

# Solar Distribution Role to Thailand RE

July 6, 2021





1

PV Technology  
Trends

---

2

Solar Market  
Impacts

---

3

Bridging Technology  
to Customers

---



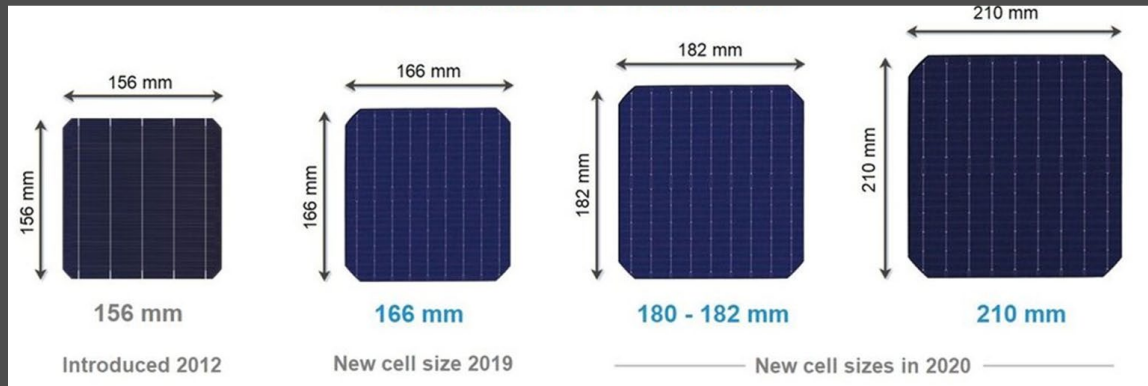
1

# PV Technology Trends



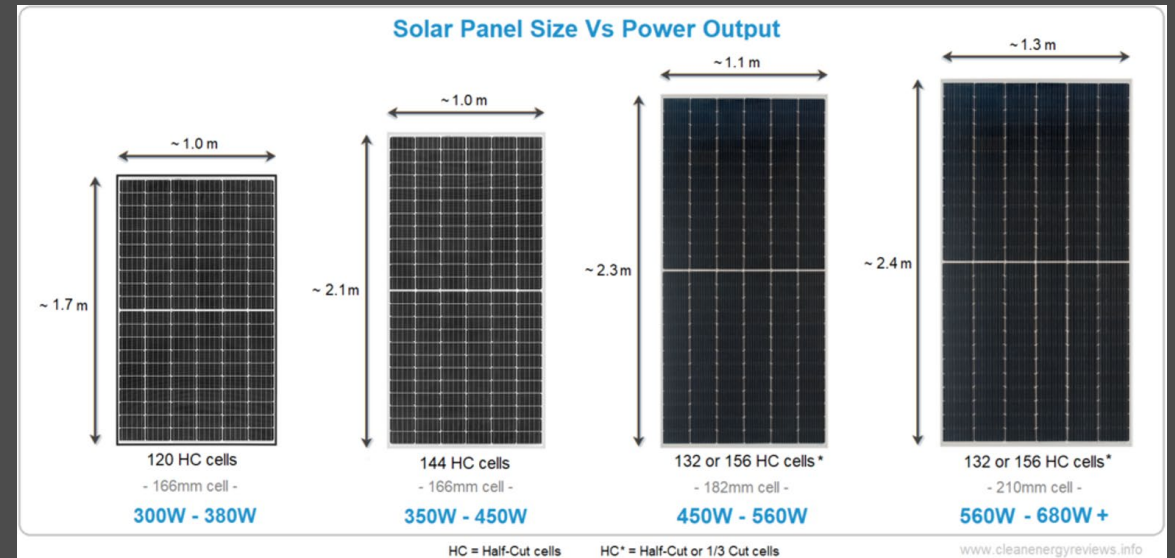
# Higher Power Products

## Solar Cell Technology



- Solar Cells technology are advancing
- Larger Wafer sizes, Multiple BB, Half cut, Bifacials, etc

## PV Module Technology



- Larger PV module dimensions focused on higher Power
- Cost reduction by optimizing materials
- Longer warranty commitments



# Mounting Structure Upgrades

## Higher System Voltage



- Voltage ratings has increased
- BOS, components and design ratings has adjusted

## Mounting Structures Advancements



- From fixed roof-top mounting structure to trackers
- Technology is driving optimized performance and ease of installation



# PV Applications Developments

## Floating Solar Applications



- Floating solar applications becoming more lucrative
- Government incentives are provided

## Agri PV Applications



- Solar integration to Agriculture applications
- Government incentives are provided



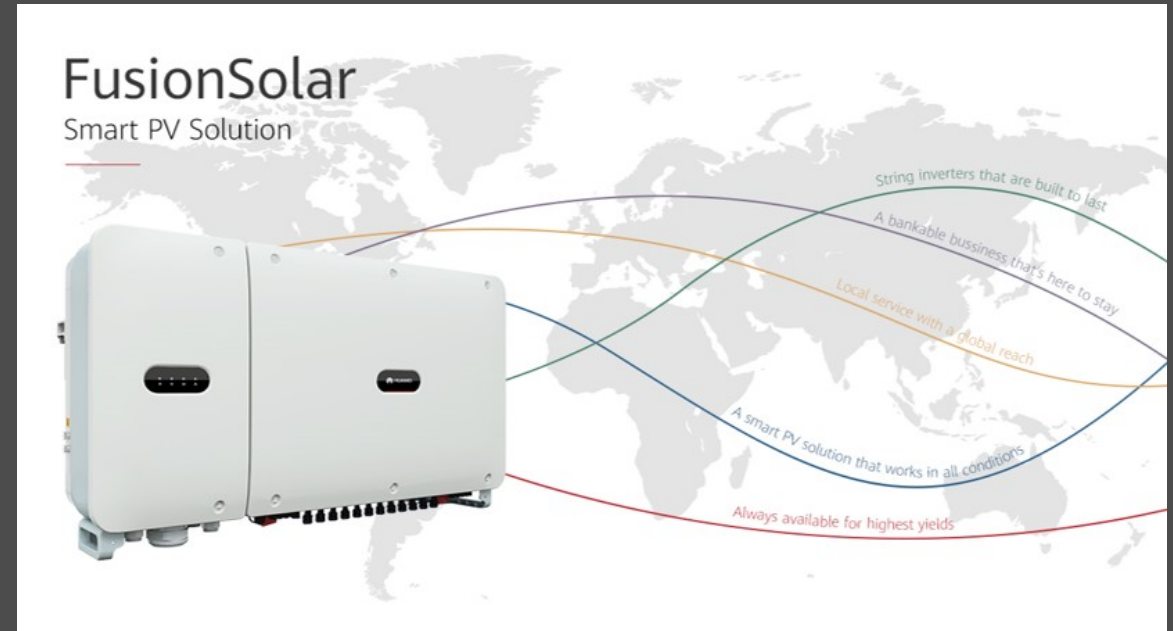
# Inverter Technology Advancements

## MLPE / Safety requirements



- Module level electronics and safety requirements
- Changes in electrical safety requirements

## Inverter Technology Digitalization



- Smart inverters with integrated multifunction
- Digital integration with monitoring and diagnosis capability



## Energy Storage Advancement

Energy Storage are more advanced



- Energy Storage for small to large scale applications
- Cost has reduced and technology is more integrated

## EV Charging stations



- EV chargers a common trend
- Technology adopted in major cities globally





2

## Solar Market Impacts



## Technology Advancements are great but Integration is a challenge



Supply chain is more complicated than ever. Capacity maybe limited



Design integration can be complex.



Obsolete products are piling up. What to do with warranty?



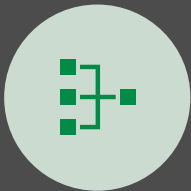
New technology is still ramping up. Quality and Warranty adoption.



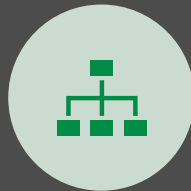
Cost is unstable and takes time to stabilize. Also due to pandemic economic impact



Engineers must adopt to latest understanding. Trainings and local tech support is a must.



New business model must be adopted.



Buying structure must be updated.



3

## Bridging Technology to Customers



## BayWa r.e. portfolio covers a broad range of renewable energies



### Projects

**4 GW** installed capacity in wind and solar globally.

**14 GW** global project pipeline solar and onshore and offshore wind.



### Operations

**9 GW** under operational management; digital asset operations expertise and technical management for solar, wind farms and biogas plants; services in energy trading.

**7 GW** direct marketing portfolio and broad energy trading services incl. PPA.

**New IPP** portfolio; plans to ramp up to 2.5 GW in the medium term.



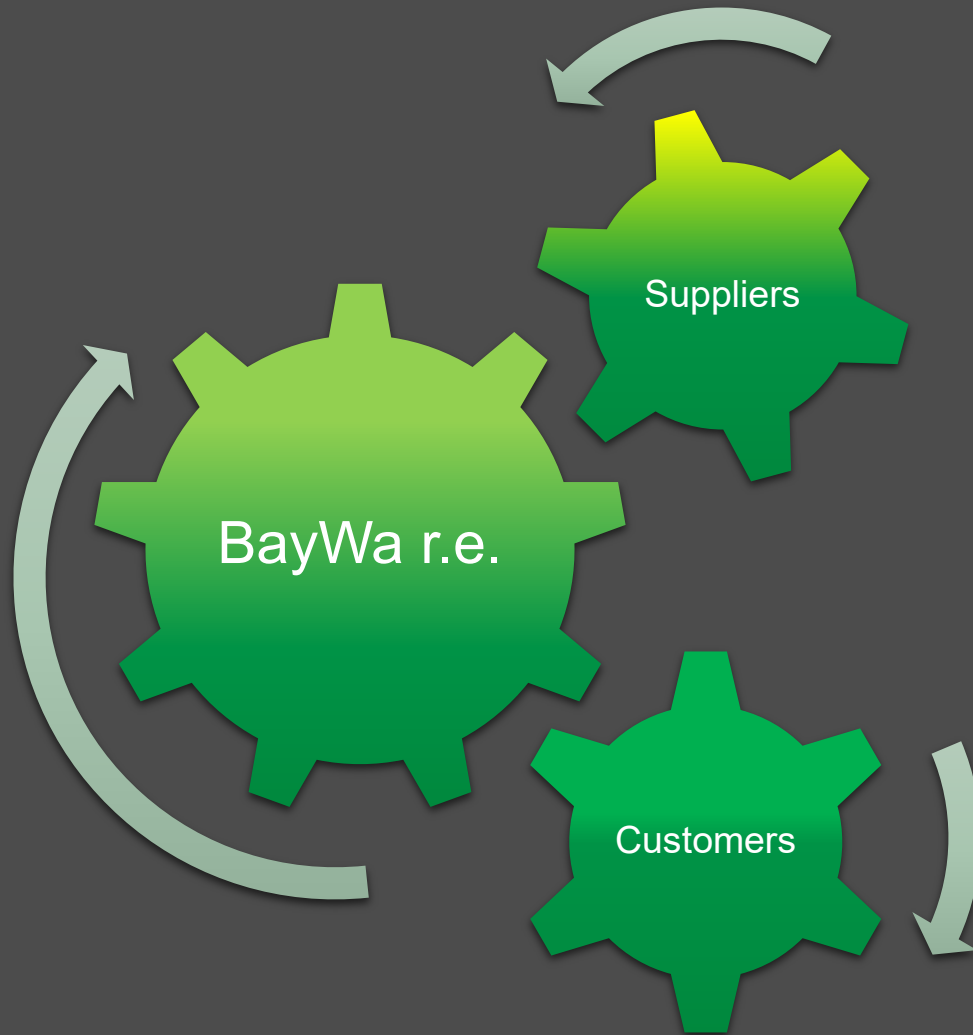
### Solutions

**25 years** of solar distribution experience, a wide range of quality products and services for about **~ 11,000** installation and sales partners globally.

**Tailor-made Energy Solutions** for commercial and industrial clients from self-consumption to green energy supply.



## BayWa r.e. Distribution Value Proposition



Technology Access

Supports innovation

Full solution provider

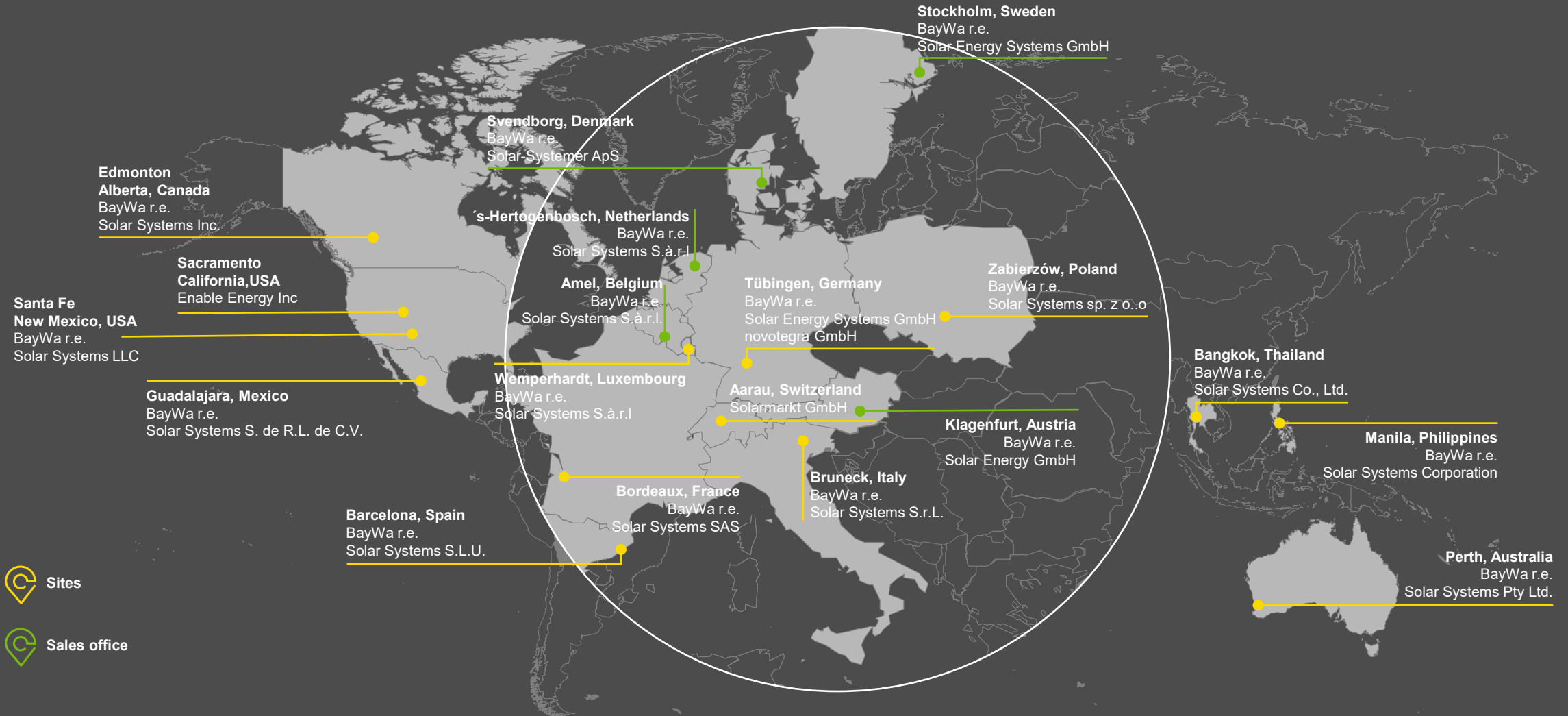
Quality management

Proactive customer support

Financial stability



# BayWa r.e. Solar Trade world-wide



Sites



Sales office



## BayWa r.e. Solar Trade world-wide

**Partner sales**

- > 110 partner agreements with **local utilities, manufacturers of prefab houses and retailers**
- > 200 partner agreements with **installers**

 **Quantity sold**

- > 1,200 MW of modules
- > 2,000 MW of inverters

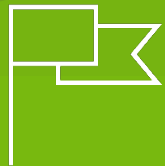




# BayWa r.e. Solar Systems Co., Ltd.



Foundation  
**2016**



**19**  
Employees

## Experience & highlights

~ 300 customers  
~ 1.100 deliveries

-  Sites
-  Sales offices
-  Warehouses

Pathum Tani

Bangkok







Image film





# Thank you

**Junrhey Castro**

**Director – Trade SEA**

[Junrhey.Castro@baywa-re.com](mailto:Junrhey.Castro@baywa-re.com)

**BayWa r.e. Solar Systems Co., Ltd**

93/1 GPF Witthayu Towers, Room No.1701  
Witthayu Road, Lumpini, Pathumwan 10330  
Bangkok, Thailand

Phone +66 2 020 5767

[www.solar-distribution.baywa-re.co.th](http://www.solar-distribution.baywa-re.co.th)



# Copyright

© Copyright BayWa r.e. AG, 2021

The content of this presentation (including text, graphics, photos, tables, logos, etc.) and the presentation itself are protected by copyright. They were created by BayWa r.e. AG independently.

Any dissemination of the presentation and/or content or parts thereof is only permitted with written permission by BayWa r.e. Without written permission of BayWa r.e., this document and/or parts of it must not be passed on, modified, published, translated or reproduced, either by photocopies, or by others – in particular by electronic procedures. This reservation also extends to inclusion in or evaluation by databases. Infringements will be prosecuted.