# JinkoSolar - Q1 2019 Transcript

06/28/2019

## Call participants:

**Ripple Zhang** -- *Investor & Media Relations-China*

**Chen Kangping** -- *Chief Executive Officer*

**Gener Miao** -- *Chief Marketing Officer*

**Charlie Cao** -- *Chief Financial Officer*

**Philip Shen** -- *Roth Capital Partners -- Analyst*

**Maheep Mandloi** -- *Credit Suisse -- Analyst*

**Brian Lee** -- *Goldman Sachs -- Analyst*

## Prepared Remarks:

**Operator**

Ladies and gentlemen, thank you for standing by and welcome to JinkoSolar First Quarter 2019 Earnings Conference Call. At this time, all participants are in a listen-only mode. There will be a presentation followed by a question-and-answer session. (Operator Instructions)

I would now like to hand the conference over to your speaker today, Ms. Ripple Zhang. Thank you. Please go ahead.

**Ripple Zhang** -- *Investor & Media Relations-China*

Thank you, operator.

Thank you, everyone, for joining us today for JinkoSolar's first quarter 2019 earnings conference call. The Company's results were released earlier today and available on the Company's IR website at www.jinkosolar.com as well as on newswire services. We have also provided a supplemental presentation for today's earnings call, which can also be found on the IR website.

On the call today from JinkoSolar are Mr. Chen Kangping, Chief Executive Officer; Mr. Charlie Cao, Chief Financial Officer; and Mr. Gener Miao, Chief Marketing Officer. Mr. Chen will discuss JinkoSolar's business operations and the Company highlights, followed by Mr. Miao who will talk about the sales and marketing, and then Mr. Cao, who will go through the financials. They will all be available to answer your questions during the Q&A session that follows.

Please note that today's discussion will contain forward-looking statements made under the safe harbor provisions of the US Private Security Litigation Reform Act of 1995. Forward-looking statements involve inherent risks and uncertainties. As such, our future results may be materially different from the views expressed today. Further information regarding this and other risks is included in JinkoSolar's public filings with the Securities and Exchange Commission. JinkoSolar does not assume any obligation to update any forward-looking statements except as required under the applicable laws.

It's now my pleasure to introduce Mr. Chen Kangping, CEO of JinkoSolar. Mr. Chen will speak in Mandarin, and I will translate his comments into English. Please go ahead, Mr. Chen.

**Chen Kangping** -- *Chief Executive Officer*

(foreign language)

Thank you, Ripple. Good morning and good evening to everyone, and thank you for joining us today.

(foreign language)

Module shipments were 3037 megawatts during the quarter, an increase of 50.7% year-over-year and a decrease of 19.1% sequentially. Overseas shipments accounted for over 90% of the total shipments during the quarter. Total revenues were $867 (ph) million, an increase of 27.5% year-over-year and a decrease of 24.6% sequentially. Gross margin was 16.6%, up from 14.7% sequentially and 14.4% year-over-year as we increasingly benefit from a higher proportion of sales being generated by our high efficiency mono products and further reductions in production costs.

(foreign language)

As grid parity approaches, global solar demand continues to generate rapid and long-term sustainable growth momentum. Growth during the quarter was primarily driven by strong continuous demand from overseas markets and the anticipated kickoff of the domestic market during the second half of the year.

(foreign language)

European markets continue to perform well following the cancellation of the minimum import price policy and demand from price sensitive projects in particular has surged. Overall, European markets are expected to install 17 gigawatts this year, exceeding the previous estimate of 15 gigawatts.

(foreign language)

The solar energy market in the US is huge. Recently policy changes exempting bifacial solar modules from Section 201 tariffs are expected to support medium and long-term demand and significantly increase the application of bifacial modules. The market opportunity in the US is massive, and we intend to expand our presence there by leveraging our overseas high efficiency capacity in Malaysia and the US, strong brand recognition, high quality products and our best-in-class customer service.

(foreign language)

On the domestic front, policies recently laid out by China's National Energy Administration are expected to create a surge in demand during the second half of the year. The total amount of -- total amount of subsidies excluding poverty alleviation projects was set at CNY3 (ph) billion. Other than a separate subsidy scale for residential solar systems and poverty alleviation projects, the plans laid out require that all projects must win a bid in order to be subsidized. The introduction of a fully competitive mechanism for project bids aims to create the largest market share with the existing subsidy scale and accelerate grid parity by cutting nontechnical costs.

China is expected to install 40 gigawatts this year. As the leading manufacturer, we will focus on promoting the adoption of high efficiency products across the domestic market, particularly for products that reduce the cost of energy. This will support the transition of the Chinese market toward grid parity without subsidies and provide our customers with industry-leading products and solutions that offer high efficiency, high performance and high reliability.

(foreign language)

Other markets are also very active. I will let Gener go into further detail on this.

(foreign language)

Global solar demand for our high efficiency mono products is growing significantly and has resulted in them being in short supply continuously. We are accelerating the expansion of our high efficiency mono capacity and estimate they will account for over 70% (ph) of our total shipments for the year.

(foreign language)

Turning to the high efficiency capacity. We've successfully raised $160 million last month, which is being deployed to further expand our high efficiency mono production capacities. Our wafer, cells and module capacity reached 10.5 gigawatts, 7 gigawatts and 11 gigawatts respectively by the end of the first quarter.

We are increasing output of both wafer and PERC capacities. Our new 5 gigawatt mono wafer production facility in Leshan, Sichuan Province, began trial production this month and will ramp up to full capacity by the fourth quarter of this year. This new production facility will serve as a benchmark for the industry with its industry-leading cost structure and cutting-edge technology. The additional mono wafer capacity will allow us to significantly increase the proportion of our high-efficiency products we manufacture and improve overall profitability.

We expect to reach wafer, cells and module production capacity of 15 gigawatts, 10 gigawatts and 16 gigawatts, respectively by the end of the year. Of this, approximately 11.5 gigawatts will be mono wafers and approximately 9.2 gigawatts will be PERC cells.

(foreign language)

On the high efficiency technology front, our customized monocrystal furnace performs much more efficiently and requires lower CapEx, which help us ensure the premium quality and competitive pricing of our mono products. The integration of our proprietary acceleration technology into our (inaudible) processing and automated systems has allowed us to further increase crystal growth (ph) rate and sharply reduce (inaudible) costs.

On the cell side, the maximum conversion efficiency of our cheetah size cells and N-type cells reached 24.38% and 24.58%, respectively, in the June 2019. Additionally, power generated by our version 72 high efficiency monocrystalline module reached 469.3W during testing conducted by TUV Rheinland, a respected three-party (ph) institution. We are clearly making significant breakthroughs and setting new industry standards when it comes to developing high efficiency on the (ph) power cells and modules.

This year, we also launched the latest addition to our premium Cheetah range of products, the Swan bifacial module with a new DuPont -- clear DuPont Tedlar based backsheet. Lightweight materials alleviate a number of problems during the installation process and help lower initial costs of our customers. Demand for bifacial transparent backsheet products will grow rapidly as they become more mainstream going forward. We will continue to increase the proportion of bifacial products we produce to meet this demand.

(foreign language)

Before turning the call over to Gener, I will quickly go over our guidance. Based on current estimates, we estimate our total solar module shipments to be in the range of 3.2 gigawatts or 3.3 gigawatts for the second quarter and 14 gigawatts to 15 gigawatts for full year.

(foreign language)

Thank you (inaudible). With that, I will turn it over to Gener.

**Gener Miao** -- *Chief Marketing Officer*

Thank you, Mr. Chen.

The total shipments during this quarter was 3037 megawatts, exceeding our guidance and an increase of 50.7% quarter-over-quarter. Demand of

China during the quarter accounted for over 90% of total sales. Particularly, shipment growth of mono products was 2.4 times higher than the same period last year.

In terms of geographic mix, shipments to the Asia-Pacific region accounted for the largest portion, followed by European market and then North America and emerging markets. With over 70% of our order book already built, we have great visibility for the second half of 2019. Due to later than expected announcement of this year's policy, total PV installations in China were only 5.2 gigawatt in the first quarter. With the new policy's final release, demand is expected to surge in the second half of the year, with poverty alleviation and residential expected to be pursued (ph) first.

For full year 2019, we expect total solar installation to be around 40 gigawatts. We will further reinforce our position in the largest PV market in the world by promoting our high efficiency premium Cheetah and Swan products and to facilitate the market's transition toward grid parity.

The US market has been heating up over the last two years. The ITC played an influential role in stimulating demand. US installations hit a record high in the first quarter. Due to the trade barriers and supply shortage, we anticipate that the market price will remain stable. Recently, it was announced in US that bifacial solar modules were exempted from the Section 201 tariff. The tariff exemption on the bifacial modules will increase the product's competitiveness and (inaudible) in the US market.

The bifacial solar modules will likely become the mainstream choice in the future. In particular, companies with fully integrated bifacial solar module capacity outside China such as Southeast Asia will likely to benefit tremendously. We have been (ph) focusing on US market and we will continue to secure long-term orders with key US clients.

Grid parity has been achieved in a number of European countries. Traditional markets like Germany, France and Spain continue to display strong demand (inaudible) the major form of projects without subsidies (inaudible) while distributed self-supply projects are also growing rapidly. We have noticed that distribution projects are growing rapidly in countries with limited land resources like Netherlands. In other European markets such as Poland, Greece and Hungary, demand is growing as well. The European market has great potential, and we will strengthen our market position and the market share by continuously providing our clients with superior products, premium service and cutting edge technologies.

Turning to Asia-Pacific market. Full year demand in the Japanese market is expected to be around 8 gigawatts. The proposed cancellation of subsidy has (ph) result in a surge of demand in the near term. The demand in Indian market this year is expected to grow to 10 gigawatts. The Indian government has launched several rounds of protection policies but module demand for foreign manufacturers remains strong.

We are also focusing on Australia and Vietnamese markets and are making (inaudible). In Australian market, industrial projects will take over residential projects to become the next growth driver. In Vietnam, the new round of subsidy policies have increased the confidence in the sustainable development of the renewable energy market. Various South East Asian markets are projecting strong growth, and we will continue to anticipate opportunities and deploy resources to markets with strong potential to seize the first-mover advantage.

We are also confident about our position in key emerging markets. The scale of Latin American markets is expected to be around 6 gigawatts to 7 gigawatts, mainly driven by growth in Mexico, Brazil and the Chile markets. Demand in the next two or three years is expected to remain stable at a similar level.

Continuous round of gigawatt level tenders are taking place in the Middle East region. Gulf nations led by Saudi Arabia are reducing their reliance on oil for energy. So we are very optimistic about the prospects in the region, and we will invest in more resources to explore those markets.

The ASP in Q1 remained stable when compared to the previous quarter. Prices for the whole year are expected to be stable given the strong demand. As Mr. Chen had just mentioned, we will continue to make technical advances and capture the market demand with leading innovation and new products. At the same time, we will continue reducing our cost to support competitive energy cost as industry move toward grid parity.

In general, the global solar market will continue generating sustainable rapid growth momentum for the rest of 2019 and beyond. Based on the first quarter data, our classic Cheetah module series is in high demand and are very popular, making up 70% in second half orders. We launched our new Swan bifacial module at 2019 SNEC with the ability to provide higher yield gain (ph) and lower cost of energy. The module is also easier to install and greatly enhances reliability during operation. Thanks to these advantages, the Swan transparent backsheet bifacial module was awarded the Intersolar Award 2019, the only module product to earn this acknowledgement in the industry.

In addition, for the fifth consecutive year and -- in 2019, we have been ranked as the top performer in PV module reliability scorecard published by PVEL in partnership with DNV GL, a testimony of our continuous commitment toward product quality. We are leveraging our position in the industry to strengthen our reputation as a SAS (ph) leader. In March, JinkoSolar was the only renewable Chinese corporate leader invited to attend the 2019 B20 Summit in Tokyo. As the solar industry representative, we were able to offer deep insight into the global green economy and the transformation of the energy industry which was widely covered by the media.

In terms of the product marketing, during the first quarter we attended 13 (ph) important conferences, 35 core marketing events with key partners across the globe and hosted a further nine key customer events around the world. Our active global marketing events continue to allow us to reach, to educate -- and educate new customers about JinkoSolar high quality products.

With that, I will pass over to Charlie.

**Charlie Cao** -- *Chief Financial Officer*

Thank you, Gener.

Firstly, I like to walk you through our Q1 results. Total solar module shipments were 3 gigawatts, down 16% sequentially and up 51% year-over-year. Total revenue was $868 million, down 23% (ph) sequentially and up 28% year-over-year. The change was due to the decrease of solar module shipments. Gross profit was $144 million compared to $165 (ph) million in Q4 2018. Excluding the CVD reversal benefit, gross profit in Q4 2018 was $155 million. The change was due to the decrease in the shipment of solar modules.

Gross margin improved to 16.6% compared to 14.7% in Q4 2018. The sequential increase was attributable to a higher proportion of cells produced high efficient mono products and further reductions of our production costs.

Operating expenses was $109 million, representing 12.5% of total revenue compared to $130 (ph) million, which was 11.6% of total revenue in Q4 2018. The increase of operating expenses as a percentage of revenue is due to the increase of shipping costs as a percentage of revenue associated with the significant higher percentage of shipments to overseas markets.

EBITDA was $49 million compared to $54 million in Q4 2018. Net income was $6 million compared to $16.7 million in Q4 2018. Non-GAAP net income was $5 million. This translates into non-GAAP diluted earnings per ADS of $0.12.

Moving on to the balance sheet. The Company had $650 million in cash, cash equivalents and restricted cash compared to $506 million at the end of Q4 2018. Our accounts receivables were $872 million, down from $889 million at the end of Q4 2018. Inventories were $966 million compared to $835 million at the end of Q4 2018. The increase of inventory is for the continued strong demand from international markets in the second quarter.

The total debt was $1.8 billion compared to $1.4 billion at the end of Q4 2018. The net debt was $1.1 billion compared to $0.9 billion at the end of Q4 2018. The increase was due to the short-term borrowings for the working capital purposes and long-term borrowings for the capital expenditure.

At this moment, we are happy to take your questions. Operator?

**Gener Miao** -- *Chief Marketing Officer*

Operator, let's proceed to question-and-answer.

## Questions and Answers:

**Operator**

Sure. (Operator Instructions) Your first question is from Philip Shen from Roth Capital Partners. Your line is now open. Please go ahead.

**Philip Shen** -- *Roth Capital Partners -- Analyst*

Hi everyone. Thank you for the questions. In terms of the Q1 shipments, I was wondering if you could break that down into multi modules and mono modules and mono PERC modules, similar to what you do annually. And also, can you share what the in-house vertical costs were in Q1? I think in Q4, you guys talked about $19.03, but if you could share that for Q1 as well, that would be great. And then how do you expect your overall cost structure to trend by the end of this year and also the end of 2020?

**Charlie Cao** -- *Chief Financial Officer*

Hey Phil, It's a long one. So let me take the first half first. For (inaudible) mix of different technology, I think our -- in Q1, our shipment for the poly product are below 50% and the rest will be the high efficiency -- high efficient products. For the detailed numbers, we don't plan to disclose that. And what's the other part of the question about the shipment? Sorry, can you repeat?

**Philip Shen** -- *Roth Capital Partners -- Analyst*

I think that's it for shipments. I mean, can you share how much was mono PERC? I think you guys do it annually. So if you can do it for the quarters, that would be helpful.

**Charlie Cao** -- *Chief Financial Officer*

Philip, I think you know -- in the prepared remarks by our CEO and our planning for the shipment model, high efficient products is roughly 70%. This is for the full year, 2019.

**Philip Shen** -- *Roth Capital Partners -- Analyst*

Great. Thanks, Charlie.

**Charlie Cao** -- *Chief Financial Officer*

But for the quarter-by-quarter basis, the percentages increase by quarter by quarter throughout the year.

**Philip Shen** -- *Roth Capital Partners -- Analyst*

Good. And then in terms of the in-house vertical cost structure for Q1 and then expectations by year-end -- and year-end '20?

**Charlie Cao** -- *Chief Financial Officer*

Sure. Sure. And -- I just can kind you give you some highlights, but I -- we are not in position to disclose the detailed numbers given the consideration of competitiveness. And -- this year, and we are doing a lot of things to help to drive our cost. But given the strong demand across the international markets and anticipated in China take-off in the second half year -- and I think you know the material cost is worth speaking, right, like the glasses and even the polysilicon price is stable. So we were targeting the blended -- not blended, in-house production cost is 5%, 8% -- to 8% improvement this year. And on top of that, I just want to highlight our -- the new capacity. This is the key profitability driver for Jinko because this is -- this year, it's a transition year for Jinko, transforming to mono based high efficient capacity, and our new mono wafer capacity in Sichuan, we just started small-scale trial production which will be very cost-competitive and build a strong foundation for Jinko to get a very strong advantage in future years.

**Philip Shen** -- *Roth Capital Partners -- Analyst*

Okay. Thanks, Charlie. Can you talk about -- I think the CapEx for the quarter was $60 million. How do you expect the CapEx to trend by quarter for the rest of the year?

**Charlie Cao** -- *Chief Financial Officer*

The total budgeting CapEx throughout this year is roughly $450 million, and the key investment this year is the mono wafer as well as the PERC cell

capacity. And we are almost doubling our high efficient (ph) capacity and focus on the mono wafer and PERC cell. If you look at our capacity, Q1, mono wafer is roughly 6.5 gigawatts and PERC is 5.4 gigawatts. It's almost double by the end of this year, reaching to 11.5 gigawatts mono wafer and 9.2 gigawatts PERC cell. So, you can think about from -- I just highlight -- the mono wafer and PERC cell integration capacity is a key driver for our profitabilities. And now we roughly have 5 gigawatts integration capacity (inaudible) mono wafer, PERC cell and module, and by the end of this year, we are going to reach to roughly 10 gigawatts.

**Philip Shen** -- *Roth Capital Partners -- Analyst*

Right. Okay. Just another quick one here for me. Q2 is almost over...

**Charlie Cao** -- *Chief Financial Officer*

Yes.

**Philip Shen** -- *Roth Capital Partners -- Analyst*

As you look to Q3, how much of Q3 shipments have been booked? And are you starting to see bookings from China, with the policy now in place -- when we met in SNEC, the demand had not yet -- improved yet in China. I know the outlook for Q4 is better. But are you actually getting bookings for China now? And then another one. Can you talk about the margin profile for Q2 and the margin profile for Q3? Thanks.

**Gener Miao** -- *Chief Marketing Officer*

Hi Phil, this is Gener. Let me take your China demand question. So firstly about -- about second half, I think in my remarks, I already disclosed that we -- I think we have approximately 70% booked by the second half. That cover both Q3 and Q4. I think Q3 book level is higher -- slightly higher than Q4. And regarding the demand from China, we see strong demand from China or from Chinese customers. So -- but -- for sure, the total number is not comparable -- compared with the last Q4 because the late announcement of the policy in China. Personally, I expect the demand from China -- Q4 will be stronger than Q3. I think you have another question about market, right?

**Philip Shen** -- *Roth Capital Partners -- Analyst*

That's right.

**Charlie Cao** -- *Chief Financial Officer*

Yes. In terms -- yes -- just supplement. I think China's demand -- Q3, we are seeing more activities from the residential markets as well as projects without subsidies. And we are expecting China is going to release the list (ph) for the projects with subsidy by the end of July or maybe early August and expecting very strong installations in Q4 this year. In terms of gross margin, in general, I am very optimistic for the second half year because -- what I emphasize is a key (inaudible) driver for Jinko is the integrated mono based capacity. We are going to almost double -- quarter by quarter, starting from Q3 and Q4. And for Q2, the gross margin is estimated in the range of 14% to 15%. It's relatively lower than Q1. In Q1, the gross margin is pretty good and exceeding our guidance, and therefore the Q2, it's basically because our new capacity is still in the construction stage and will not have contributing to the profitability in the second quarter. Second one is the total shipments increase like quarter by quarter and as well as the -- shipment percentage is shifting very quickly to mono PERC shipments. So, if you look at, you calculate the in-house sales produced mono PERC versus total shipments, it's a little bit lower in the second quarter as well as PERC cell price is relatively higher throughout the second quarter. So the blended gross margin is relatively lower quarter-by-quarter -- second quarter. But I just said I'm very optimistic in the second half year, and we have almost booked over 70% in the second half year, fixed price, international markets, anticipate a strong China demand and the new capacity coming in.

**Philip Shen** -- *Roth Capital Partners -- Analyst*

Okay, great. Thank you for all the questions. I'll pass it on.

**Gener Miao** -- *Chief Marketing Officer*

Thank you, Phil.

**Philip Shen** -- *Roth Capital Partners -- Analyst*

Thanks.

**Operator**

Thank you, Philip. Your next question is from Maheep from Credit Suisse. Your line is now open. Please go ahead.

**Maheep Mandloi** -- *Credit Suisse -- Analyst*

Hey. Thanks for taking the questions. so just on CapEx. You said $450 million of CapEx for the full year. It's in line with your prior comments. But when looking at capacity structure, you said, in the press release, you'll have 1 gigawatt of extra module capacity this year, so increase it from 15 gigawatts to 16 gigawatts. Is that part of the CapEx? And also wanted to see if any bifacial capacity expansion as part of the CapEx as well?

**Charlie Cao** -- *Chief Financial Officer*

Okay. So, in general, total CapEx, including everything, including wafer cell and module, but in terms of allocating, the key investment allocation is the mono wafer and PERC cell. For the module capacity, we increased from 10.8 gigawatt to 16 gigawatts. But the majority of our 80% (inaudible) is from the increased output. It's not new capacity. We just add very small-scale, roughly 1.2 gigawatt new capacities for the module -- the CapEx is very small. For the remaining parts, roughly 4 gigawatt is throughout our upgrades, increment -- increased output, decreasing bottleneck on productions. And for the bifacial capacity, in general, our existing PERC cell capacity, we can do the bifacial. And (inaudible) facilities, we just need to do very small, small -- minor agreement (ph) -- minor upgrades to make sure the capacity can do the bifacial product. So, it's -- I think it is very, very small. You can ignore the CapEx.

**Maheep Mandloi** -- *Credit Suisse -- Analyst*

Got it. And then just on -- thinking on bifacial. So, our understanding is that the exemption is only for bifacial cells and not monofacial cells with transparent backsheet. Can you confirm if that's in line with your understanding? And then -- and also on bifacial, just want to understand what would be the incremental cost for a bifacial, mono PERC solar module for the US market.

**Charlie Cao** -- *Chief Financial Officer*

So, I think for us -- when we read all this descriptions across the exemption files, we don't see any special things to rule out the transparent backsheet. For sure, lawyers will be in a better position to confirm that. And for us, our understanding is that while the module can generate powers both from front side and the rear side, it could be exempted from 201.

**Maheep Mandloi** -- *Credit Suisse -- Analyst*

Got it. So -- so for your regular transparent backsheet monofacial (inaudible), correct? And then just in terms of cost, like how much extra cost -- production cost do you anticipate for a transparent backsheet?

**Charlie Cao** -- *Chief Financial Officer*

No. It's -- no. Of course, there are supposed to be additional production costs. But because of additional output, the bifacial product reaching its mainstream providing more benefits to our developers. I wonder I can give you is the bifacial -- one way of promoting bifacial transparent backsheets. It's very competitive compared to the traditional bifacial double glass as well as -- because the module we are promoting is lighter and easy to install. So, we think we can -- we can very easy to increase our penetration of bifacial in the US market, given the favorable policy.

**Maheep Mandloi** -- *Credit Suisse -- Analyst*

That is helpful. Thanks. And just regarding your order book, have you -- apart from the 70% in the second half, are you seeing any orders for the next year, for Q1 or for 2020?

**Charlie Cao** -- *Chief Financial Officer*

You mean, the order book for 2020?

**Maheep Mandloi** -- *Credit Suisse -- Analyst*

Yeah.

**Charlie Cao** -- *Chief Financial Officer*

I think -- right now I don't have exact figures, but we do have built up pretty solid fundamental part of this order book in 2020. I think -- for sure, it depends on our shipment targets. But I think a several gigawatt order book has been billed for sure.

**Maheep Mandloi** -- *Credit Suisse -- Analyst*

All right. So that's most of the questions from my side. I'll pass it along for others. Thanks.

**Charlie Cao** -- *Chief Financial Officer*

Thank you.

**Operator**

Thank you. (Operator Instructions) Your next question is from Brian from Goldman Sachs. Your line is now open. Please go ahead.

**Brian Lee** -- *Goldman Sachs -- Analyst*

Hey guys, thanks for taking the questions. A couple modeling ones for you, Charlie. I guess first on the OpEx. Up almost 30% year-on-year. I know you mentioned the shipping charges and overseas demand. But just wondering how we should think about that line item as you move through the year because it sounds like 2Q is also going to be pretty heavy non-China demand, and then based on your comments, it sounds like you really see a pickup in -- for 4Q even relative to 3Q. So, just generally speaking, how should we be thinking about the OpEx line given the pretty meaningful uptick year-on-year you saw here in Q1?

**Charlie Cao** -- *Chief Financial Officer*

The operating expenses will continue to be 11% to 12% in the second quarter because it's still significant international markets. Looking for the Q3, Q4, given more shipments through (ph) China and as well as more total shipments, the percentage will be decreased a little bit quarter by quarter, starting from Q3.

**Brian Lee** -- *Goldman Sachs -- Analyst*

Okay. So for 2Q, 11% to 12% is the way to think about it. So you're running roughly 100 to 150 basis points higher on that -- on that metric year-on-year through the first half of year. Is that fair? Okay. Second question, just on inventory, I know there is anticipation of a big second half build here. That was also up 30% year-on-year and volume shipments for 2Q are being guided up only slightly sequentially. So, I guess two questions related to that. First, will inventory be up again in 2Q versus 1Q? And then secondly, did the higher factory loading flow through to benefit gross margins this quarter?

**Charlie Cao** -- *Chief Financial Officer*

In terms of inventory (inaudible) stable quarter-over-quarter. That's -- because of international markets, we are shipping over 100 countries -- like in the

US, taking a bigger and bigger proportions. And given the longer delivery time, particularly shipping time, so, if you look at the inventory, Q1 -- end of Q1 versus the last year, and it's increased a lot of bit, but we'll be very stable. And we -- internally, we manage the inventory very carefully and we produce the inventories based on the firm orders. So, we don't see any risk.

**Brian Lee** -- *Goldman Sachs -- Analyst*

Okay. And just secondly on the inventory build, I would imagine it would have benefited the factory loading throughout the quarter. Maybe that's not a benefit in 2Q since the inventory is going to be stable. But can you give us some sense, whether qualitatively or quantitatively, what kind of positive impact it had on your gross margins in the quarter?

**Charlie Cao** -- *Chief Financial Officer*

You mean the second quarter? Or the second half year?

**Brian Lee** -- *Goldman Sachs -- Analyst*

1Q, you're at 16.6%. You're saying it's going to be 14% to 15% for 2Q. And I know there is some mix issues and what have you, capacity ramp that you mentioned. But again, I'm assuming that the better factory loading from the inventory build probably benefited you in 1Q. Just trying to get a sense for what that might have been.

**Charlie Cao** -- *Chief Financial Officer*

Yeah, yeah. In general, I think you need to think about from this perspective is -- ASP is very stable, both for the mono PERC high efficient products as well as the (inaudible) products. And starting from the production perspective -- and we have more capacity. When we have more capacity (inaudible) and we have more integrated products, mono, wafer and PERC cell produced by ourselves, our blended cost will be dropped a lot because we will rely on the external PERC cell lower and lower. And so, we can deliver very decent gross margin if we produce everything by ourselves. So, I don't think the inventory will be a big, lumpy (ph) point for quarter -- and-over-quarter gross margin fluctuations.

**Brian Lee** -- *Goldman Sachs -- Analyst*

Okay, fair enough. And then last one from me, I'll pass it on. The -- not sure if you can say anything new on this. But the Hanwha lawsuit -- can you give us some updates on where that stands and what your positioning is? Thank you.

**Charlie Cao** -- *Chief Financial Officer*

It's a very standard procedure, but it's taking one half year, and we're taking the same positions and we're thinking of Hanwha, the litigation for patent, they don't have any legal and technical basis. And we defend the litigation claim very firmly. Recently, if you look at the Company news, and we -- we filed the application to challenge the Hanwha patent itself. So, we are -- we're confident and we'll continue to expand our market shares in the US market.

**Brian Lee** -- *Goldman Sachs -- Analyst*

If for some unexpected reason -- it sounds like from your end this would be a surprise, but if for some unexpected reason it did come back as an unfavorable ruling for you, do you have any mitigation plans that you're starting to contemplate?

**Charlie Cao** -- *Chief Financial Officer*

It's a very common practice for any companies facing the patent issues, and we have -- basically have a plan B, but I cannot get into the details.

**Brian Lee** -- *Goldman Sachs -- Analyst*

Okay. Thanks, guys.

**Charlie Cao** -- *Chief Financial Officer*

Thank you.

**Operator**

Thank you, Brian. (Operator Instructions) As there are no more questions in queue, I'd like to hand the call back to Ms. Zhang for closing remarks. Please go ahead, Ms. Zhang.

**Ripple Zhang** -- *Investor & Media Relations-China*

On behalf of the entire JinkoSolar management team, I want to thank you for your interest and participation on this call. If you have any further questions or concerns, please feel free to contact us. Have a good day and a good evening. Thank you and goodbye.

**Operator**

Thank you, Ms. Zhang. Ladies and gentlemen, that does conclude our conference for today. Thank you all for your participation. You may all now disconnect.