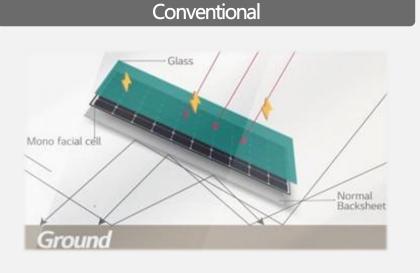


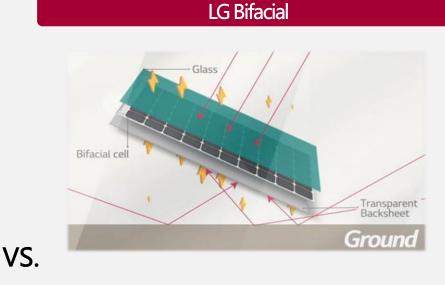
• Able to generate power with snow cover

Bifacial technology

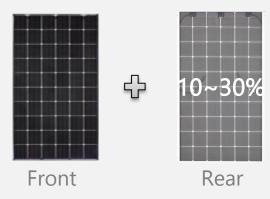
Advantages

Bifacial module presents higher production power due to the additional generation at the rear side.









Application

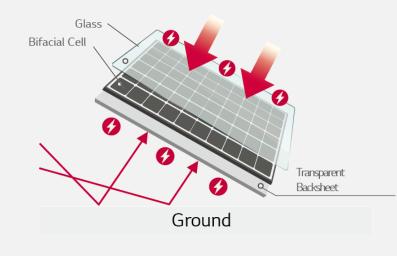
Bifacial technology

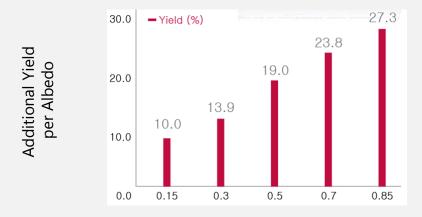
Bifacial module has advantages for the installation at the limited space.

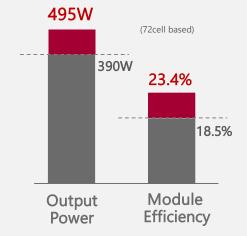


Additional yield with bifacial effect









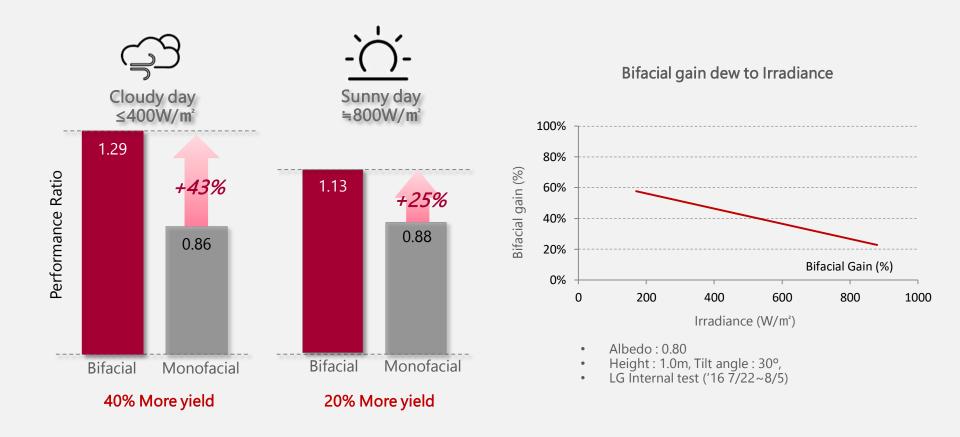
More energy up to 27%!

Base on LG internal Simulation Program

Condition: Ground reflection rate (white color) 0.85, Module height : 1.0m, Tilt angle : 30°

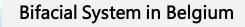
Additional yield with bifacial effect

Backside Performance under low irradiance



Introduction | Features

Real case benefit



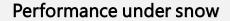
View from rear-side

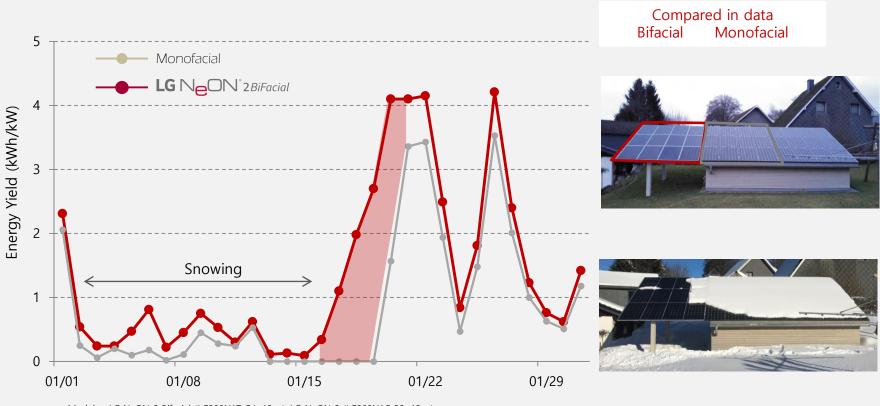
Bifacial System in Belgium

View from front-side

CONFIDENTIAL / VERTRAULICH

Additional yield with bifacial effect





Module : LG NeON 2 Bifacial (LG300N1T-G4, 12ea), LG NeON 2 (LG300N1C-B3, 12ea), Inverter : SMA SB3000TL Location : Nidrum, Belgium, Customer site Albedo = 20% (Glass) Height : 1.2m

Field Test

Field Test Result



- 1. Testbed information
- Location : Gumi city, Korea
- 2. Installation information
- Module : LG NeON 2 Bifacial 2ea, LG NeON 2 2ea
- Inverter : Ontest Capturestar (Module level IV tracer)
- Single Axis Tracker
- Albedo = 79% (White membrane)
- Installation completion date : 2017. 01
- 3. Bifacial Gain : 20.7%

Module Summary

Benefits from using LG NeON2 Modules



- Safe warranties from LG Electronics Inc
 => 61 bn. USD annual sales & more than 50 year history
- 2. Linear power warranty => min. 90.08 % after 25 years
- 3. Product warranty => 25 years
- 4. High module efficiency (60 cells):
 => 355 Wp (NeON2) / 340 Wp (NeON2 Black)
- 5. Excellent aesthetics=> LG CELLO cell technology (12 fine wires)

Module Summary

Benefits from using LG NeON R Modules



- Safe warranties from LG Electronics Inc
 => 61 bn. USD annual sales & more than 50 year history
- 2. Linear power warranty=> min. 90.8% after 25 years
- 3. Product warranty => 25 years
- 4. High module efficiency (60 cells): => 370/375 Wp
- 5. Excellent aesthetics => LG Back contact cells



Influence

The Decision Making is by Influence of the Installer.

Residential Segment



Installer: 90% influence on module decision

Lets be crystal this can be influenced with Marketing. Downside = Cost!

When was the last time you spent more on Quality and regretted it!!

End customer:

10% influence on module decision

The Key Advantages of LG Solar



The Key Advantages of LG Solar

01 FINANCIAL STRENGTH | REAL WARRANTIES FROM THE GLOBAL PLAYER LG ELECTRONICS 02 INNOVATION | LG ESTABLISHES NEW STANDARDS 03 DESIGN | LIKE OUR TV'S, WE PAY IMPORTANCE TO AESTHETIC DESIGN 04 QUALITY | LG TESTS FAR ABOVE REQUIREMENTS, FOR YOUR LONG-TERM RELIABLE PV SYSTEM 05 TOP PERFORMANCE | GET THE MAXIMUM POWER FROM YOUR ROOF 06 REGIONAL PROXIMITY | LG IS CLOSE TO YOU, WHEN YOU NEED US 07 WHY CHOOSE LG | SO MUCH MORE VALUE FOR SO LITTLE MONEY 08 REFERENCES | THIS IS HOW BEAUTIFUL YOUR ROOF COULD LOOK WITH LG SOLAR PRODUCTS

YOUR BENEFITS WITH LG AT A GLANCE

01 FINANCIAL STRENGTH | REAL WARRANTIES FROM THE GLOBAL PLAYER LG ELECTRONICS

GOOD TO KNOW:

Only companies with a strong and solid financial background are in the position to survive in harsh competitive conditions.

LG'S STRENGTHS:

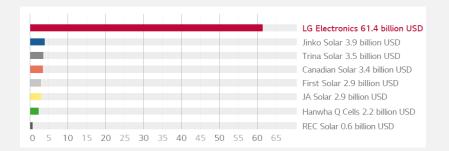
LG Solar's module warranties are backed up by LG Electronics (Korea), which has an annual turnover of bn USD 61,4

Founded in 1958, LG Electronics has become a global leader in many Industries

YOUR BENEFITS:

- + Highly reliable warranties of 25 years from LG Electronics
- + LG Electronics will be available to support you
- + Selling LG solar systems also means selling trust and reliability

THE GUARANTOR'S TURNOVER, IN BILLIONS OF USD



Solar companies which have stopped producing PV panels (c-Si) or went insolvent:

Bosch | Sovello | Schüco | Solon | REC Wafer | SpectraWatt | SolarWorld | Sunways | Solyndra | Siliken | Schott Solar | Solarwatt | BP | Shell | Siemens ...



02 INNOVATION | LG ESTABLISHES NEW STANDARDS

GOOD TO KNOW:

An investment in a PV system is a lifetime decisi on. That's why it's all about buying solar module s that are robust and have state-of-the-art techn ology.

LG'S STRENGTHS:

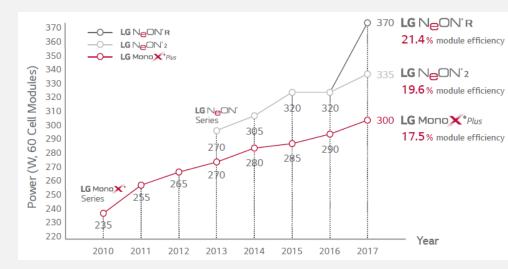
 – 25 % of the LG Solar workforce is employed in research and development

LG Solar uses the knowhow and expertise of it's other businesses (semi conductor, storage, ...) t
 o develop industry-leading solar modules

YOUR BENEFITS:

+ State-of-the-art technology is used for LG sola r modules

+ LG continuously invests in technological devel opments to remain an industry



2018 -**LG** Ne^O [°] ² 390W Bifacial

03 DESIGN | LIKE OUR TV'S, WE PAY IMPORTANCE TO AESTHETIC DESIGN

• GOOD TO KNOW:

- Beauty on the outside. It's important for owners that their homes aren't turned into eyesores. Solar modules should be unobtrusive in design and fit the roofing type.
- LG'S STRENGTHS:
- – Use of black module frames and black back sheet
- – Supply of A-quality modules only with accurate frames and cables
- Careful selection of partners to ensure technical and aesthetic system quality
- YOUR BENEFITS:
- + Your solar power system combines high quality with timeless design
- + The black modules integrate with the appearance of your



04 QUALITY | LG TESTS FAR ABOVE REQUIREMENTS, FOR YOUR LONG-TERM RELIABLE PV SYSTEM

GOOD TO KNOW:

Long live solar power. Buying a solar system is a long-term investment.

Quality, reliability and durability are the key decision factors.

LG'S STRENGTHS:

- Multiple winner of the Intersolar Award
- Awarded several times with the Plus X Award for High Quality
- LG's test lab is fully TÜV and UL certified
- Exceeds IEC standard requirements by far
- LG solar modules are 100 % EL tested electroluminis cene test)

– LG cells generate more energy by absorbing a wider light spectrum

YOUR BENEFITS:

+ No risk of PID, hotspots, etc.

+ Each module has been extensively tested before delivery

- + Modules are produced by LG (no 3rd party OEM mo dules)
- + Maximum performance and energy yield

Results of field test Bremen University

TWICE AS HARD AS REQUIRED





05 TOP PERFORMANCE | GET THE MAXIMUM POWER FROM YOUR ROOF

- GOOD TO KNOW:
- Maximum performance. The available roof are a is often limited and the electricity requirements of the future increase with e-cars or heat pumps. LG high-performance modules help you to get the most out of your roof and be well prepared for the future.
- Use leading technology and choose the right solar modules for the next 25 years (or more).
- LG'S STRENGTHS:
- – Our newly-developed LG NeON[™] R range is a pioneer in the solar industry
- - LG starts where others stop
- YOUR BENEFITS:
- + You can offer maximum power, even on the smallest roof
- + Reduced installation costs fewer modules are needed and this helps to save installation materials and time



LG Starts Where Others Stop

05 TOP PERFORMANCE | GET THE MAXIMUM POWER FROM YOUR ROOF

GOOD TO KNOW:

The future energy requirements for a single-family home will certainly exceed 10,000 kWh. LG NeON® R is the ideal solution for homeowners that want to maximise their investment with limited space available on the roof.

YOUR BENEFITS:

+ You can offer maximum power, even on the smallest roof

+ Reduced installation costs – fewer modules are needed and this

helps to save installation materials and time



Estimated electricity per year: 8,000 kWh (7.4 kWp * 1.1 (kWh/kWp) Capacity of solar power system with 20 modules (60 cells per module)

Annual power consumption for a 4-person family: 5,000 kWh

Heat pump: 3,000 kWh* Electric car: 2,400 kWh** Air conditioning: 800 kWh***

* Based on a 4–6 kW heat pump

*** 2 kW air conditioning unit/8 hours per day/approx. 50 days use per

year

^{**} Based on 12,000 km/p.a.

06 REGIONAL PROXIMITY | LG IS CLOSE TO YOU, WHEN YOU NEED US

GOOD TO KNOW:

- Speaking the language of our customers, when buying a solar system, it's important LG has contact persons who can answer all questions competently, quickly and easily.
- On-site customer service is a huge advantage.

LG'S STRENGTHS:

- All modules in Europe are sold via LG Electronics Germany according to German law

– LG has been incorporated in Germany since 1976

 At LG Electronics, approx. 300 employees (30 are responsible for the direct service) contribute for best customer service

– The court of jurisdiction is Frankfurt, the warehouse is located in the Netherlands

YOUR BENEFITS:

- + Local contact persons, who can advise you in your language
- + Competent service also after purchasing a solar system
- + High legal certainty, since court jurisdiction is in Germany



07 WHY CHOOSE LG | SO MUCH MORE VALUE FOR SO LITTLE MONEY

- SUSTAINABILITY REQUIRES TOP QUALITY
- Choosing a solar system is literally a once-in-a-lifetime decision. So it's important to choose quality. Think carefully before buying solar modules just because they are cheap.
- A GOOD DECISION FOR LIFE
- LG solar modules are a very good choice. They have a timeless, contemporary design and will provide you with clean energy at a reasonable price. Moreover, you will benefit from better quality compared to conventional modules.
- For a 5 kWp system the difference in price, compared to cheap solar modules, generally is no more than € 720. That's merely an additional € 2.4 per month throughout the warranty period the price of an espresso.
- LG's outstanding quality is appreciated by installers across Europe. Having been
- recommended more than other brands, LG solar modules have received the
- Top Brand PV award multiple times.



07 WHY CHOOSE LG | SO MUCH MORE VALUE FOR SO LITTLE MONEY

Top quality for less

- Additional investment compared to cheap conventional modules = max. 840 €
- Calculated over the guarantee period of 25 years
 = 2,80 € per month

That's the cost of an Cappuccino*



* Simplified calculation: Based upon: LG modules price above the average price for conventional modules (black frame, same module power, same quality).
21 ct/Wp * 4 kWp = €840/25 years/12 months = €2.80 per month.

08 REFERENCES | THIS IS HOW BEAUTIFUL YOUR ROOF COULD LOOK WITH LG SOLAR PRODUCTS

GOOD TO KNOW:

LG modules can be used for all PV applications: residential, commercial and utility.

LG'S STRENGTHS:

- + Reliable partner with many years of experience
- + Warranties from the global company LG Electronics
- + Outstanding and proven quality
- + Timeless and aesthetic design
- + Top performance and regional proximity





WANGERLAND | GERMANY

System size 6,3 kWp Solar module LG NeON

6,3 kWp System size LG NeON 2[®] black Solar module

2,343 MWp LG MonoX[®] 2



STADIUM FC UTRECHT | NETHERLANDS

System size

Solar module

1,096 MWp LG NeON 2® System size Solar module

MÜNCHEBERG | GERMANY

5,2 kWp LG MonoX® black

Yield analysis (3 projects in France)

In reality, LG solar deliver more yield advantage by higher output power than nameplate power - Max 7% yield advantage (nominal condition), max 4.3% yield advantage (flash condition)

	Project name	Project BELIN		Project	Project Dumas		Project Thevin	
	Module	LG	Comp B	LG	Comp A	LG	Comp B	
	Nominal power (W)	300	300	300	300	300	300	
System info.	Module Qty	338	330	338	330	338	330	
	Produced energy (kWh)	76,780	70,055	73,448	68,315	66,832	62,591	
	System capacity (kWp)	101.4	99.0	101.4	99.0	101.4	99.0	
Nominal power Calculation	Yield (kWh/kWp)	757	708	724	690	659	632	
	Yield advantage (%)	7.0% more yield		5.0% more yield		4.2% more yield		
	System capacity (kWp)	104.7	99.6	104.6	99.5	103.2	99.9	
Flashed power Calculation	Flash to nominal Yield (kWh/kWp)	3.2% 734	<mark>0.6%</mark> 703	3.1% 702	<mark>0.5%</mark> 687	1.8% 647	<mark>0.9%</mark> 627	
	Yield advantage (%)	4.3% more yield		2.3% more yield		3.3% more yield		

Data Period : 2017.3.24~ 08.15.

Module Plans for 2020 and 2021

Electronics Industry Mindset

• All of the current Range increase in power class during 2020

Current Range increase in power class during the year

- Introduce a New Module in 2021
- Introduce Single phase ESS+Stoarge in 2021..

Ask about becoming an LG PRO Installer







Content LG PRO Solar Partner Program 2020

- 1. User rights for LG PRO Solar logo
- 2. LG Solar showroom , Local trade show & event support
- 3. Direct LG Solar marketing material supply
- 4. Sales support (i.e. mini-modules, sales documentation
- 5. First-hand information of the LG Solar sales team
- 6. LG PRO Solar newsletter exclusively for our partners
- 7. RMA flat fee
- 8. Event once a year
- 9. LG Pro Portal for Marketing Material.
- 10. Forwarding of prequalified leads
- 11. Video of Installation
- 12. Visits to Korea

Picture of our LG PRO Event in London









LG Life's Good







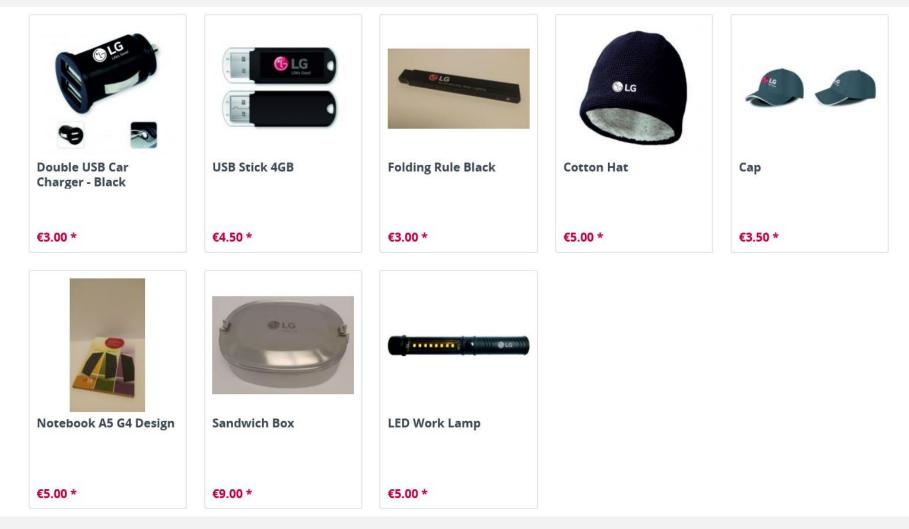




LG PRO Solar Partner Program 2020

Promotional gifts Give Aways Sales materials LG PRO Loan Download Service Home Print materials Home > Promotional gifts Sorting Release date ~ RCTARE Hint! Hint! Calendar 2020 3 in 1 Mini USB Kabel **Multifunction Tool** Sunglasses Phone Holder €1.00 * €4.50 * €1.85 * €3.75 * €3.50 * HInt Tresta) Measuring tape 5 LED Bulb keychains Softshell Jacket in Size Softshell Jacket in Size L Paper Bag, white NeON R USP's XL meters €25.00 * €25.00 * €6.00 * €1.20 * €2.50 * C LG LG **Coffee Pot** LG PRO Solar T-shirts **Cutter Knife** LG Multi Tool SHOP Thermo cup - Silver €7.50 * €20.00 * €2.50 * €4.50 * €8.50 * olar.com/en/promotional-gifts/154/softshell-jacket-in-size-l?c=182

LG PRO Solar Partner Program 2020



LG PRO Solar Partner Program 2020

n/de/

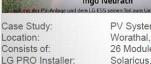
	Alles auf einen Klick Ihr LG Solar Onlineshop	AnnoldonMein Koelo Deuteri ~ ~	http://eu.shop.lg-solar.c
KORE PERFECTATE	EIT Serent Law	CONTROL CONTROL	
Kontakt 1 Deniela Gerdes J -49 6196 5821 616 Daniela gerdes@ig		Entorgan	





We offer our LG PRO Partners a Video of their Best Systems, which can be used as a reference to attract new customers. Example 1.





PV System, Family Neurath Worathal, Germany 26 Modules of LG NeON 2 (320 Wp) Solaricus, Germany



LG Specials - Trips to Korea



55

Influence

The Decision Making is by Influence of the Installer.

Residential Segment



Installer: 90% influence on module decision

Lets be crystal this can be influenced with Marketing. Downside = Cost!

When was the last time you spent more on Quality and regretted it!!

10% influence on module decision

Influence

A lot of USPs and advantages for just one cup of cappuchino.

Top quality for less

- Additional investment compared to cheap conventional modules = max. 840 €
- Calculated over the guarantee period of 25 years
 = 2,80 € per month

That's the cost of an Cappuccino*



LG's USPs:

- 1. Brand
- 2. Technology
- 3. Quality
- 4. Reliable Warranty provider
- 5. Premium Aesthetics
- 6. Higher output, higher yield
- 7. Local Support team
- 8. ... (many more)





