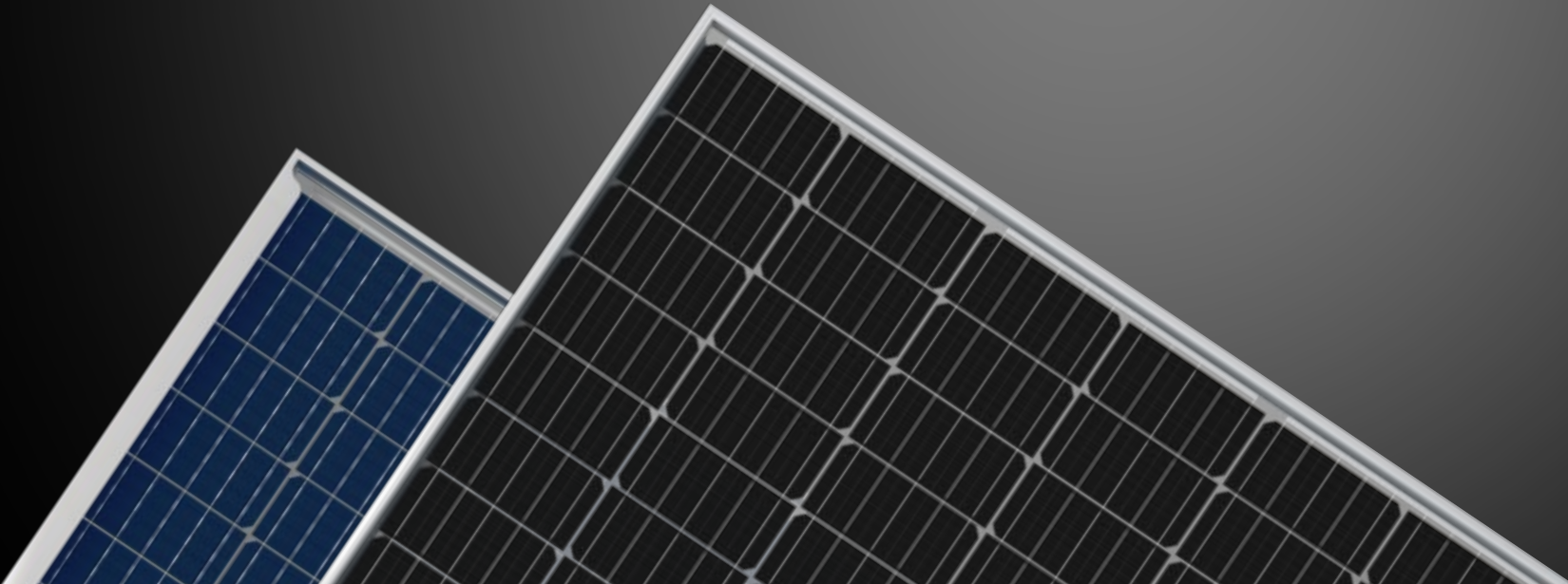
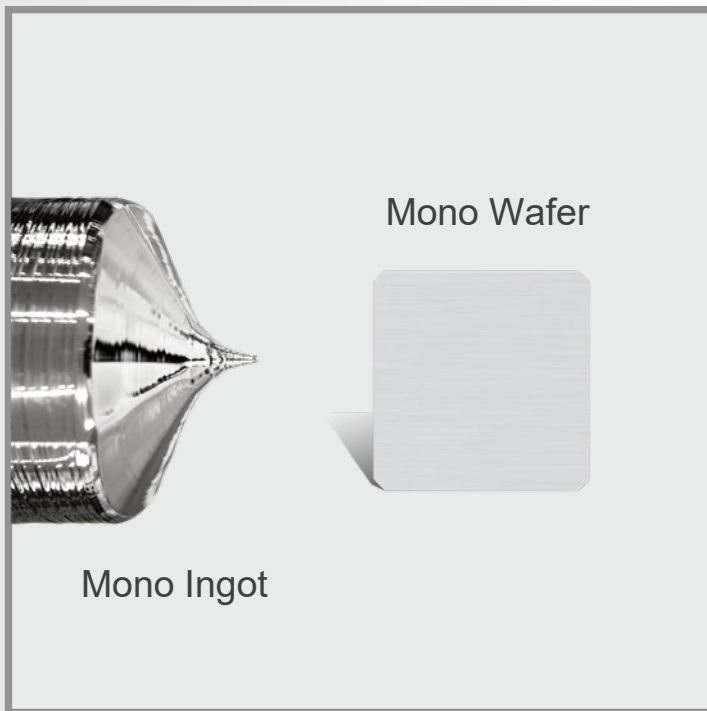


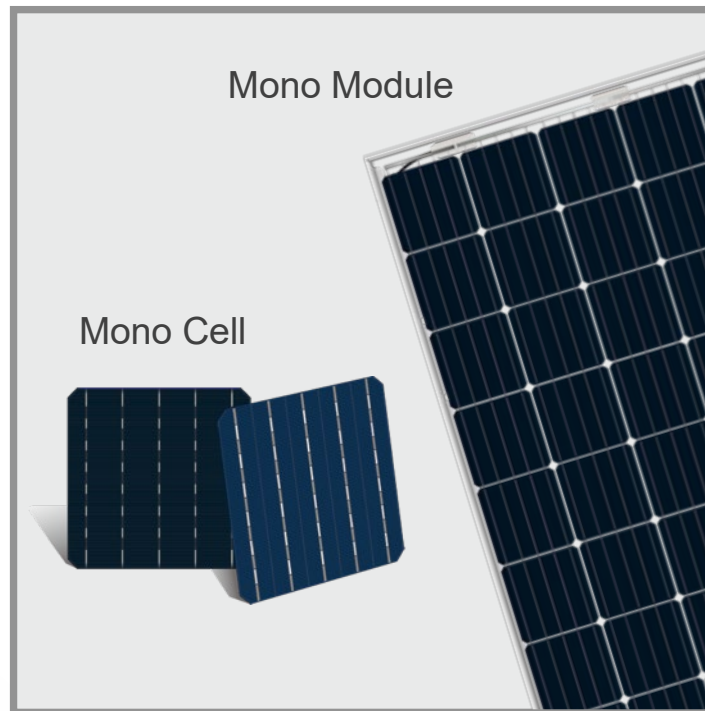
# **LONGi Solar – Paneles Solares**

## **Mercado Colombiano**

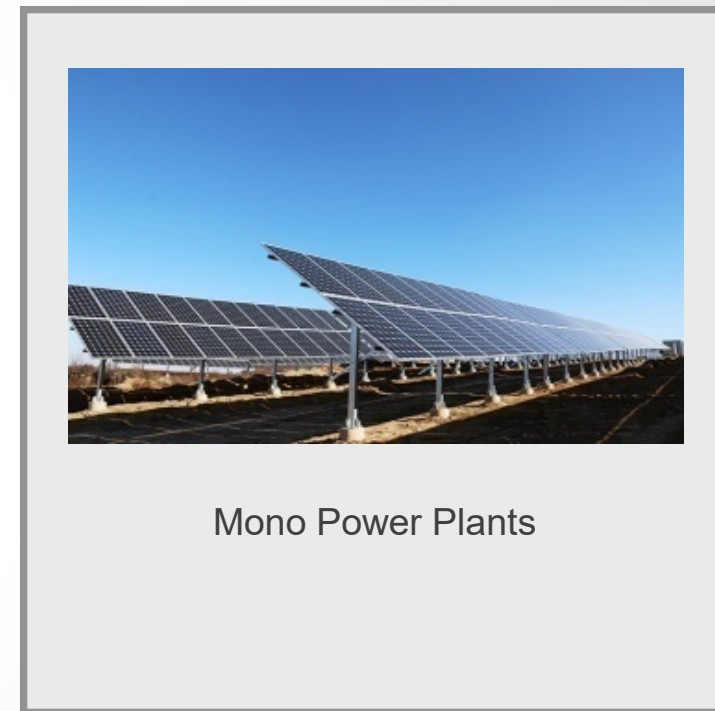




**LONGi** Silicon



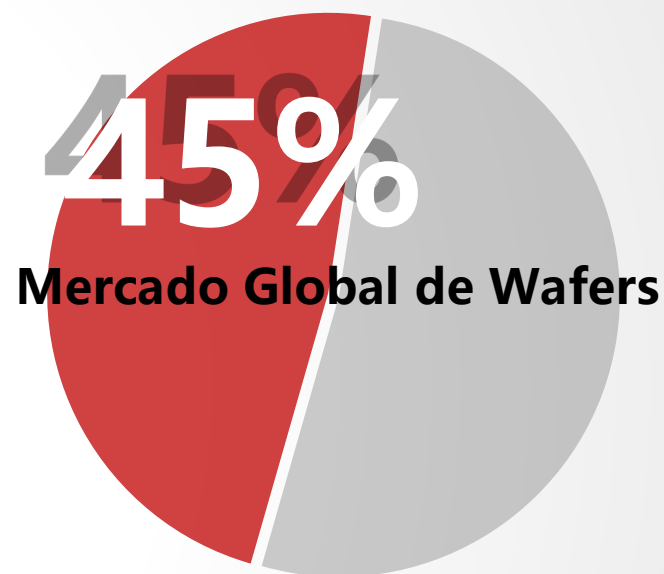
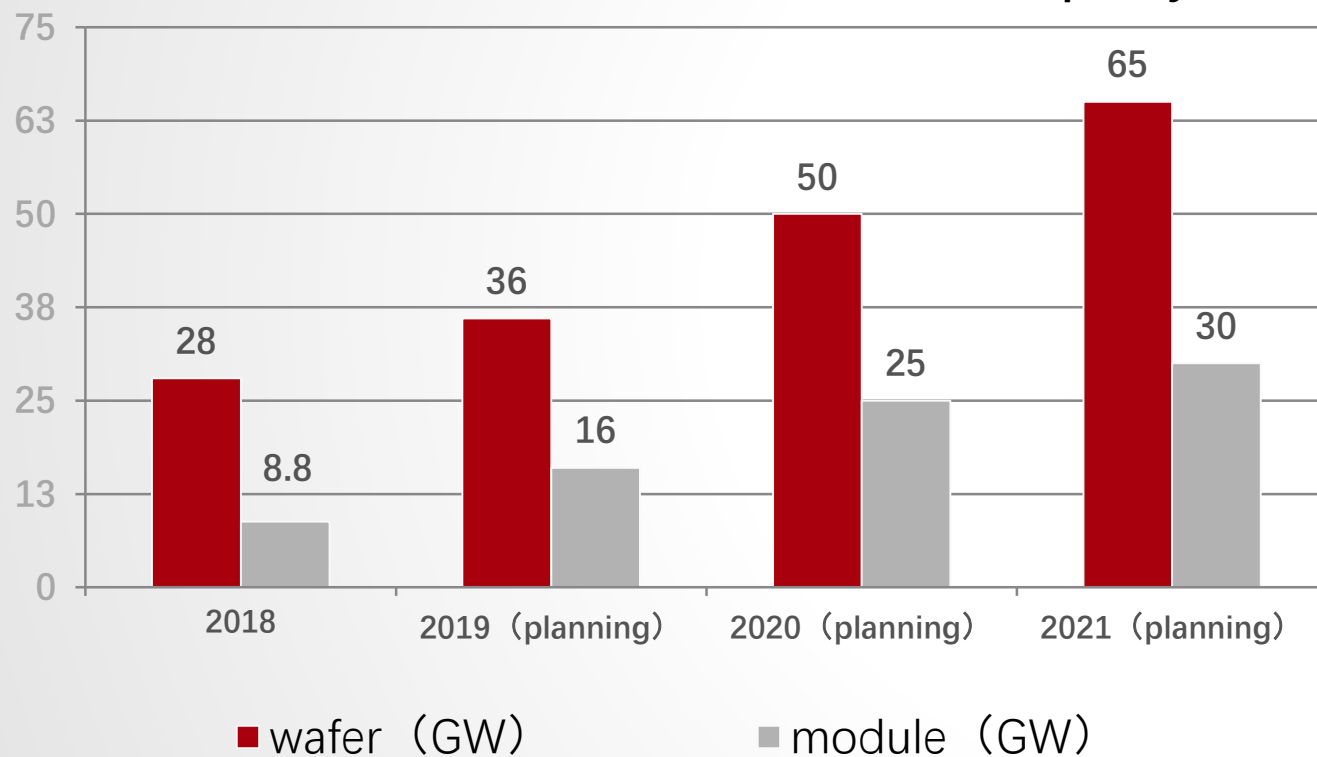
**LONGi** Solar



**LONGi** Energy

# Largest Mono Wafer and Module Manufacturer

LONGi mono wafer & mono module capacity



**LONGi cuenta con el 45% de participación en el Mercado de wafers**

(Source: PV-infoLink 2018 global PV manufacturers capacity, production statistics )

# Tier-1 Fabricantes de Paneles Solares Q3 2019

Table 3: BloombergNEF Tier 1 module maker list as of 3Q 2019

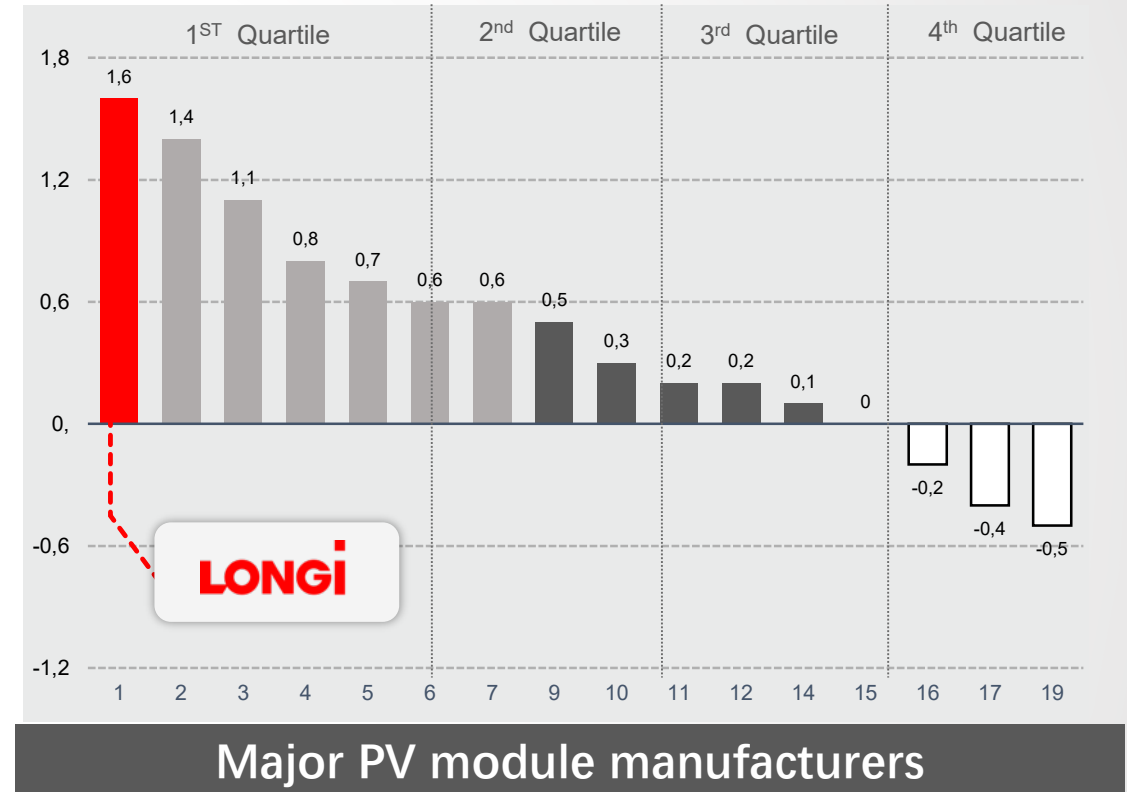
Firm/ brand	Annual module capacity, MW/year	Firm/ brand	Annual module capacity, MW/year
Longi*	15,000	Jinneng	2,000
Jinko*	10,800	REC Group*	1,500
Hanwha Q-Cells*	10,700	Waaree	1,500
JA Solar*	10,500	HT-SAAE*	1,500
Canadian Solar	9,400	Adani/Mundra*	1,200
Risen Energy*	9,100	Neo Solar Power/ URE	1,110
Trina Solar*	8,000	Vikram Solar*	1,100
First Solar*	6,200	Hengdian DMEGC	1,000
GCL System Integration Tech*	6,000	Jolywood	1,000
Talesun	5,800	ET Solar	1,000
Seraphim*	5,000	Lightway	1,000
Renesola	3,650	Boviet*	800
Chint/Astronergy*	3,500	Hansol Technics	600
ZNShine*	3,500	Vietnam Sunergy (VSUN Solar)	600
Akcome	2,600	S-Energy	530
LG Electronics*	2,500	AU Optonics	500
BYD	2,400	Shinsung	300
SunPower*	2,400	Heliene*	250
Eging	2,100	Sharp	210
Sumec/ Phono Solar*	2,000	Win Win/ Winaico	200
		<b>Total</b>	<b>139,050</b>

# Financial Health

Financial Health **No. 1** among all PV Manufacturers

Strong financial performance recognized by industry:

- Financial health **No.1**
- Profitability and cost leadership **top 3**
- Overall score **top 5**

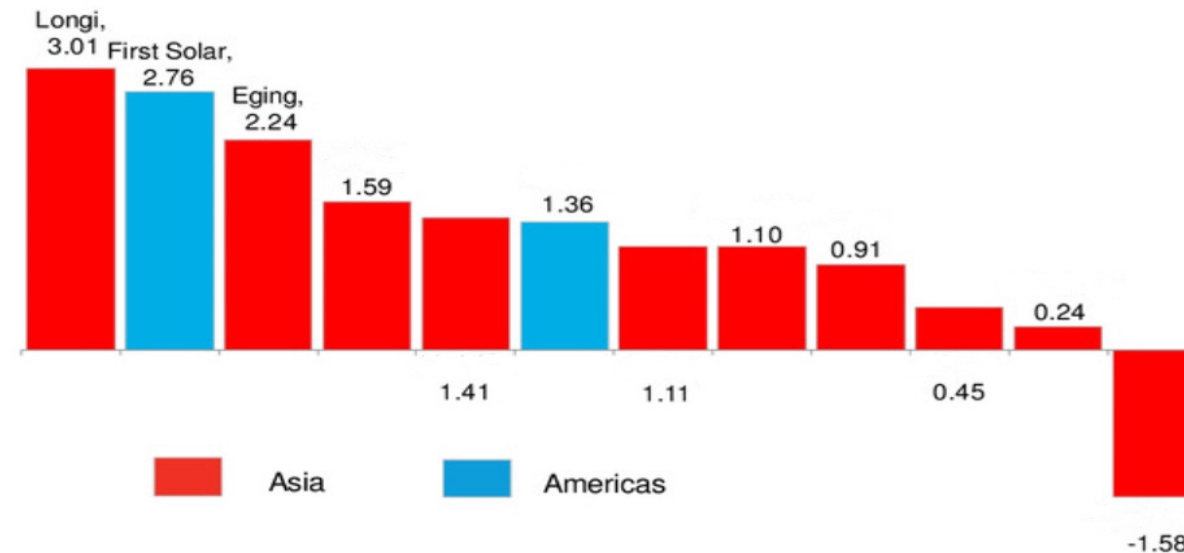


# Financial Health

LONGi has been consistently ranked top for financial health among all PV manufacturers by BNEF

Bloomberg Altman-Z score of PV manufacturers

Figure 10: Altman-Z scores of quoted pureplay solar manufacturers, 4Q 2018 or 1Q 2019



Source: Bloomberg terminal

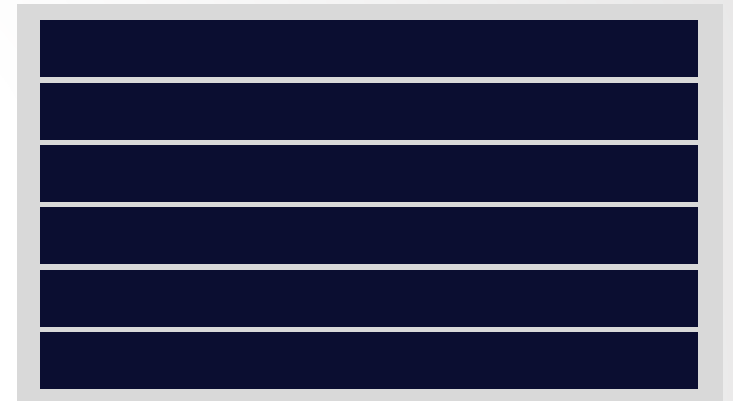
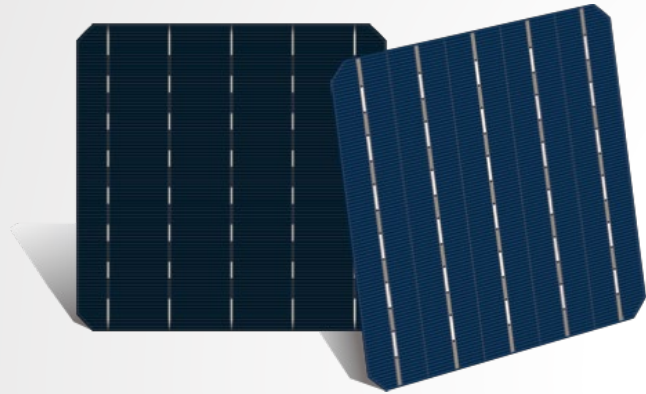
**Salud Financiera**  
**es la mayor garantía que puede**  
**dar un fabricante de paneles**  
**solares**

# Customers

LONGi Solar shipment **1GW** in 2015, **2.3GW** in 2016 and **4.66GW** in 2017  
2018: **No.1 supplier** for China and **top 4** globally



# LONGi Breaks World Record



Cell Efficiency  
**24.06%**

Bifacial Half-Cell Module  
**450W**

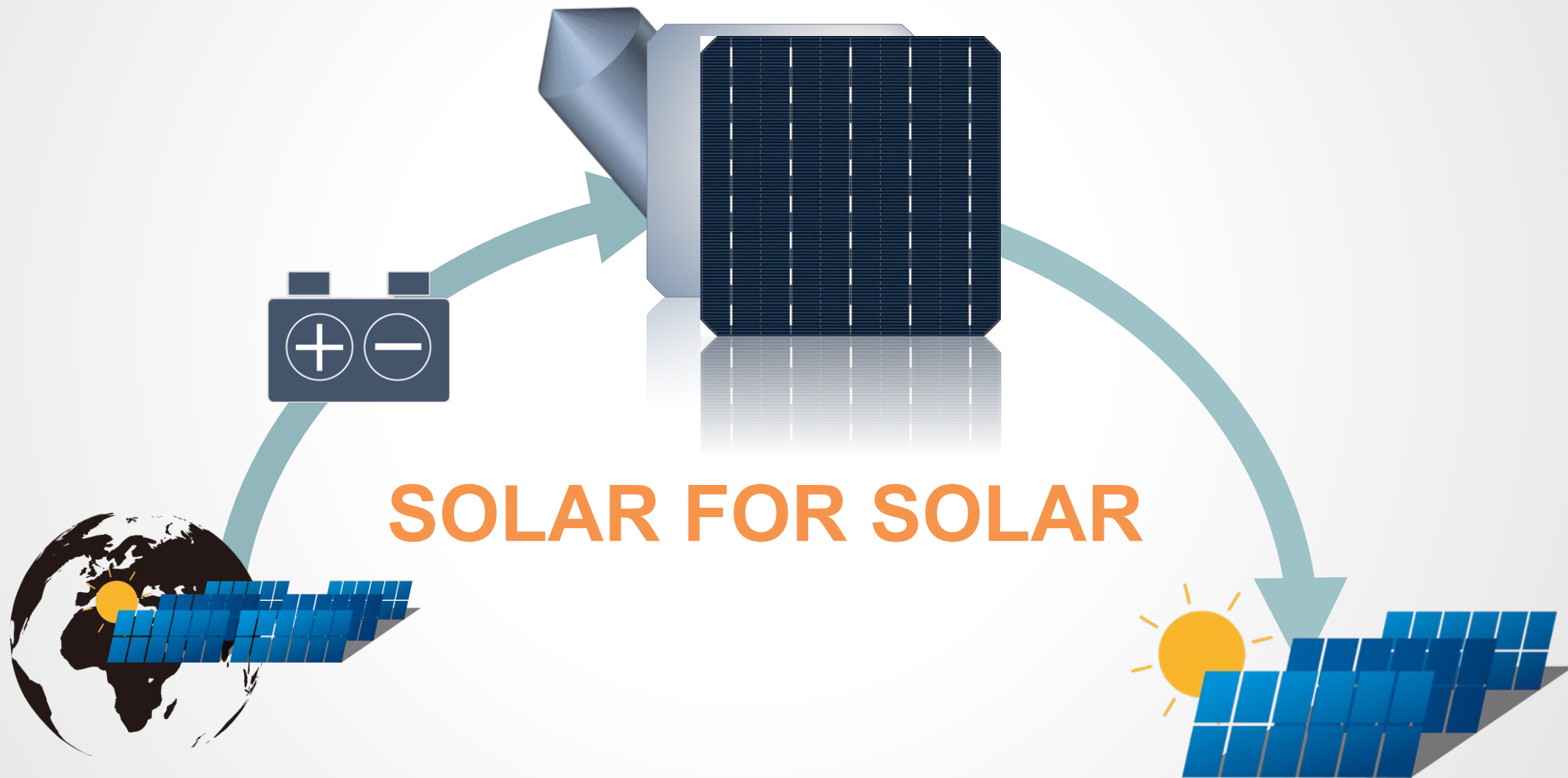
Module Efficiency  
**20.83%**

Jan. 2019

May. 2019

Nov. 2018

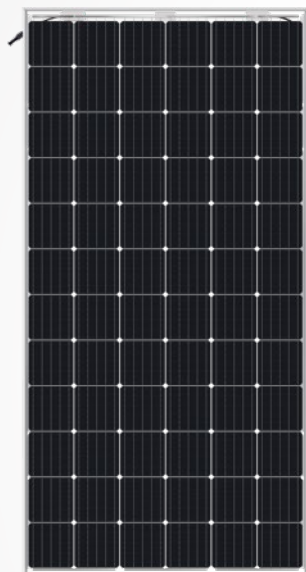
# Green Manufacturing



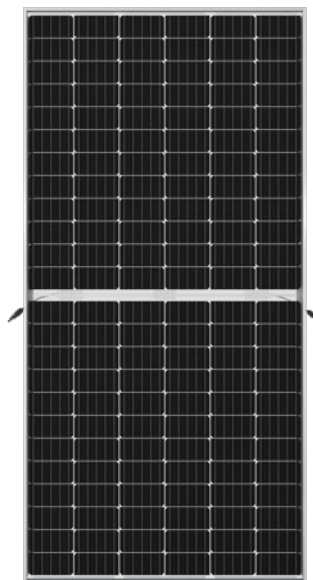
# Produtos Ofertados



Hi-MO 1



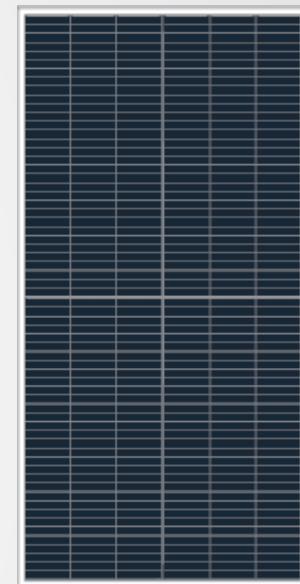
Hi-MO 2



Hi-MO 3  
Half Cell



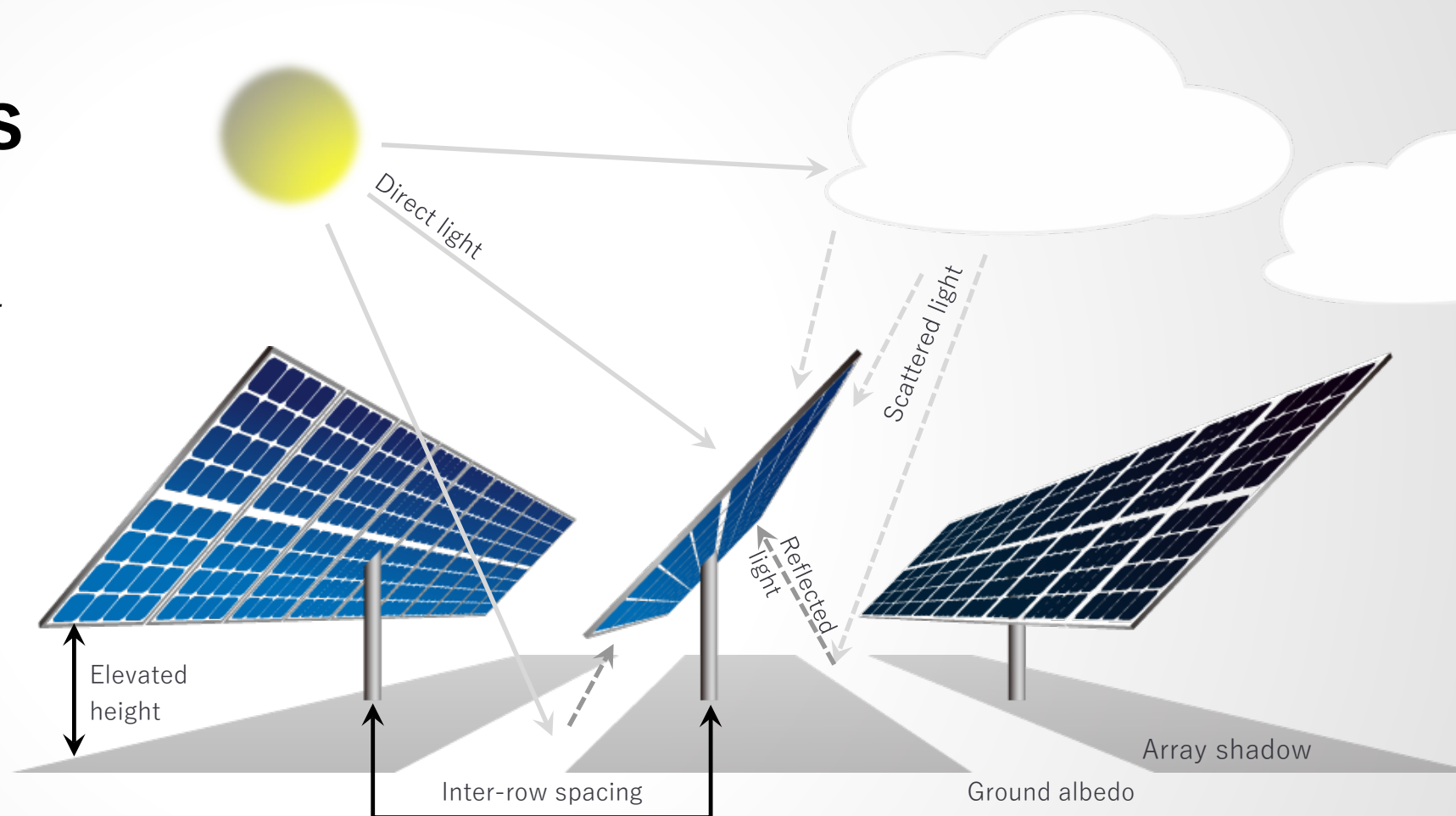
Hi-MO 4  
Big Wafer



Hi-MO X  
Shingle

# Paneles Bifaciales

La generación adicional puede ser simulada en PV Syst.

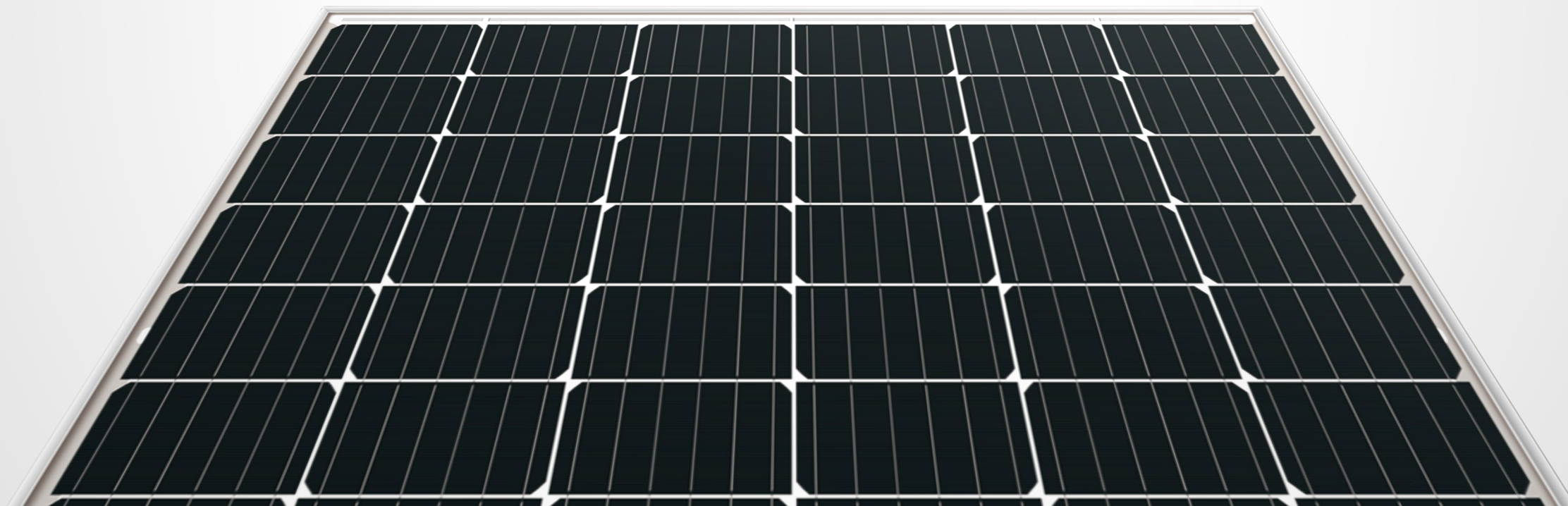


## Hi-MO 4

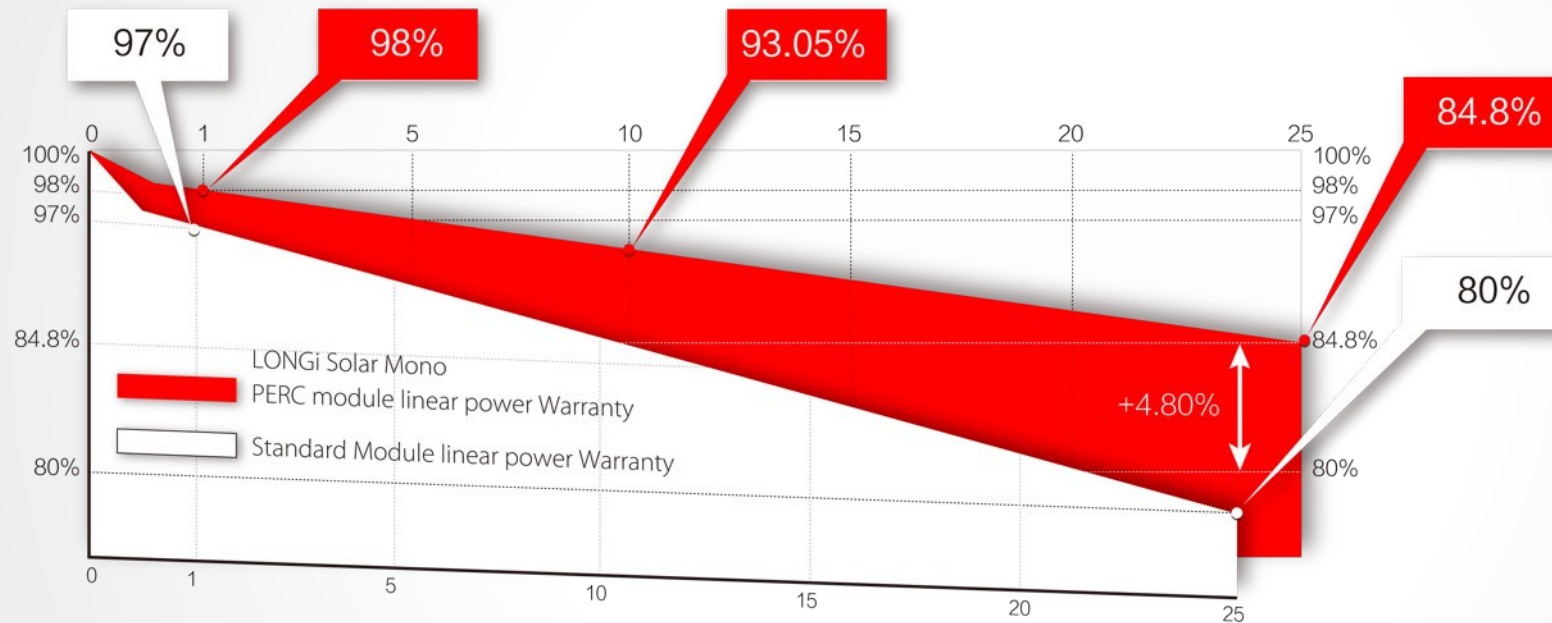
Front Power Up to

**430W**

*~30W higher than other's '400W product'*



# PERC Module Linear Power Performance Warranty



## WARRANTY

10Y	MATERIAL & CRAFTWORK
10Y	POWER-OUTPUT >93.05%
25Y	POWER-OUTPUT >84.80%

Lower LID and slower power degradation enabled better warranty term: 1<sup>st</sup> year degradation <2%, 0.55% annually through 25 years

# Mercado Colombiano Energía Solar

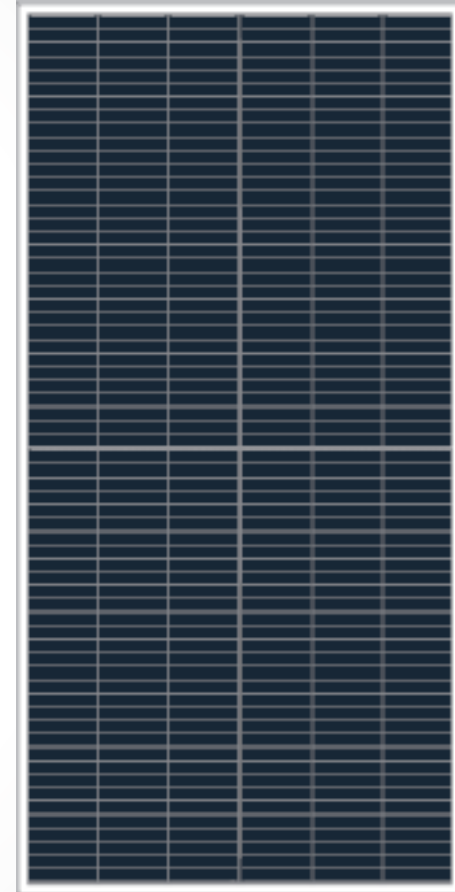
Colombia - Tamaño de Mercado Generación Solar Distribuida	
Año	MW
2016	10
2017	17
2018	32
2019 (Julio)	30

Proyectos Energía Solar por Fase (UPME)		
Fases	Cantidad	MW
Fase 1	298	3323
Fase 2	115	5989
Fase 3	4	47
Total	417	9358

Fuente: Review Energy [www.review-energy.com](http://www.review-energy.com)

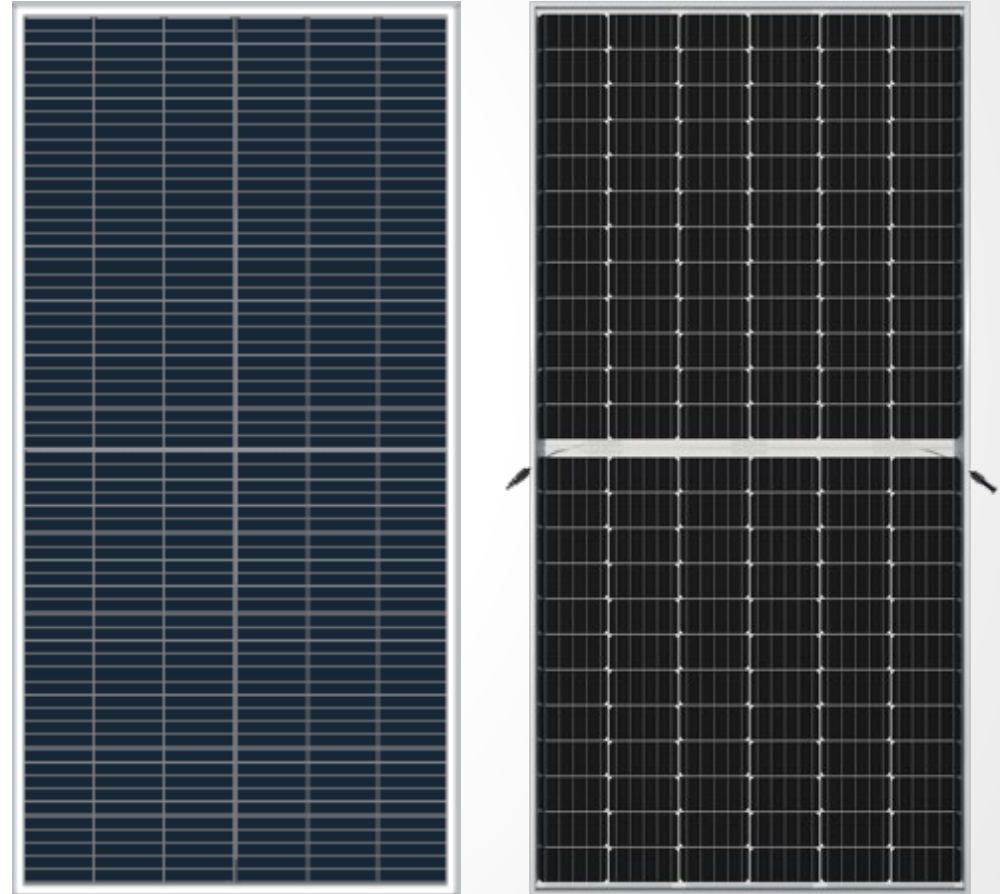
# Principales Tendencias Paneles Solares

- Paneles Monocristalinos
- Paneles con Media Celda
- Wafer de mayor tamaño
- Paneles Bifaciales
- Overlap (Shingle)



# Criterios para elegir paneles solares en Colombia

- Financial Stability
- Quality
- Innovation (R&D)
- Regional Presence
- Warranty
- Long Term relationships
- Price



# RELIABILITY CREATES VALUE

As certain as the sunrise

# *Gracias*

*Juan Rodriguez Benavides  
Regional Manager*

*[jrodriguez@longigroup.com](mailto:jrodriguez@longigroup.com)*

World's No. 1 in monocrystalline silicon wafers, solar cells, and modules • PV industry highest R&D investments • High power, high yield, high reliability