

1 EUR = 1.01 USD | 1 USD = 142.23 JPY | 1 USD = 6.93 CNY | 1 USD = 79.05 INR

PLM** -Polysilicon Marker	38.278	USD/kg	
Price change WoW	0	0%	-
Price change (since 6 Jan 2022)	10.378	37.195%	▲
<b>Average Mono grade in China</b>	<b>320.00</b>	<b>RMB/kg</b>	
Price change WoW	5.000	1.587%	▲
Price change (since 6 Jan 2022)	85.000	36.170%	▲
<b>Average Multi grade in China</b>	<b>180.000</b>	<b>RMB/kg</b>	
Price change WoW	5.000	2.857%	▲
Price change (since 6 Jan 2022)	80.000	80.000%	▲
CMM* -Chinese Module Marker	0.261	USD/wp	
Price change WoW	-0.007	-2.612%	▼
Price change (since 6 Jan 2022)	0.009	3.571%	▲

## CONTENTS

▪ SPOT PRICING & INDEX	P1
▪ POLYSILICON Forward Pricing	P2
▪ WAFER Historical Pricing	P3
▪ CELL Historical Pricing	P4
▪ MODULE Forward Pricing	P5
▪ MODULE Historical Pricing	P6
▪ PLM and CMM Historical Graphs	P7
▪ OPIS Alerts – News Stories	P8-10

\*\*Average price of Non-Chinese polysilicon (3:1 weight for Non-US polysilicon volumes not subjected to the Chinese AD)

\*Average Price of Multi and Mono Perc modules prices FOB China (20:80 weightage based on multi and mono modules estimated market share)

## Spot Prices & Sentiment Outlook

Sentiment outlook based on industry players' market sentiments.

Polysilicon	High	Low	Average	Change	% Change	Next week	Next Month	In 3 months
PLM (USD/kg)	50.000	33.000	38.278	-	-	-	-	▼
China Multi Grade (RMB/kg)	230.00	130.00	175.00	+5.00	+2.86	-	-	▼
China Mono Grade (RMB/kg)	330.00	283.00	315.00	+5.00	+1.59	-	-	▼
Wafers (USD/pc, 1USD:6.93RMB)	High	Low	Average	Change	% Change	Next week	Next Month	In 3 months
Multi	0.452	0.438	0.444	+0.003	+0.68	-	-	▼
Mono G1	0.825	0.821	0.823	+0.011	+1.35	-	-	▼
Mono M6	0.825	0.821	0.824	+0.012	+1.48	-	-	▼
Mono M10	0.996	0.984	0.99	+0.013	+1.33	-	-	▼
Mono G12	1.318	1.304	1.309	+0.020	+1.55	-	-	▼
Cells (USD/wp, 1USD:6.93RMB)	High	Low	Average	Change	% Change	Next week	Next Month	In 3 months
Multi	0.1320	0.1288	0.1297	-0.0003	-0.23	-	-	▼
Mono Perc G1	0.1844	0.1730	0.1750	0	0	-	-	▼
Mono Perc M6	0.1691	0.1630	0.1666	-0.0006	-0.36	-	-	▼
Mono Perc M10	0.1733	0.1670	0.1704	+0.0007	+0.41	-	-	▼
Mono Perc G12	0.1711	0.1687	0.1695	0	0	-	-	▼
Modules	High	Low	Average	Change	% Change	Next week	Next Month	In 3 months
Multi (USD/wp)	0.248	0.228	0.234	0	0	-	-	-
Multi (RMB/wp)	1.685	1.570	1.674	0	0	-	-	-
Mono Perc (USD/wp)	0.280	0.255	0.268	-0.008	-2.90	-	-	▼
Mono Perc (RMB/wp)	2.050	1.907	1.990	0	0	-	-	▼

\*Overseas polysilicon not submitted to Chinese Anti-Dumping.

Prices in RMB include VAT but exclude the 4% import duty since these are domestic polysilicon production.

All A-grade based.

Wafer USD price converted from: RMB price/ 1.13(VAT)/ FX

Multi High Cell eff: > 18.8% (> 4.62w)/ Mono PERC High Cell eff: >22.2% (>5.59 w)

Modules prices incoterms: RoW FOB China

Average module output: Multi 335wp / Mono PERC ≥540wp

# Polysilicon

## CFR Asia excluding Hemlock and Wacker-US (USD/kg)

*Non SiUS - Polysilicon not subjected to AD in China*

High	Low	Average	Price change
50.000	33.000	38.050	0.000

## CFR Asia Hemlock and Wacker-US (SiUs) (USD/kg)

*SiUS - Polysilicon subjected to AD in China*

High	Low	Average	Price change
50.000	33.000	38.960	0.000

BLUE data points in each graph represent polled price outlook.

## Mono grade China domestic market (RMB/kg)

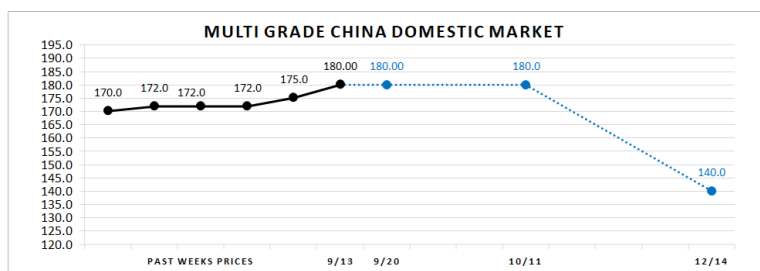
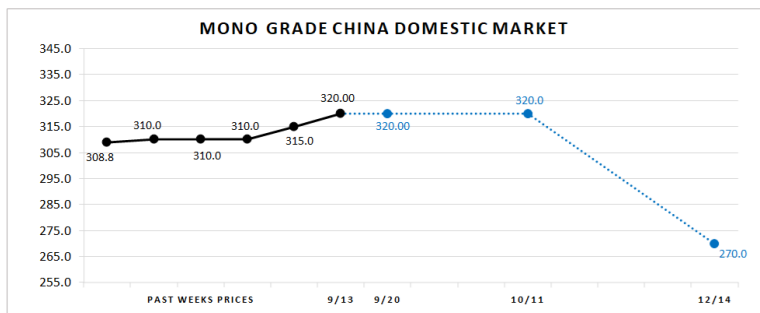
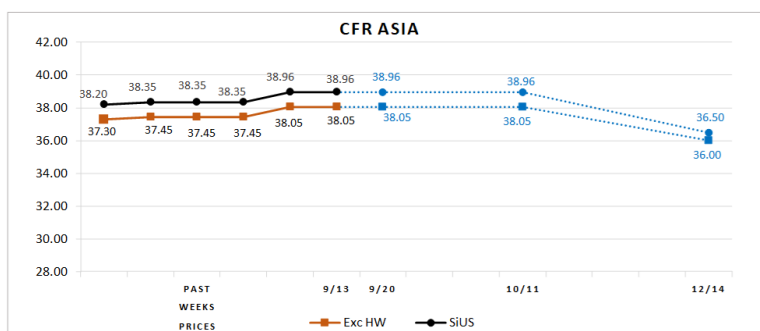
High	Low	Average	Price change
330.000	283.000	320.000	5.000

BLUE data points in each graph represent polled price outlook.

## Multi grade China domestic market (RMB/kg)

High	Low	Average	Price change
230.000	130.000	180.000	5.000

BLUE data points in each graph represent polled price outlook.



Source: OPIS Survey

## Polysilicon weekly insights:

The signing of long-term contracts for polysilicon supplies in September in the domestic Chinese market were completed this week. According to market sources in China, the long-term contract price for chunk-sized mono-Si started at RMB305/kg, while the corresponding price for chip-sized mono-Si started at RMB307/kg.

Subsequently the spot price for polysilicon also increased; prices for Mono-Si and Multi-Si rose to RMB320/kg and RMB180/kg respectively, reflecting increases of 1.59% and 2.86% from the previous week.

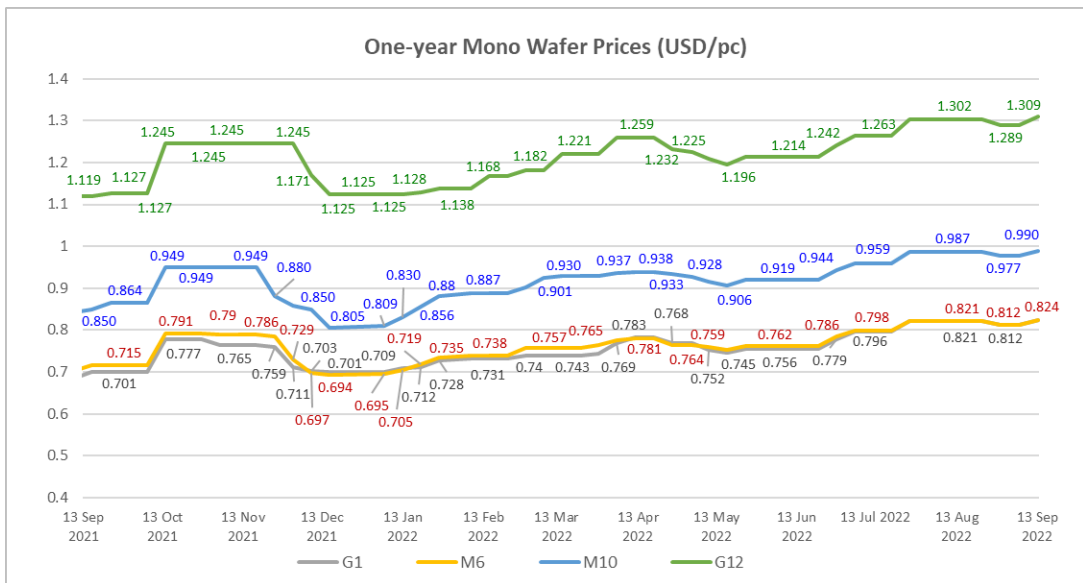
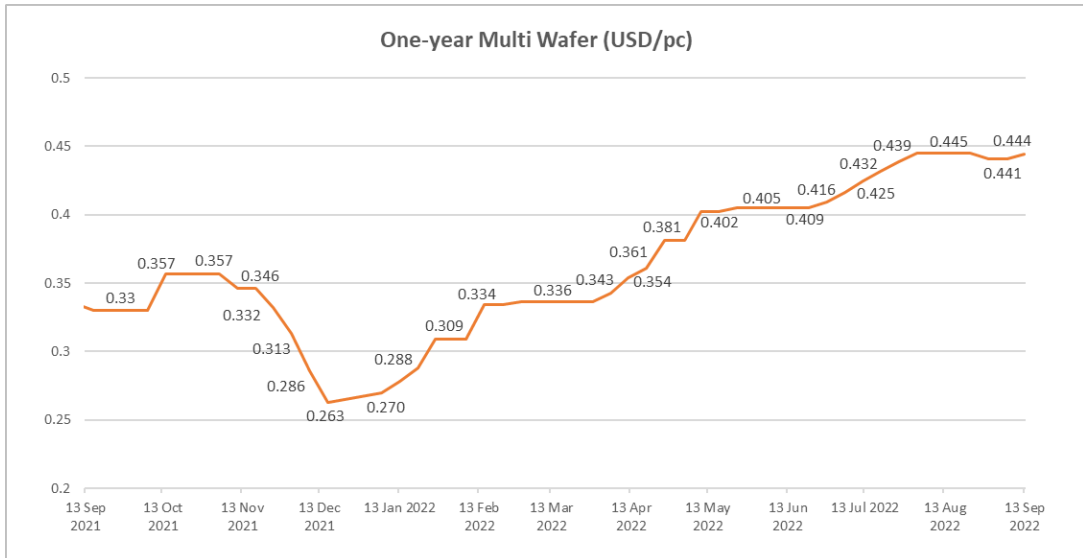
Now that the effects of power rationing in August and the earthquake in September on polysilicon manufacturing have subsided, the supply is now rising. A prominent industry expert watching the Chinese market claimed to have noticed a "potential hint of polysilicon price flattening down."

Another senior upstream insider echoed the observation: "Polysilicon prices are stabilizing, at least with September's increase in long-term contracts prices minimal. The sole external factor influencing polysilicon prices at the moment may be sporadic COVID outbreaks in select regions of China, particularly in Sichuan province. However, this will only have an impact on polysilicon transportation, maybe lengthening the cycle, but not the production."

In half a month, China will usher in Golden Week, the annual seven-day public holiday. Normally, this would be the time for wafer makers to stock up on polysilicon in preparation for Golden Week, which typically leads to another round of price hikes. However, one of our sources stated, "This year, I don't see stockpiling from the market, because polysilicon prices are high and polysilicon production in September is ramping up, and wafer makers are more inclined to rationally buy on demand."

October could possibly bring along the much-needed stabilization in polysilicon prices. Until then, polysilicon prices are expected to remain strong before new production capacity comes online.

# Wafers



Source: OPIS Survey  
 Wafer USD price converted from: RMB price/ 1.13(VAT)/ FX

## Wafers weekly insights :

As a result of rising polysilicon prices for long-term contracts with September delivery as well as the effects of the earthquake that struck Sichuan province last week, wafer market prices have increased across the board in the China domestic market this week.

An uptick of 0.68% WoW brought the price of Multi wafer to \$0.444/pc this week.

Mono wafer price gains across the range of specifications are essentially consistent, increasing by 1.3% to 1.5% WoW:

Mono G1 and M6 wafers rose by 1.35% and 1.48% WoW to \$0.823/pc to \$0.824/pc respectively.

Mono M10 and G12 wafers edged up to \$0.99/pc and \$1.309/pc on increments of 1.33% and 1.55% respectively.

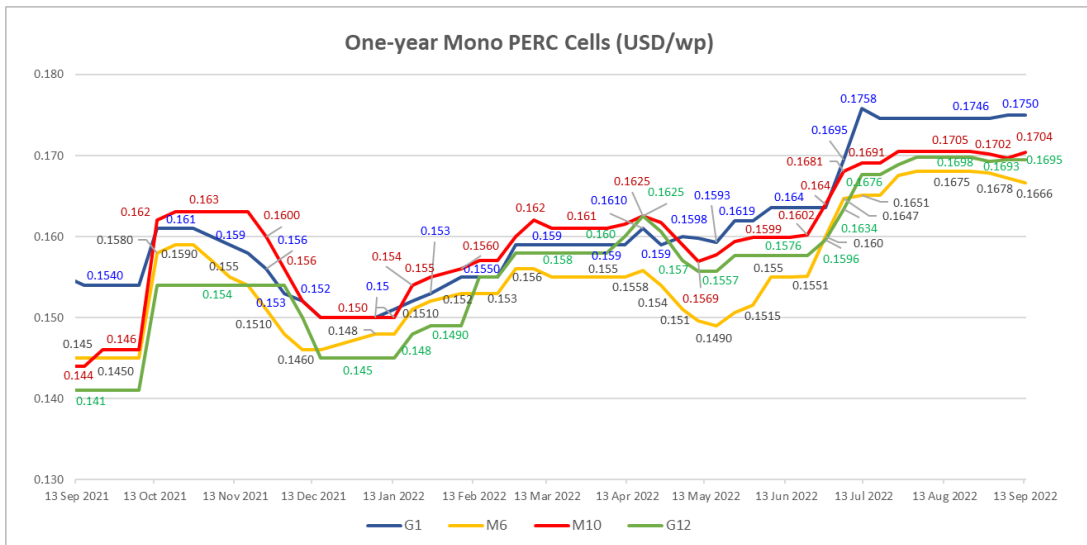
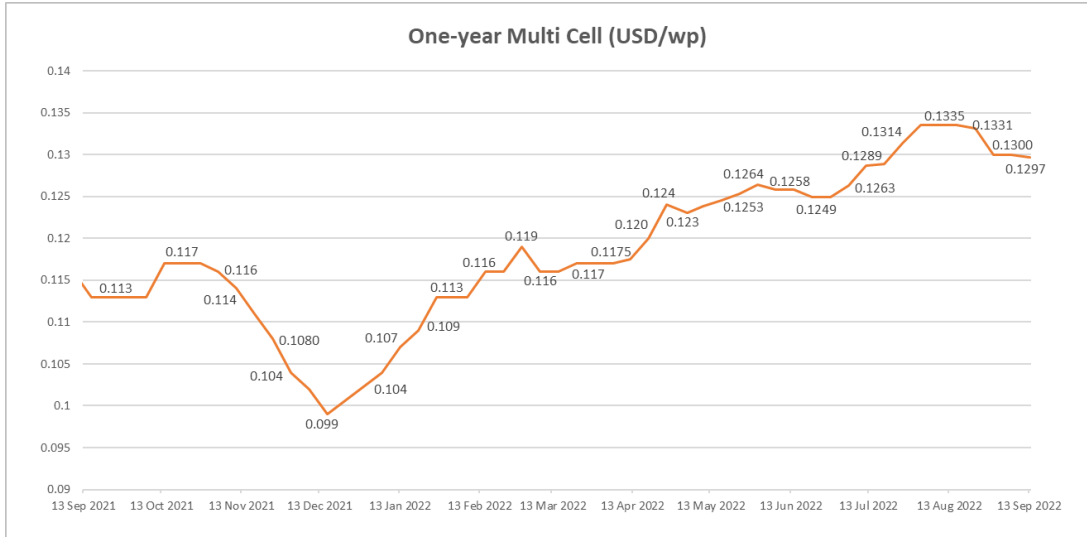
According to an insider in the upstream industry, "several wafer producers claimed that their supply is relatively limited." This was confirmed by Silicon Industry of China Nonferrous Metal Industry Association whose report confirmed that the Sichuan earthquake had caused varying degrees of damage to the temperature fields of the furnace used to produce Mono wafers in three plants. Since those fields must have a high degree of stability, wafer production appears to have suffered a nominal loss of 0.15~0.2GW as a result of the damage.

On the demand side, the cells market seems to have accepted the wafer price rise in this cycle because the leading cell manufacturer Tongwei increased the price of its cells as well, and the increase corresponds to the wafer price increase; both at RMB0.01-0.02/wp.

"Yes, cells prices go in parallel with the wafers," a senior market expert confirmed.

Wafer prices are expected to remain strong amid uncertainty over the turning point in polysilicon prices and the weakening of downstream demand.

# Cells



Source: OPIS Survey

## Cells weekly insights:

Like last week, the prices of cells this week did not move unanimously. The movements corresponded to the different specifications; prices of cells with mainstream specifications increased while the prices of cells with a declining market share dropped slightly.

With a slight week-to-week drop of 0.23%, Multi cell prices fell to \$0.1297/wp this week. At present, the demand for Multi cells has not picked up and some Multi cell manufacturers remain eager to tout their products.

Mono M6 cell prices decreased as well to \$0.1666/wp on a marginal week-to-week decline of 0.36%. A cell manufacturer confirmed with OPIS that there is a sizeable inventory of Mono M6 cells available on the market.

Mono M10 cell prices saw a nominal bump of 0.41% from the previous week, taking this week's price up to \$0.1704/wp. A market source shared, "The high-efficiency Mono M10 cells are such in demand that our production for that is almost fully booked." Another major cell manufacturer concurred: "We have recently signed quite a lot sales orders for Mono M10 cells, so the price has climbed slightly this week".

The price of Mono G12 cells was flat this week, reporting at \$0.1695/wp. No discernible changes in the supply and demand of Mono G12 cells were observed this week.

Overall, the demand for cells from downstream as well as the current sales of cells is still considerable. "It's as if pent-up demand, for some reason, has been unleashed," a cell producer commented before adding, "For me, it may be because the market price was slightly softened earlier, leading to an increase in purchasing volume. Now that the [photovoltaic] PV market is sensitive, any slight shift in demand will show up in price fluctuations."

Cell prices are expected to remain high in the short term because the market is basically facing burgeoning demand despite the lofty prices.

# Modules

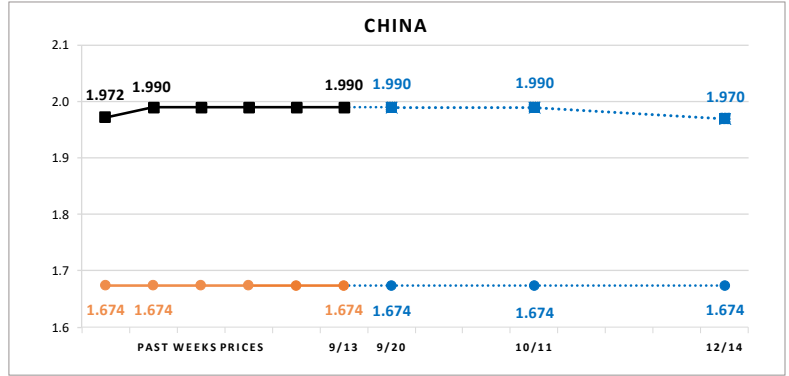
## CHINA

### RMB/wp, EXW

Category	High	Low	Average	Price change
Multi	1.685	1.570	1.674	1.674
Mono Perc	2.050	1.907	1.990	0.000

China prices are VAT-inclusive.

BLUE data points in each graph represent polled price outlook.



## FOB China

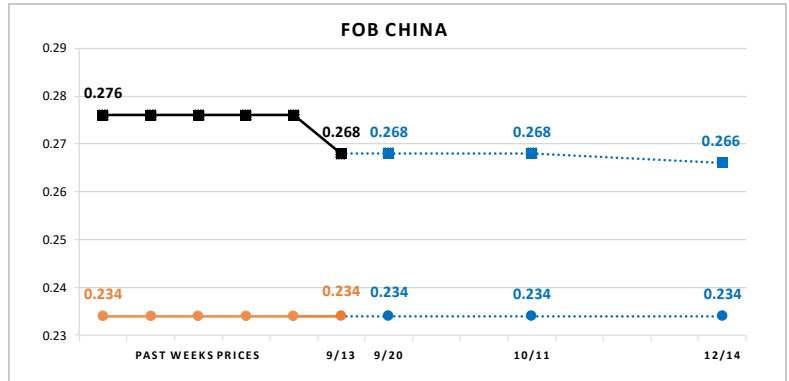
### USD/wp, FOB

Category	High	Low	Average	Price change
Multi	0.240	0.228	0.234	0.000
Mono Perc	0.280	0.255	0.268	-0.008

The ROW refers to FOB China prices for following regions:

South East Asia, Australia Latin America, Europe and the Middle East.

BLUE data points in each graph represent polled price outlook.

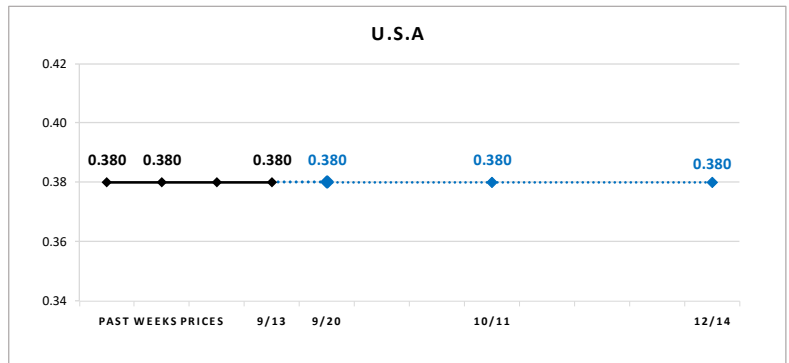


## U.S.A

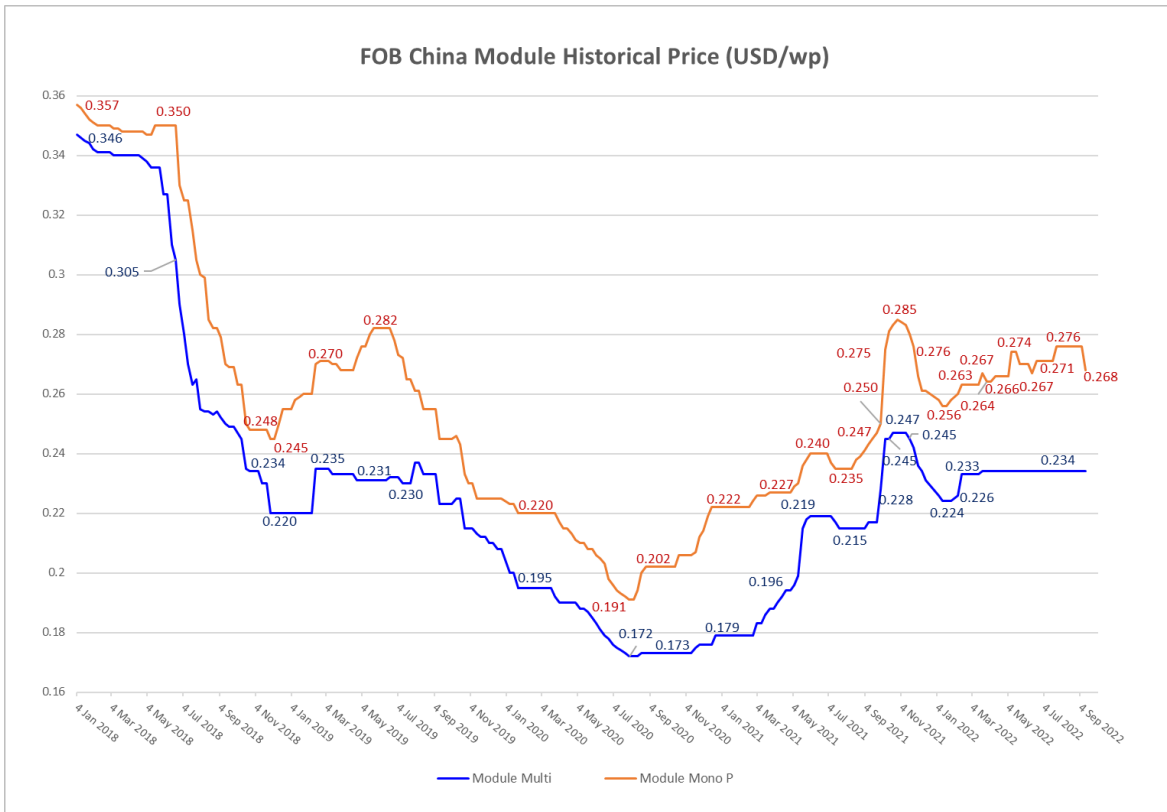
### USD/wp, FOB

Category	High	Low	Average	Price change
Mono Perc	0.420	0.330	0.380	0.000

BLUE data points in each graph represent polled price outlook.



# Modules



Source: OPIS Survey

## Module weekly insights:

Despite the punctuation in the week by Mid-Autumn festivities, the domestic Chinese module market returned from its break with an air of gravity and sobriety.

Our assessment of the market this week, however, yielded a somewhat unexpected outcome. While Multi modules held on to their price of \$0.234/wp from the previous week, Mono PERC module prices took a slight dip of 2.90% week-to-week and landed at \$0.268/wp. Although demand in certain regions remain strong, we saw an unexpected softening in prices, albeit slightly, across the market.

The domestic modules prices reported unchanged. Last week, a source confirmed that despite some upward pressure from rising upstream prices, module manufacturers have to keep their prices competitive. “[Y]es, customers will not be interested in we increase the price further,” disclosed a key source at a module manufacturer.

Another reason for the largely stable domestic module prices is possibly the unanticipated entry of a vertically-integrated manufacturer into the module arena. Market insiders had previously raised their eyebrows when Tongwei made the announcement and before they could recover, China Resources Group announced that Tongwei’s bid of RMB1.94/wp topped the shortlist in their 3GW module procurement tender for delivery in Q4.

Reiterating the need for competitive pricing, a source commented, “[A]nd we as a medium manufacturer, we can only follow the trend, not leading the trend. Traditional top four or top five manufacturers are starting defending their market positions, because the movement of Tongwei, which is a[n] obvious threat.”

On the one hand, some of our market sources are unanimous about module prices remaining high. A source from a major module manufacturer explained, “There is not reason for the prices to go down this year. The demand is at an all-time high, other energy fuels are rising, so why not solar?”

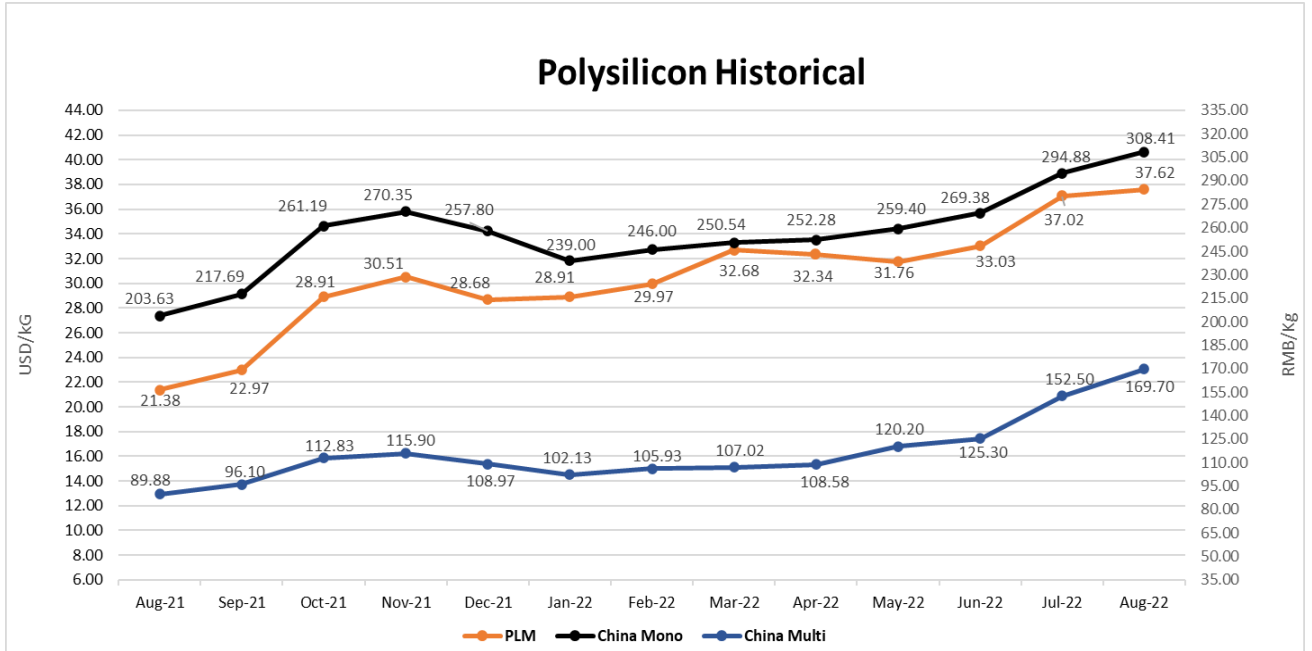
On the other, a seasoned market insider alluded to this being attributed to some larger manufacturers keeping their prices high despite the large inventory in Europe, citing delays in projects due to the Russia-Ukraine conflict. “Some are dumping

Although the U.S. market has returned from the Labor Day break, it remains eerily quiet. Possibly, a part of the market is still trying to make sense of the Inflation Reduction Act (IRA). A large U.S.-based developer offered his perspective, “The most impactful component of the IRA will be the domestic content enabled bonus to the ITC (going from 30% to 40%). Module prices will increase for panels that enable this domestic content. Merchant prices for these panels, which are in short supply for 2023, is around \$0.60/W.

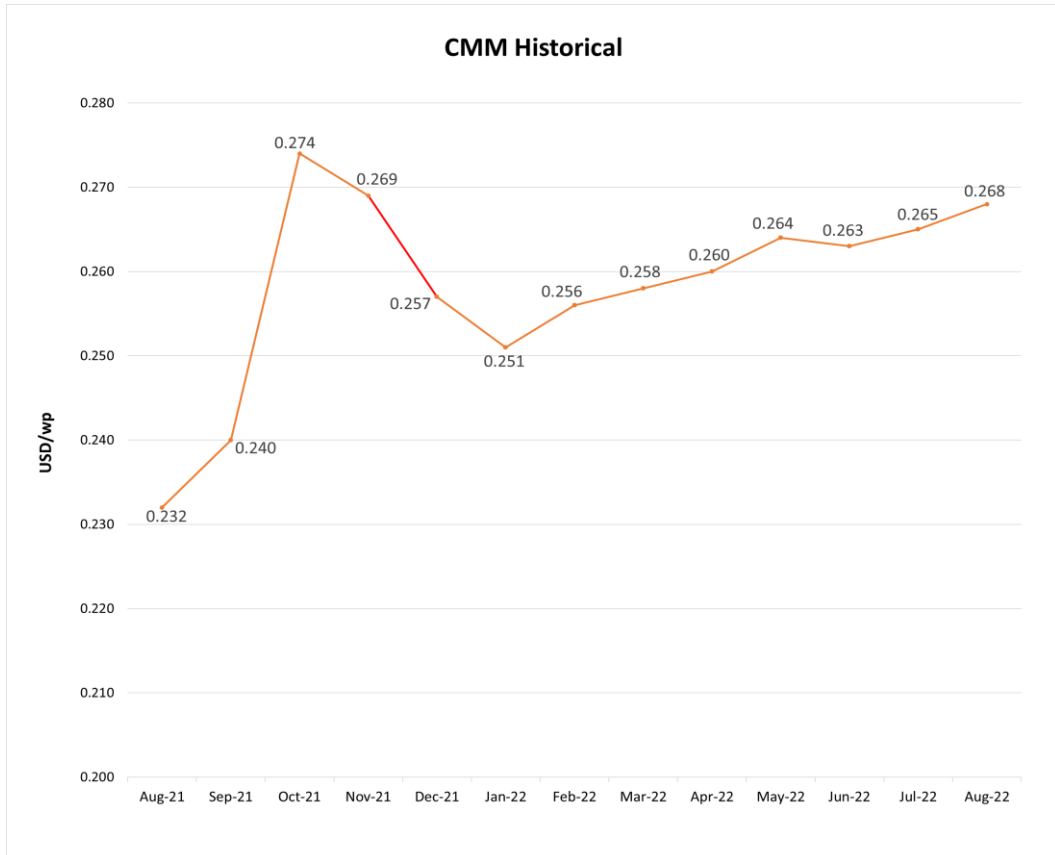
When broached about domestic manufacturing, he offered some semblance of hope, “Definitely you’ll see plenty of new module and a slightly smaller amount of cell capacity announcements in the coming months. It will total around 10GW/year across a half dozen manufacturers.”

# Historical Data

## PLM and CMM



PLM is the average price of Non-Chinese polysilicon  
(3:1 weight for Non-US polysilicon volumes not subjected to the Chinese AD)



Average Price of Multi and Mono Perc module prices FOB China  
(20:80 weightage based on Multi and Mono modules)

# OPIS Alerts

2022-09-09 11:28:12 EDT

## \*\*\*Weekly Climate News Roundup

Here are a few highlights from recent announcements of climate initiatives and emissions reduction strategies:

### --UN Global Compact Unveils New Guidance on Green Transition

The United Nations Global Compact, an initiative of the world body, wants to make sure that the benefits of the transition to a green economy are shared widely and support workers' rights and livelihoods.

To achieve this, the Global Compact on Thursday launched a new guidance for businesses.

Introduction to Just Transition - A Business Brief offers help on transition planning that is based on social dialogue and stakeholder engagement.

It builds on the principles established in the International Labour Organization's guidelines for a just transition toward environmentally sustainable economies and societies for all, the Global Compact said.

The new guidance outlines seven priority actions to help all companies understand just transition's principles, identify gaps in current practices and generate ideas for improving alignment.

### --Singapore Seeks Public Comment on Country's Climate Goals

Singapore has launched public consultations on how the country can achieve net zero emissions by 2050.

The move was announced this week by the National Climate Change Secretariat (NCCS), the country's climate agency.

Members of the public have until Sept. 26 to submit their views on whether Singapore's climate goals are too ambitious, just right or not sufficiently ambitious.

"Although Singapore contributes only 0.1% of the global emissions, we are disproportionately affected by its effects as a low-lying island city state," the NCCS said Monday.

The country is expected to revise its 2030 climate goals before the end of 2022.

### --Firm Offers Carbon Footprint Data for Chemicals and Plastics

German life cycle assessment provider Carbon Minds has partnered with global chemicals giant BASF to offer comprehensive product carbon footprint (PCF) data for chemicals and plastics, the company said Tuesday.

The partners will develop a new database with more than 80,000 datasets covering over 1,000 products in 190 regions, Carbon Minds said.

The database will be tailored to companies using the BASF methodology in their PCF calculations, it said.

The aim is to promote the harmonization of carbon footprinting methodologies across industries and create the conditions for comparable carbon footprints for chemical and plastics raw materials, Carbon Minds said.

Raoul Meys, co-founder and chief technology officer at Carbon Minds, said the new database would enable companies to create transparency over supply chain emissions and make progress toward a successful net zero transition.



# OPIs Alerts

## --Aurora Platform Generates 10 Millionth Solar Roof Design

Aurora Solar is celebrating a milestone - its cloud-based platform has generated the 10 millionth solar roof design.

"These projects deliver a combined savings of nearly 60 million metric tons of carbon dioxide emissions, which is equivalent to the total emissions produced by more than 16 coal-fired power plants over the course of a year," the U.S. company said Tuesday in a news release.

More than 7,000 solar installers worldwide now depend on Aurora to deliver a new energy experience, it said.

Aurora's platform is powered by proprietary computer vision and machine learning algorithms.

It streamlines the project lifecycle to accelerate revenue and lower the soft costs of delivering solar energy, helping installers keep pace with the market's unprecedented demand, the company said.

## --Japanese Startup to Unveil Platform Focusing on Scope 3 Emissions

Japanese blockchain company XELS is launching a platform dedicated to bringing transparency to Scope 3 emissions reporting.

Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting entity but indirectly impacts its value chain.

The new XELS platform will make it easy for companies of all sizes to create customizable online reports, the startup said Thursday.

Slated to launch later this month, it will offer a carbon offset education portal, an emissions calculator and a publishing tool that shows an organization's carbon credit purchase and retirement history on an immutable public ledger, XELS said.

Clients will also have access to XELS' tokenized carbon offset marketplace, it said. The company's tokenized offsets are tied to protected lands and reforestation efforts in Japan, Australia and elsewhere, it said.

## --Canada Is Building Zero-Carbon Library

Canada will fund the construction of a zero-carbon public library in Pelham, Ontario, the government announced last week.

It will provide C\$5.4 million (\$4.12 million) to build the 18,000-square foot library near the town's existing community center.

The three-story facility will include accessibility features and green energy and climate resiliency components such as solar panels, glazing and natural lighting.

The money for the project will come from the Green and Inclusive Community Buildings program. Canada is pouring billions of dollars into a variety of green programs to meet its climate targets.

The government has set a goal of cutting emissions by 40% below 2005 levels by the end of this decade, ahead of reaching net zero emissions in 2050.

--Reporting by Abdul Latheef, [alatheef@opisnet.com](mailto:alatheef@opisnet.com); Editing by Jeremy Rakes, [jrakes@opisnet.com](mailto:jrakes@opisnet.com)  
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# OPIS Alerts

2022-09-06 05:35:42 EDT

## \*\*\*China's Tongwei Warns Power Rationing May Cut \$108.4 Mn From 2022 Profits

Power rationing on industries in China's Sichuan province during August 15-25 could shave CNY753 million (\$108.4 million) off Tongwei Group's 2022 net profits, the world's top polysilicon producer said in a filing to the Shanghai Stock Exchange on Tuesday.

Tongwei said that during the power rationing period, its Sichuan-based polysilicon production was running at at the minimum level required for production safety, and that it had to halt production of solar cells.

Tongwei's production of polysilicon and solar cells gradually came back on line from August 26 and have been running full load since September 1 when the power crunch eased in Sichuan, the producer added.

The company reported a 312% year-on year jump in its net profit for H1 2022 at CNY12.22 billion, with its H1 2022 revenue more than doubling to CNY60.34 billion.

According to the China Photovoltaic Industry Association (CPIA), Tongwei produced 109,000 mt of polysilicon in 2021, which accounted for roughly 22% of China's yearly output and about 18% of the world's annual output.

By the end of 2021, Tongwei has a capacity for 230,000 mt of polysilicon, with 107,000 mt of the capacity being in Sichuan, according to the company's website.

(\$1=CNY6.95)

--Reporting by Patrick Han, [phan@opisnet.com](mailto:phan@opisnet.com); Editing by Carrie Ho, [cho@opisnet.com](mailto:cho@opisnet.com)  
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2022-09-05 05:43:44 EDT

## \*\*\*Shell, Petronas Greenlight Rosmari-Marjoram Gas Project in Sarawak, Malaysia

Shell Plc said Monday its unit and a unit of Malaysian state energy firm Petronas have taken a final investment decision to develop the Rosmari-Marjoram gas project off the coast of Bintulu in Malaysia's Sarawak state.

Shell's unit Sarawak Shell Bhd. will be the operator with 80% interest in the project with Petronas' upstream unit Petronas Carigali Sdn. Bhd. holding 20%.

The development consists of an onshore gas plant, a subsea tie-back, an unmanned wellhead platform and a 207-km pipeline to shore and will be primarily powered by renewable energy, Shell said in a press release. Gas production is expected to start in 2026.

Sarawak Shell's largest onshore project in the Malaysian state in more than 40 years, the onshore gas plant will have a capacity to produce 800 million cubic feet of gas per day and will ensure continued gas supply to the Petronas LNG Complex, Shell said.

The Petronas LNG complex in Bintulu has a production capacity of around 30 million mt per year, according to Petronas' corporate website.

Shell said the offshore platform will use power from 240 solar panels while the onshore plant is connected to the Sarawak grid system which is supplied mainly by hydroelectric plants. These will be backed up by diesel generators and batteries.

Discovered in 2014, the deep-water sour gas Rosmari and Marjoram fields are situated 220km off the coast of Bintulu.

Shell did not specify the total investment amount in its press release although it in July awarded an engineering, procurement, construction and commissioning contract worth \$680 million for the onshore gas plant to Samsung Engineering, the South Korean engineering firm said.

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