



Mono PERC: La mejor solución para un menor costo nivelado de energía (LCOE)

LONGi Solar

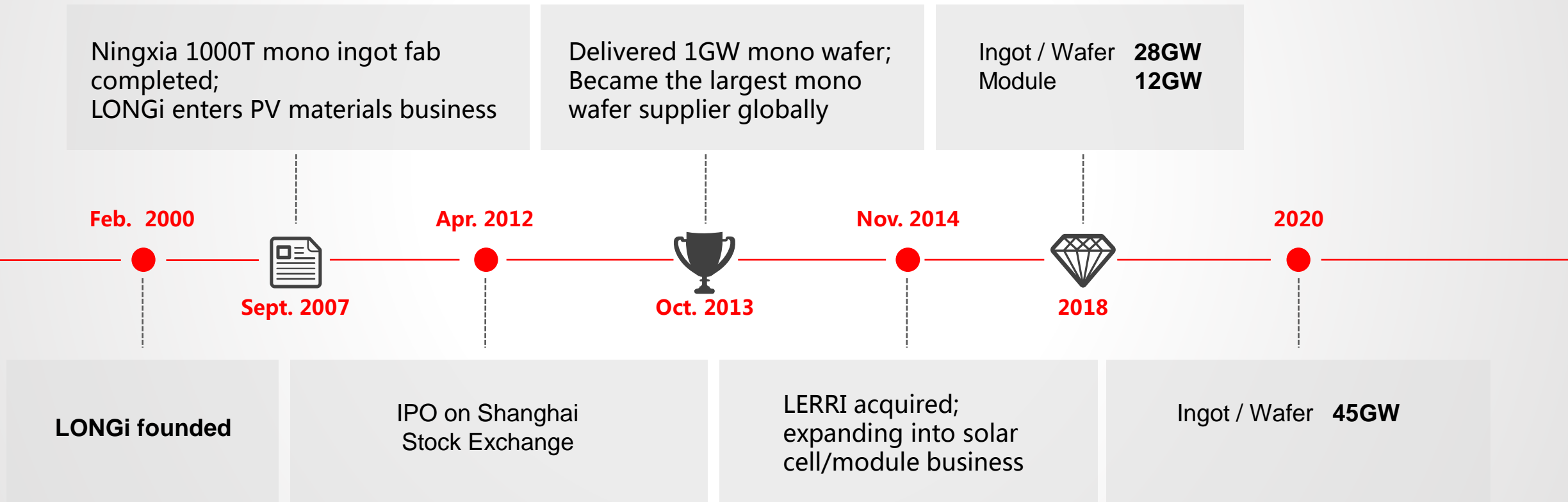
LONGi Solar

Tecnología Mono PERC



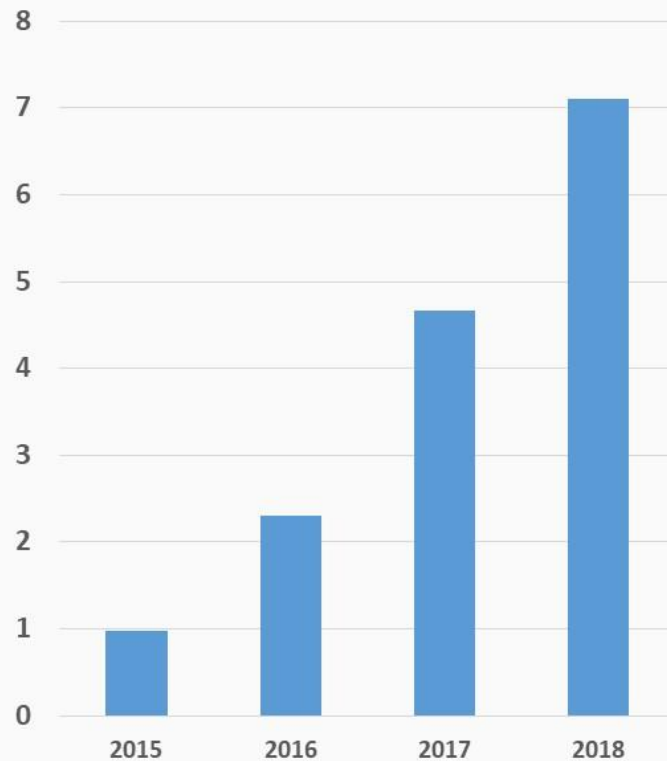
LONGi Solar Milestone

Dedicado en Mono **19 años**



#4 Proveedor de módulos Global en 2018

Annual Module shipment (GW)



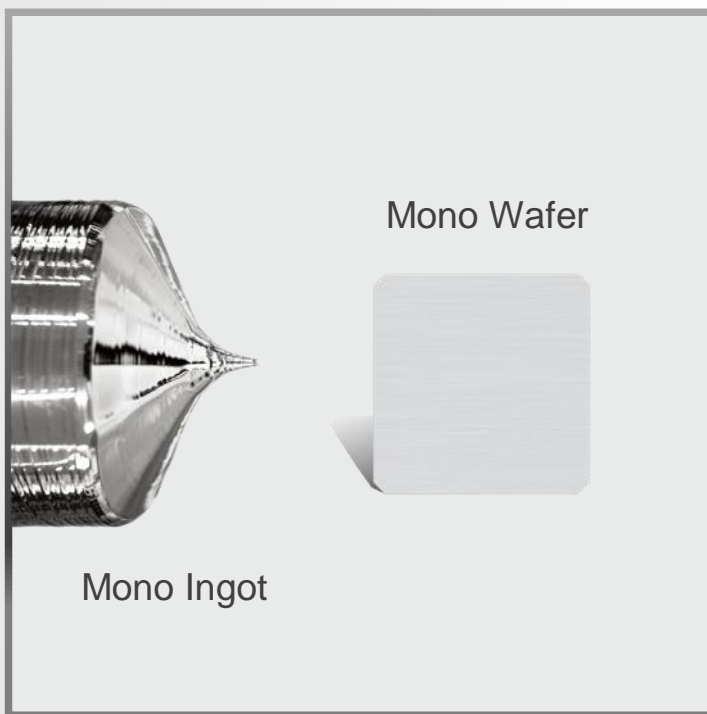
Top 10 Solar Module Suppliers of 2018

| # | Module Supplier | Y/Y |
|----|-----------------|-----|
| 1 | JinkoSolar | ≡ |
| 2 | JA Solar | ↑ |
| 3 | Trina Solar | ↓ |
| 4 | LONGi Solar | ↑ |
| 5 | Canadian Solar | ↓ |
| 6 | Hanwha Q-CELLS | ↓ |
| 7 | Risen Energy | ↑ |
| 8 | GCL-SI | ↓ |
| 9 | Talesun | ↑ |
| 10 | First Solar | ↑ |

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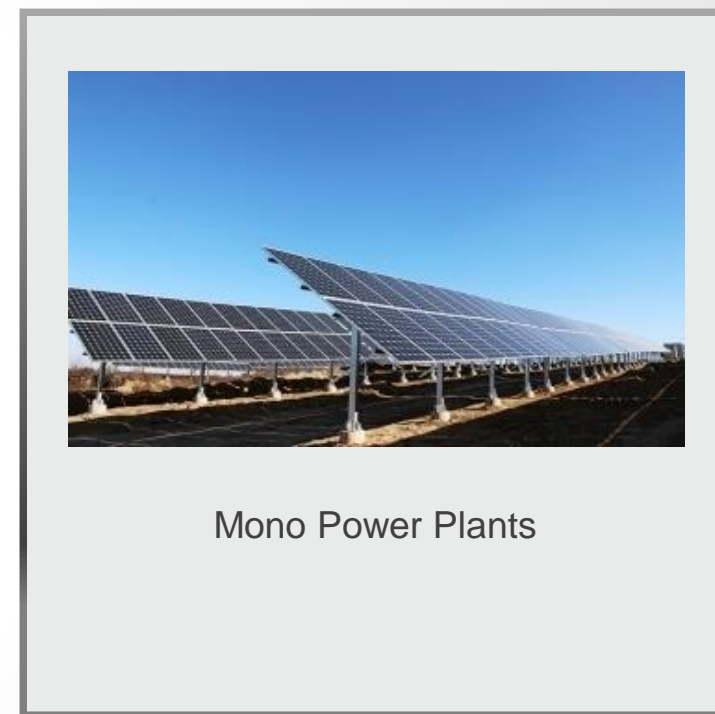
LONGi Green Energy Technology Company



LONGi Silicon

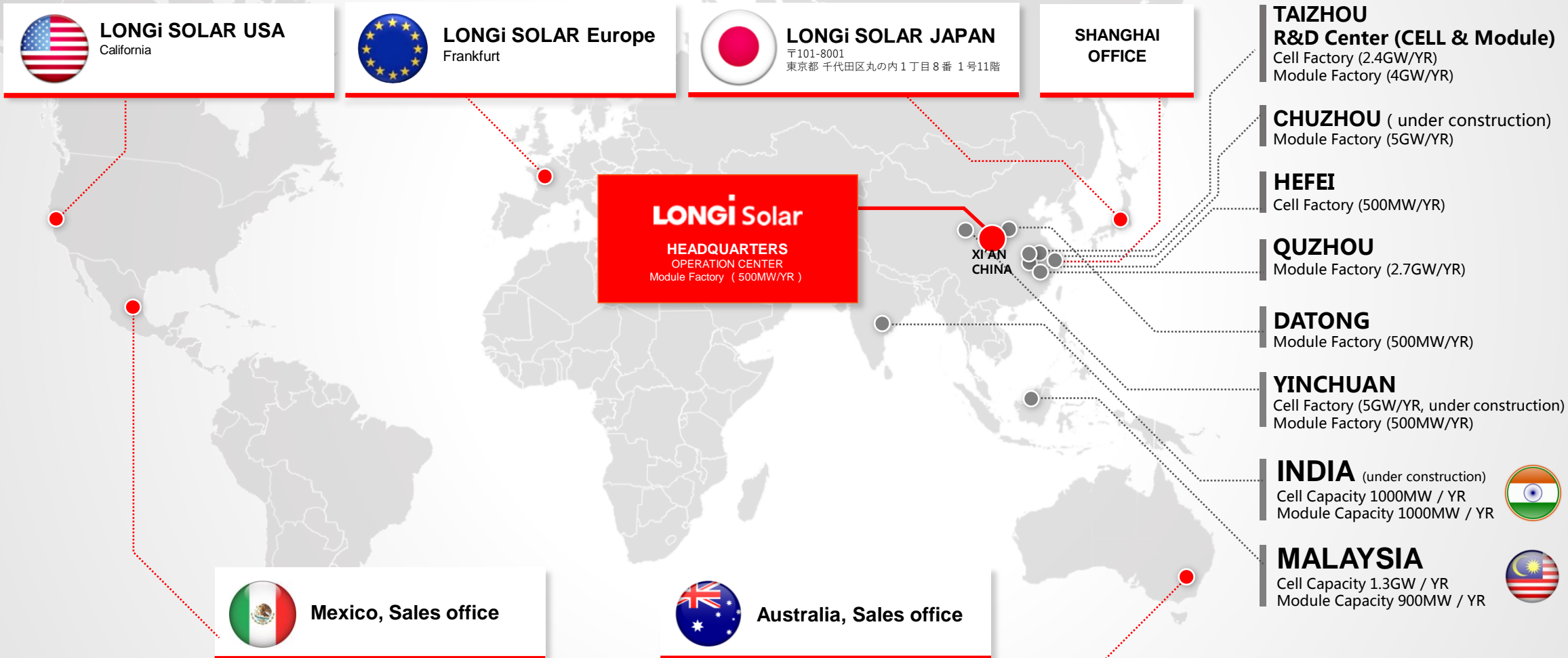


LONGi Solar



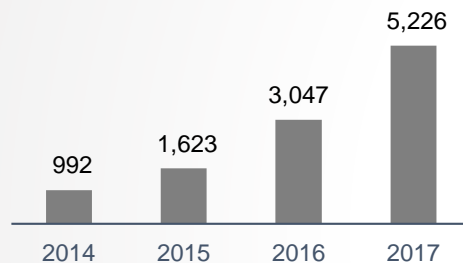
LONGi Energy

Presencia Global

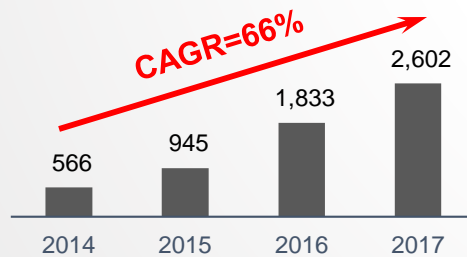


Gran desempeño financiero

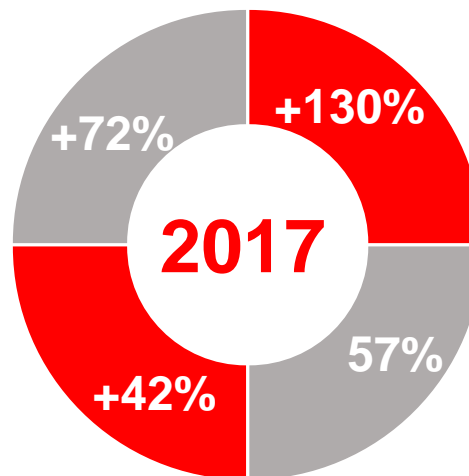
Total assets (Million USD)



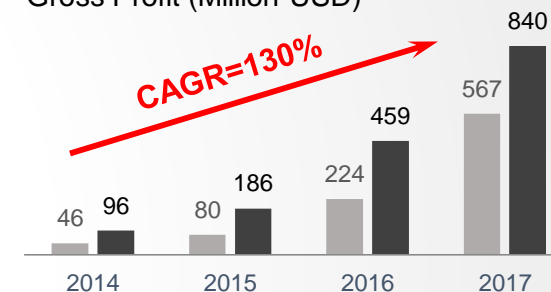
Revenue (Million USD)



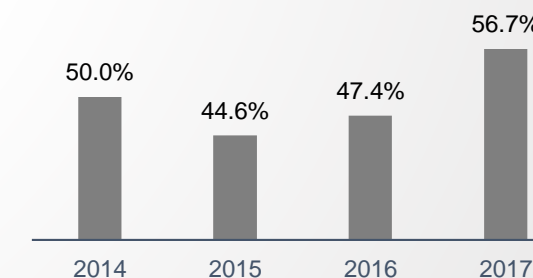
Market Cap
~**US\$9B**
as of 1/31/2019



Net Profit (Million USD)
Gross Profit (Million USD)



Debt Ratio

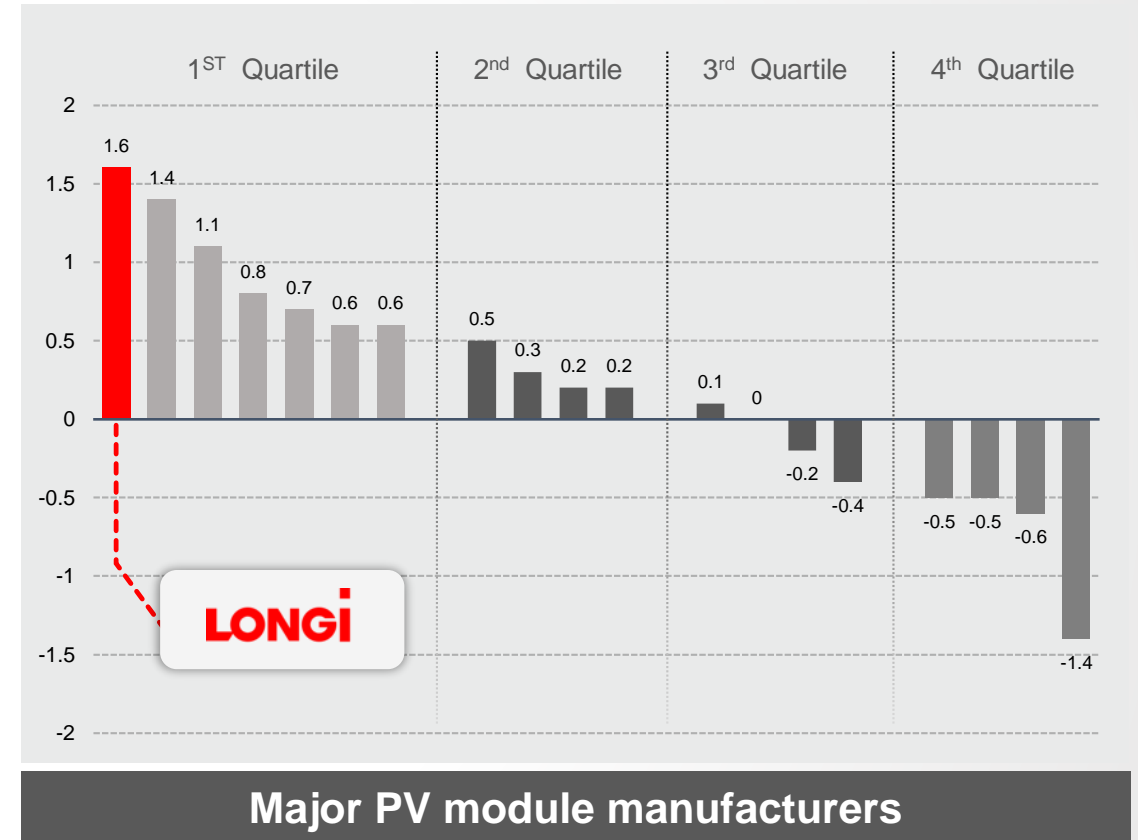


Salud Financiera

La mayor salud financiera **No. 1** entre todos los fabricantes de módulos en la industria.

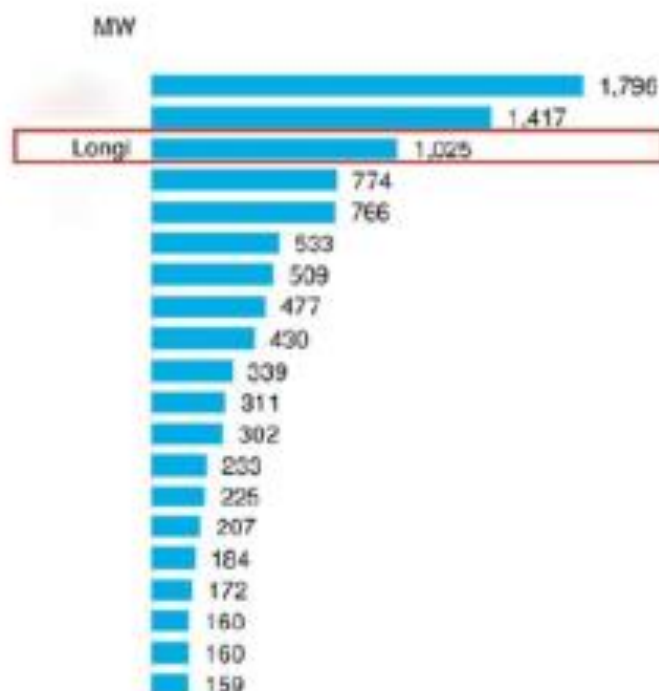
Strong financial performance recognized by industry:

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



Top 3 Most Bankable PV Module Brand

Figure 3: Top 20 PV module brands used in term-loan financed projects after July 1, 2016



Source: Bloomberg NEF

- In the latest "2018 PV Module Brand Bankability Report", Bloomberg New Energy Finance (BNEF) ranks LONGi Solar the **Top 3** most bankable PV module brand with 1,025MW of loan-financed PV projects in the past two years. LONGi Solar's ranking rose four places from the last year.
- BNEF's ranking is based on its database containing 25,455 PV financing projects, involving 57 PV module brands worldwide.

Salud Financiera

**es la mejora garantía que puede ofrecer
un fabricante de módulos**

Cientes

lightsourcebp



Scatec Solar
Improving our future™



CanadianSolar



Hanwha Q CELLS

sunrun™

Panasonic



中国电建
POWERCHINA

LONGi Solar



CNBM

JA SOLAR

LONGi Silicon



中国能建
ENERGY CHINA



中广核 CGN



中国华能集团公司
CHINA HUANENG GROUP



KYOCERA



HYUNDAI



Fuerza Tecnológica

\$379 M

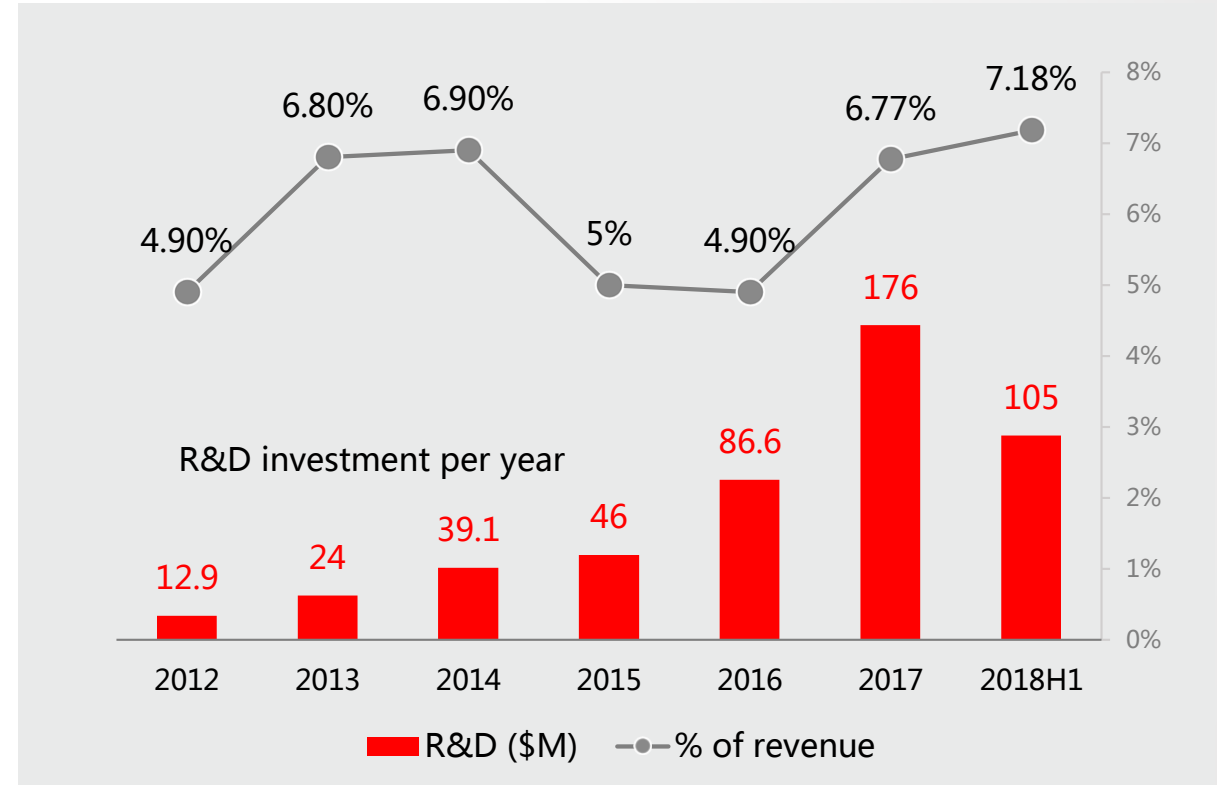
2012-2017 accumulated

R&D spending

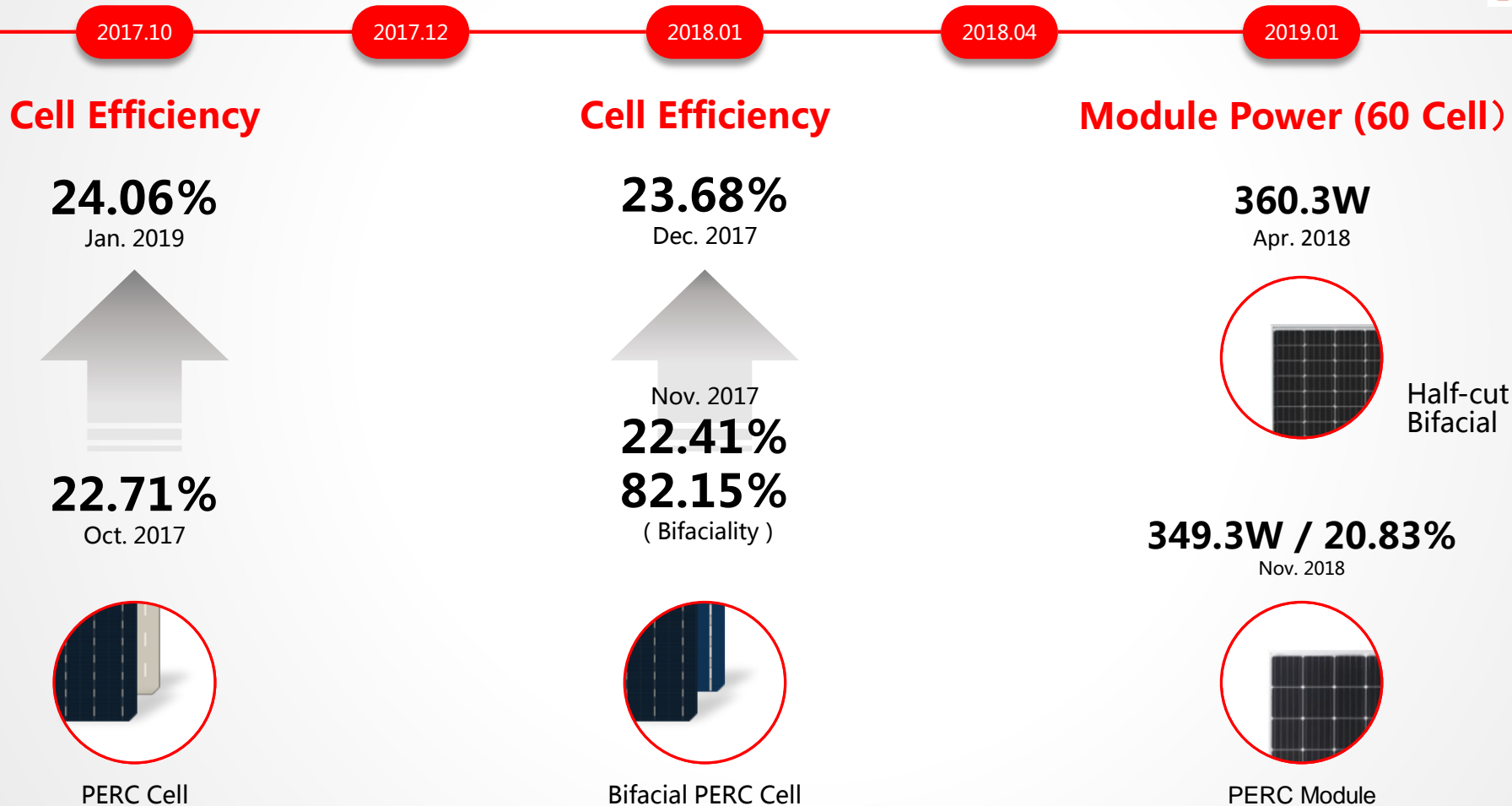
5-7% (of revenue)

407 patents awarded

460 staff member

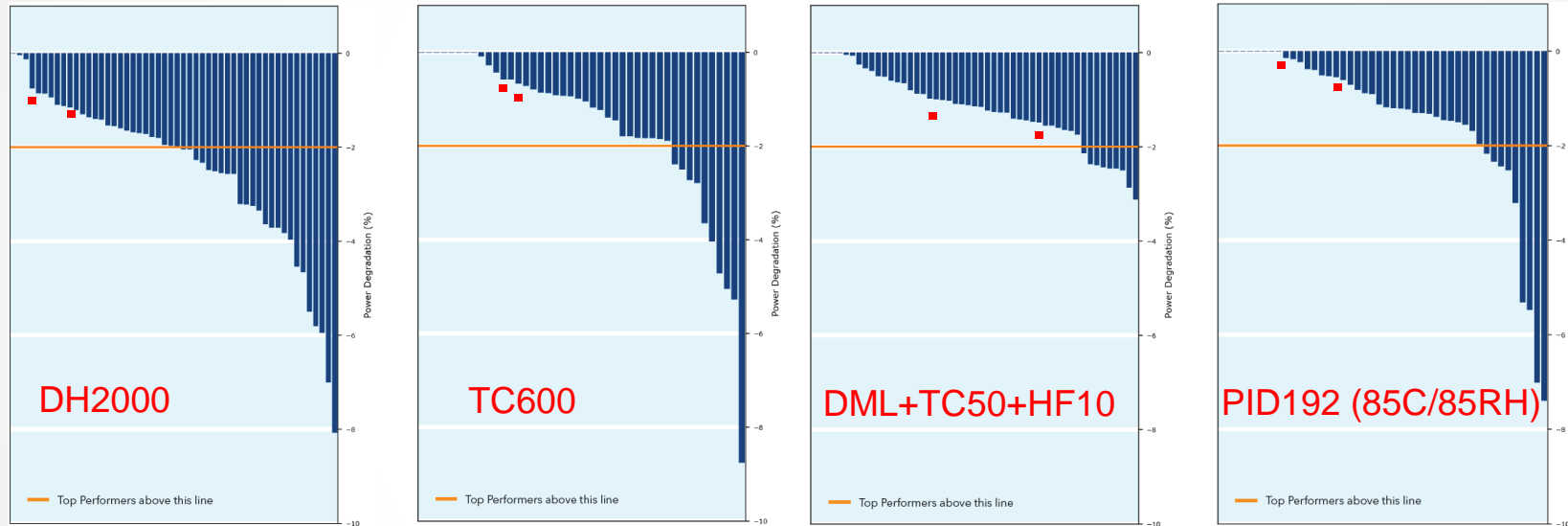


LONGi y sus records mundiales



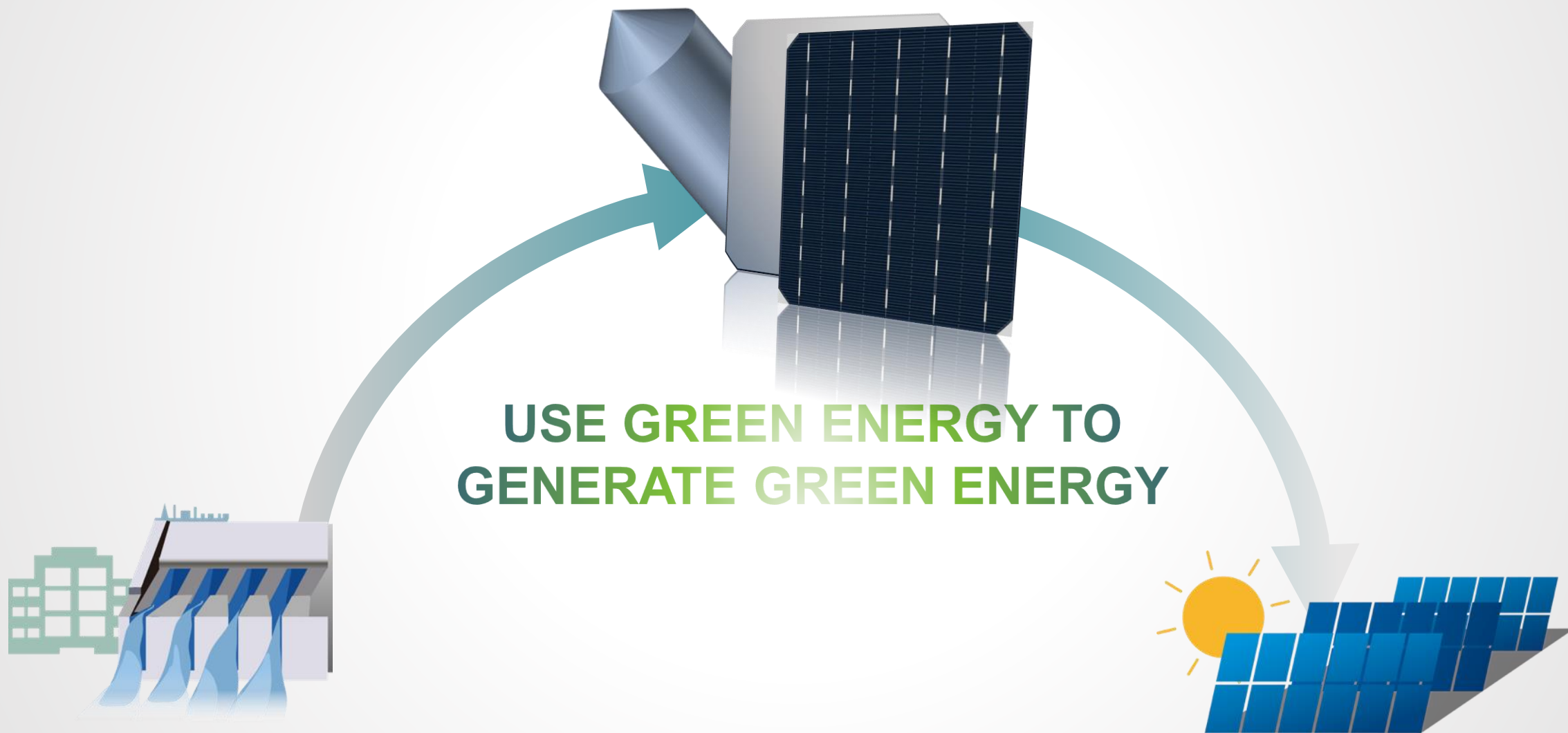
Alta fiabilidad

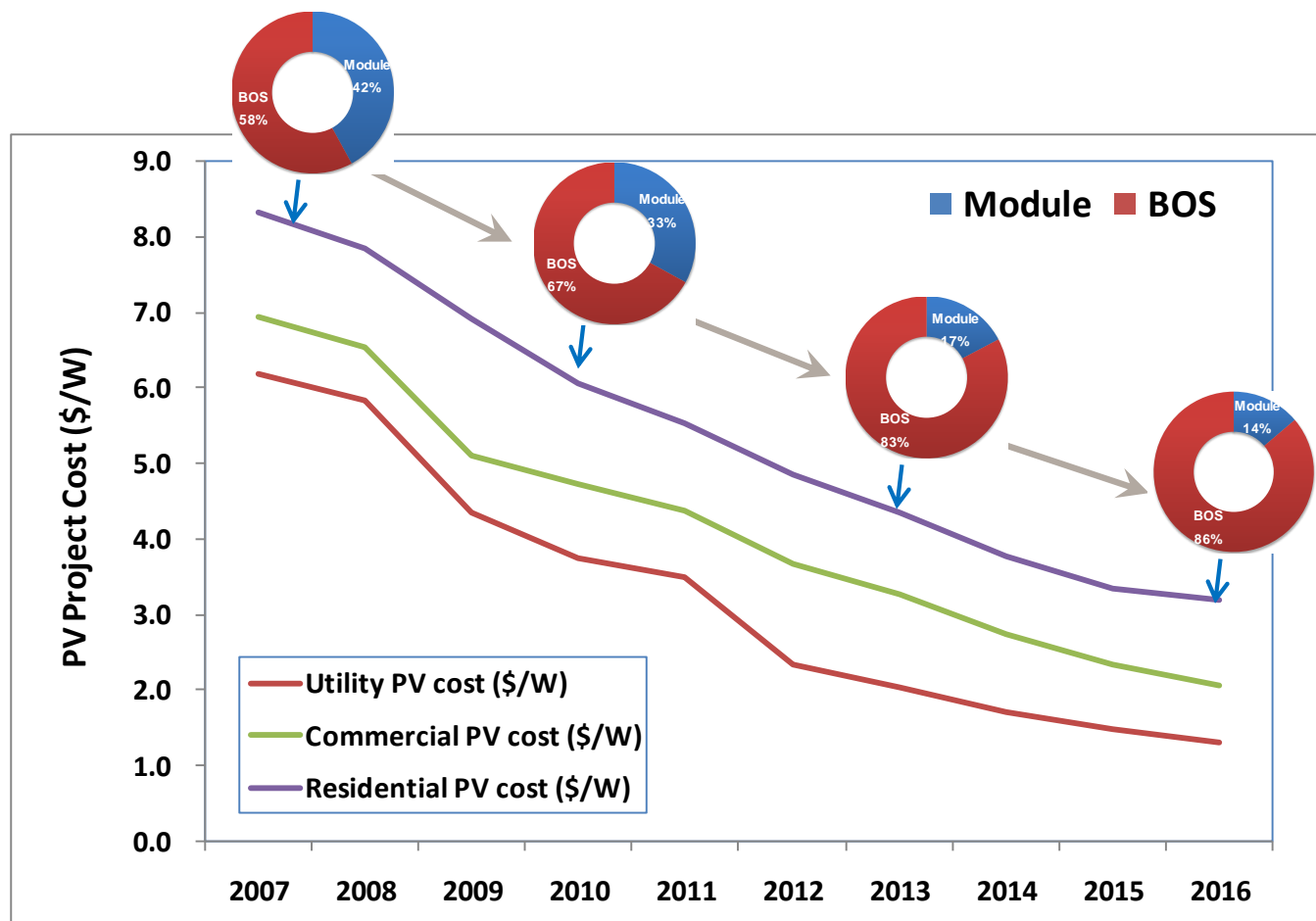
DNV-GL Reliability Scorecard



LONGi Solar modules are among **Top Performers** for **All** extended reliability tests

Fabricación sustentable





- El costo total del sistema FV continúa disminuyendo agresivamente en todas las aplicaciones: utility, comercial y residencial
- El costo del módulo cae a un ritmo más rápido, lo que resulta en una porción cada vez más pequeña del costo total del proyecto

Es importante identificar un enfoque que no solo reduzca el costo del módulo, sino que también el costo de BOS

| | Multi | Mono | Mono-PERC |
|--|---------|------------------|-------------------|
| Cell Efficiency | 18.8% | 20.0% | 21.2% |
| Pmax (cell) | 4.6W | 4.9W | 5.2W |
| Pmax (72C) | 320W | 340W | 360W |
| Example #1: Utility # of module (100MW _{DC}) | 312,500 | 294,100 (-6%) | 277,800 (-11%) |
| Pmax (60C) | 270W | 285W | 300W |
| Example #2: Rooftop (20 panels) | 5.4kw | 5.7kw | 6.0kw |

Mayor densidad de potencia con módulos mono significa menos módulos necesarios para cada proyecto o se puede lograr más potencia / kWh en espacio limitado

El uso del módulo mono / PERC de alta eficiencia permite reducir los costos de BOS así como:

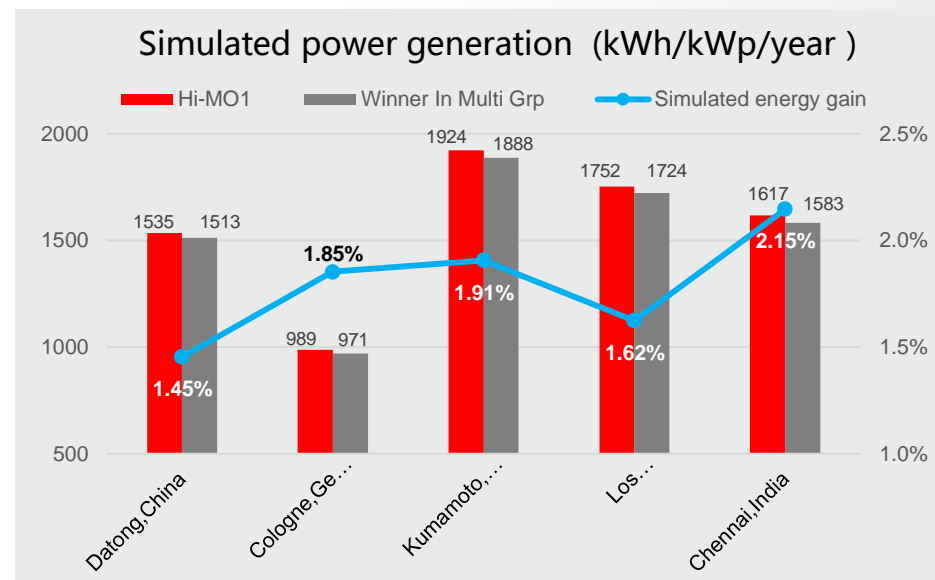
- Terreno
- Estructura de montaje
- Cables
- Movimientos de Tierra / trabajo concreto
- Mano de Obra



Mejor rendimiento energético con módulos PERC

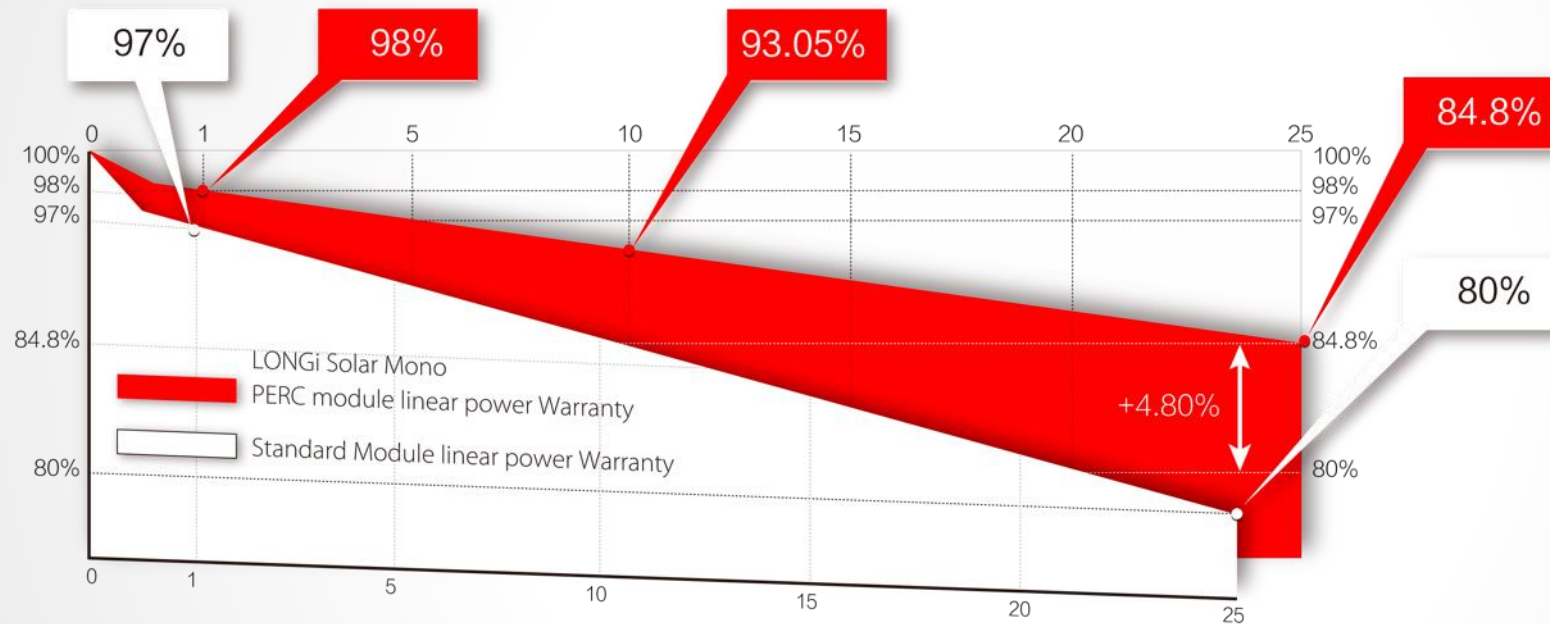


LONGi mono PERC module has been ranked **No. 1** in TUV Rheinland energy yield simulation for two consecutive years



- TUV Rheinland established module PAN file with performance measurement under different irradiance, temperature and incident angle using randomly selected module samples from production shipment
- Simulated energy yield in five different cities globally

Garantía de desempeño Linear de Potencia en módulos PERC



WARRANTY

10Y

MATERIAL & CRAFTWORK

10Y

POWER-OUTPUT > 93.05%

25Y

POWER-OUTPUT > 84.80%

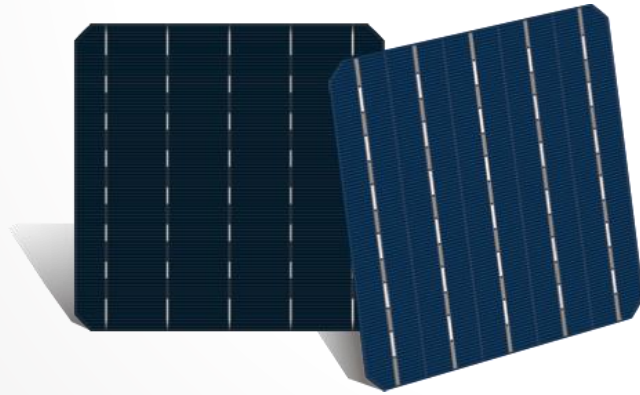
Low LID and slower power degradation enabled better warranty term:
1st year degradation < 2%, 0.55% annually through 25 years

Hi-MO 2: Bifacial PERC

Tecnología Bifacial

Mono-facial a Generación Bifacial

- LONGi Solar Bifacial PERC Hi-MO2 cell and module with double glass lamination, 30 year power degradation warranty
- Significant increase on energy yield



Módulo Bifacial diseñado con marco

Mounting & Grounding Holes

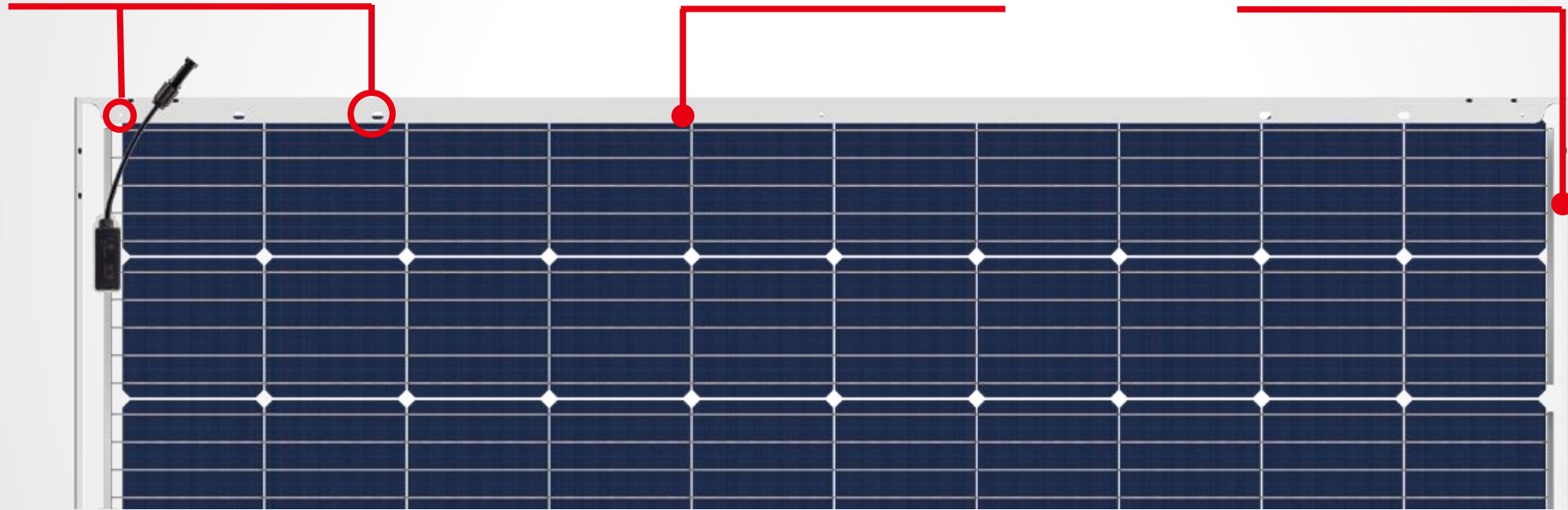
- Easy for transport and installation
- Modules can be electrical grounded

Higher Loading Performance

- Static Loading can reach 5400Pa
- Higher protection

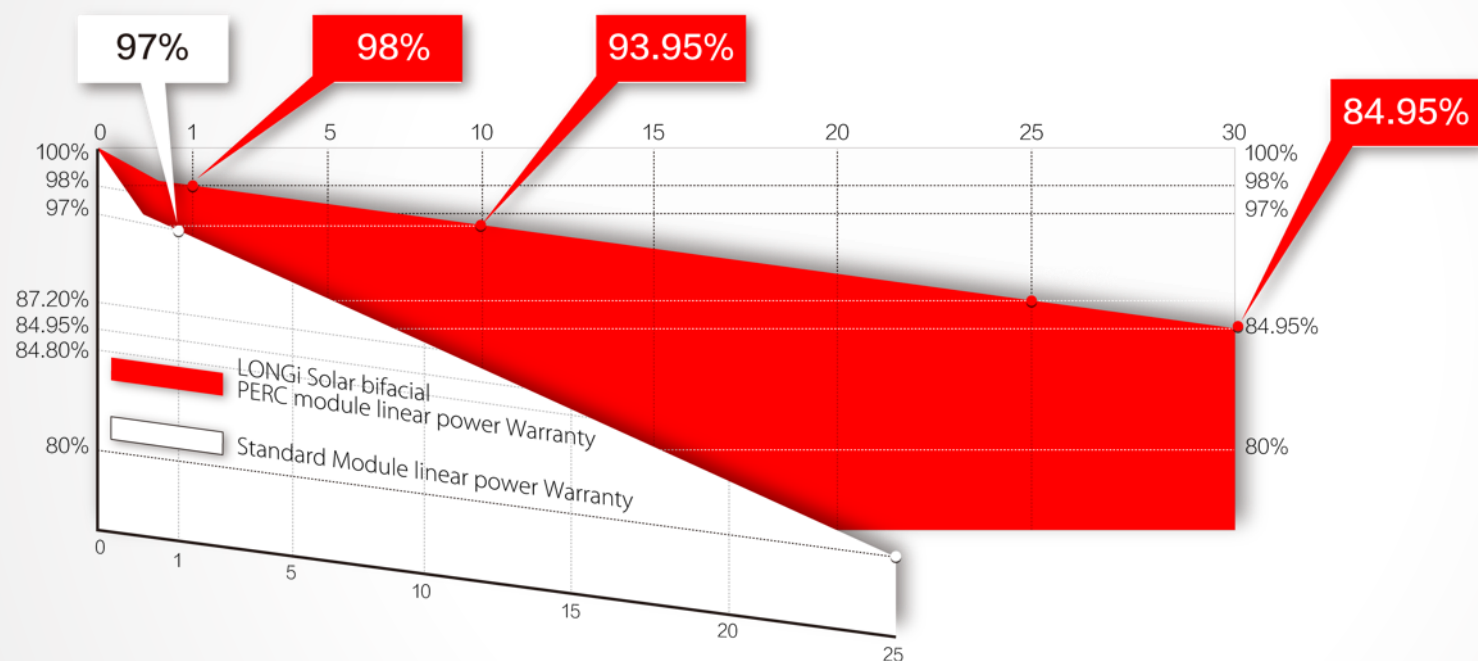
No shading on rear side

- Good design to avoid shading from rack and frame



- Bifacial Modules with frame can decrease the module breakage rate during transportation and installation
- Bifacial modules with aluminum frame can save labor cost and are compatible with tracker system

Garantía de degradación de potencia módulo Bifacial



WARRANTY

10Y

MATERIAL & CRAFTWORK

10Y

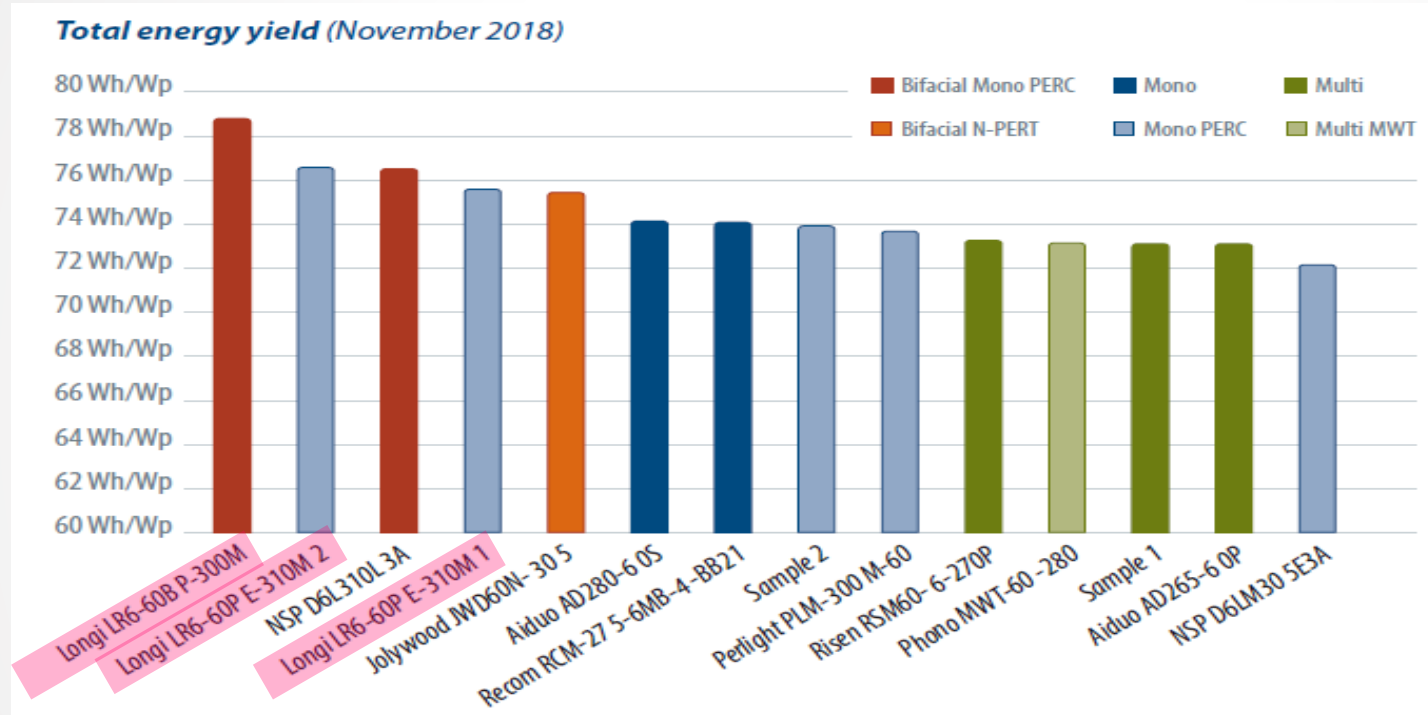
POWER-OUTPUT > 93.95%

30Y

POWER-OUTPUT > 84.95%

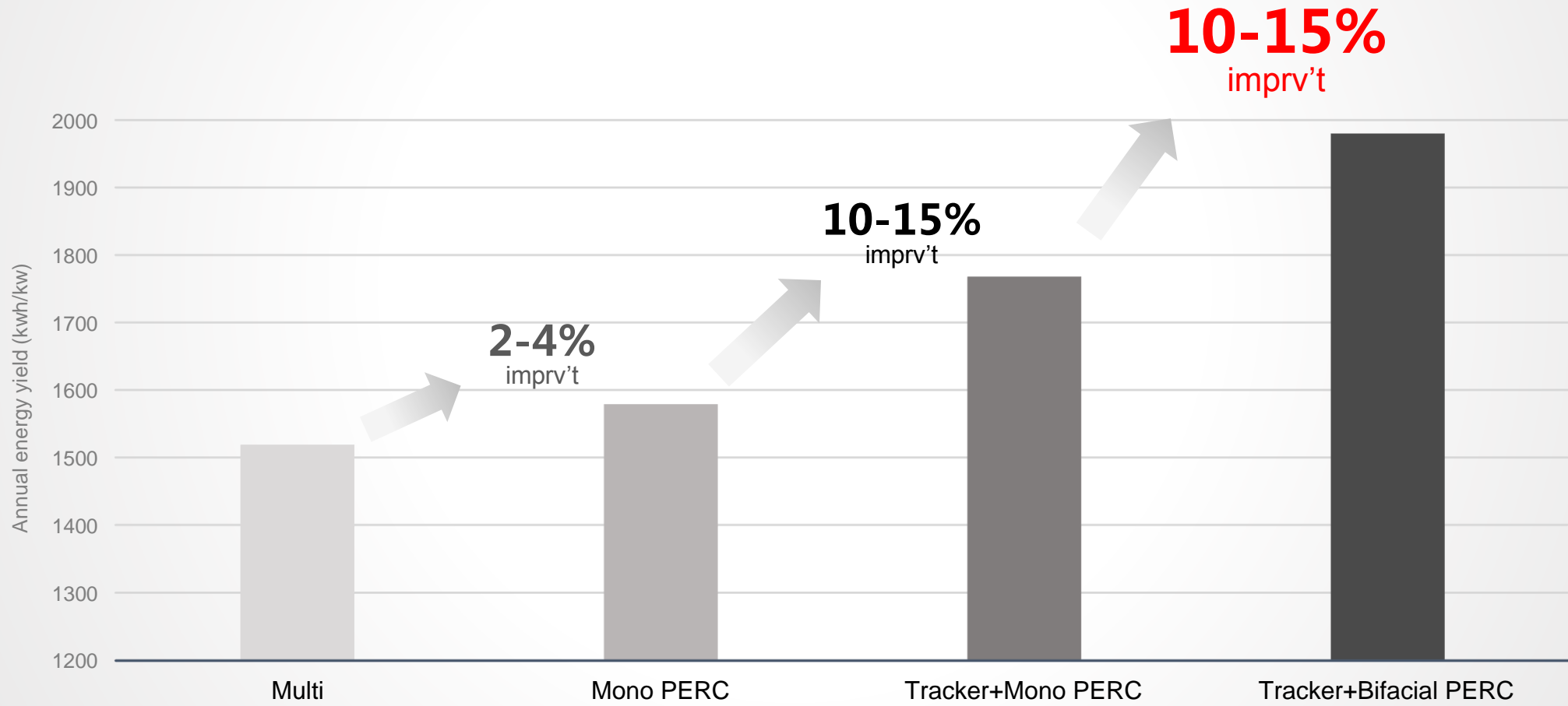
1st year degradation <2%, 0.45% annually through 30 years

PV Magazine Prueba en Campo



- In general, Mono PERC and Bifacial PERC modules showed better energy yield than Multi modules
- LONGi Bifacial PERC module demonstrated the best energy yield among all modules
- LONGi Mono PERC modules showed similar performance as Bifacial modules from other suppliers, superior among all PERC modules

Mayor producción de energía con PERC and Bifacial PERC



Beneficios del uso de módulos mono PERC de alta eficiencia

- Una mayor eficiencia / densidad de potencia da como resultado un ahorro en los costos de BOS
- Los módulos PERC demostraron un mayor rendimiento energético
- Los módulos Mono / PERC mostraron una tasa de degradación a largo plazo más lenta

Con los beneficios anteriores, se puede obtener un LCOE más bajo usando módulos mono PERC

RELIABILITY CREATES VALUE

As certain as the sunrise

World's No. 1 monocrystalline module manufacturer • Solar's most bankable company • PV industry highest R&D investments • High power, high yield, high reliability