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BYD's Qin plug-in hybrid the best selling automotive EV in China

21 March 2014

BYD's second-generation Dual-Mode, plug-in hybrid electric sedan Qin has [posted](#) a second month of strong sales in February. Trends in March now make it "China's Best-Selling Electric Vehicle" according to China's National Passenger Car Association. In the first weeks of 2014, more than 6,000 Qin vehicles were sold, accounting for more than one-half of the Chinese new-energy vehicle market.



2nd-generation Dual Mode (DM II) plug-in hybrid system of the Qin. [Click to enlarge.](#)

Analysts are not expecting sales to slow, as both Shanghai and Beijing announced earlier this month that they will now permit BYD new energy vehicles to qualify for local municipality green-vehicle incentives and be licensed in those regions.



BYD's Qin. [Click to enlarge.](#)

The Qin [combines](#) a 1.5-liter, turbocharged, direct-injection 4-cylinder, 113 kW (152 hp), 240 N·m (177 lb-ft) engine with a 110 kW (148 hp), 250 N·m (184 lb-ft) electric motor; combined system power is 217 kW (291 hp) maximum with 479 N·m (353 lb-ft) maximum torque. The system uses a 6-speed DCT transmission. A 13 kWh Li-ion battery pack provides energy storage.

Compared to the first generation of the dual-mode PHEV drive system (DM I), DM II features a larger displacement engine (1.5L turbo, direct-injected up from a 1.0L naturally aspirated engine), with power increasing to 113 kW up from 50 kW (67 hp).

The voltage of the electric motor has increased from 330V to 500V, and power output from the motor has increased from 75 kW to 110 kW. Maximum rotation speed of the motor has also increased from 6,000 rpm in DM I to 10,000 rpm in DM II. The overall drive efficiency of DM II has increased by 7%, according to BYD.

Acceleration from 0 to 100 km/h takes 5.9 seconds. BYD says that fuel consumption is 1.6 l/100 km (147 mpg US), with an all-electric range of 70 km (43 miles).

The Qin is only the first of multiple of BYD electric vehicles launching as the electric version of the S7-styled SUV—internally named the Tang—is set to be released later this year. The Qin is currently available to domestic Chinese and Latin American markets and senior officials at BYD have discussed expanding exported versions of these new energy vehicles in the coming years.

March 21, 2014 in [China](#), [Electric \(Battery\)](#), [Plug-ins](#), [Sales](#) | [Permalink](#) | [Comments \(24\)](#) | [TrackBack \(0\)](#)

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Comments

That's up there in monthly sales with the leading EVs in the US, the Leaf, Volt, and Tesla.

Lets hope they release it elsewhere.

Posted by: [Davemart](#) | [March 21, 2014 at 05:16 AM](#)

"Acceleration from 0 to 100 km/h takes 5.9 seconds." is near super car for ?\$?

Posted by: [kelly](#) | [March 21, 2014 at 08:00 AM](#)

If the above stats are true, this may be one of the most efficient muscle PHEV on the market place.

No wonders that sales are going up as fast as they can be produced.

Export will follow by 2015 or so.

Posted by: [HarveyD](#) | [March 21, 2014 at 08:38 AM](#)

Years ago BYD had one of the best dual mode designs I had seen. They could do engine/motor charging with motor propulsion or engine/motor charging/propulsion. I remember the president of BYD being so excited at the show he took reporters for a test drive IN the convention hall on electric only.

Posted by: [SJC](#) | [March 21, 2014 at 09:03 AM](#)

149 MPG?

WOW.

I know it probably doesn't have air bags, convertors or other US mandate stuff but you cant argue, if the numbers are right its VERY impressive. Wonder what the US cost would be?

Posted by: [D](#) | [March 21, 2014 at 09:25 AM](#)

@ D,

Airbags? Twelve.

Posted by: [Peace Hugger](#) | [March 21, 2014 at 09:45 AM](#)

This is a beautiful, modern design PHEV and it could probably meet ALL USA's safety, workmanship, quality and durability norms and more.

However, we will (as usual) do our best de block its arrival on our local market, even if built in a country with Free Trade Agreement.

Posted by: [HarveyD](#) | [March 21, 2014 at 11:14 AM](#)

To paraphrase Pulp Fiction's Mr. Wolf, who, upon solving the Bonnie Situation, admonishes Vincent and Jules not to celebrate too soon: let's not go high-fiving each other just yet (not his EXACT words, but close enough).

According to Warren Buffett, you'll never see a more enthusiastic, energetic guy than their CEO Wang Chuanfu. He is an EV acolyte. But his company has about as much trouble translating their ambition into results as they do translating sales figures: In some Q&A about the Qin replacing the F3DM, BYD flaks stated the previous model sold "many tens of thousands". Reality check -- from 2008 to present, they delivered fewer than 3300 F3DMs.

It's this sort of tendency for BYD to, shall we say, "exaggerate" that makes me doubt their claims. The e6 was a classic example of optimistic projections, with a plan to sell the car for less than USD35,000 back in 2011. Of course, after a few "reschedulings", it was delayed because the target market (LA area) "lacked charging infrastructure". Finally, they stated in October 2013 that the car would be sold to fleet buyers only, at a price of USD52,000. The e6 was also supposed to demonstrate "unprecedented" battery specific energy, but its ~2400kg curb weight in a Versa-sized package says otherwise. Even with a (claimed) 60kw-hr battery, that's a chubby number.

The way they're describing the spec for this car is starting to look similar. 1.6l/100km? Sure! Here's how it works: drive 70km on the battery, then use the engine for the next 30km. Is that how any transportation agency measures EREV fuel consumption? Nope, but Mr. Wang does. (BTW, did you notice that the 30km cruise is achieved at 5.3l/100km, or 44mpg?) Also, the sales rate of "6,000 in the opening weeks" is the number reported from the beginning of 2014 until yesterday's release. That it is some imminent export success is hardly obvious.

BTW, Harvey: exactly how did the US block sales of the F3DM or the e6 or the Coda?

Posted by: [Herman](#) | [March 21, 2014 at 12:36 PM](#)

... and apparently I cannot spell "translating".

Posted by: [Herman](#) | [March 21, 2014 at 12:38 PM](#)

@Herman - translation for Harvey's predictions: They should be annotated by " ... , I hope." If there is any quantitative reasoning going into his predictions, he does not share it. Take them all as qualitative "hopes."

Posted by: [TM](#) | [March 21, 2014 at 03:05 PM](#)

291 hp, 353 lb-ft

WTF? these are not specs for eco-green car.

Posted by: [dursun](#) | [March 21, 2014 at 03:55 PM](#)

It is a Volt on steroids, if they get the price right it might sell.

Posted by: [SJC](#) | [March 21, 2014 at 09:12 PM](#)

USA normally blocks competitive products import with various measures such as:

1. Various old and new restrictions interpreted and applied on a State by State and case by case basis.
2. Technical standards applied in a way to favor local products only.
3. Emission standards specially designed to block the best quality imports.
4. Endless patent rights legal wars.
5. Obscure Buy American Laws.
7. High Port and landing fees.
8. Killer special tariffs.
9. Biased financial and trade restrictions
10. Presidential restrictions.

etc.

Posted by: [HarveyD](#) | [March 22, 2014 at 12:47 PM](#)

And none of HarveyD's "normal" blocks appear to apply.

This is his typical disconnection from reality.

Posted by: [Engineer-Poet](#) | [March 22, 2014 at 10:24 PM](#)

So the answer to the question "exactly how did the US block sales of the F3DM or the e6 or the Coda?" is implicitly: they didn't.

BYD did not submit the F3DM for crash testing (though somehow evil US Customs authorities allowed ten of the cars to be imported to the US for leasing by the LA Housing Authority).

BYD could not manage to achieve sufficiently reliable production quality of the e6 and subsequently blamed delays in exports to the US on poor charging infrastructure in the LA area.. in 2011, where Leaf customers were on long waiting lists. Remember that BYD's early pressers on the e6 touted a 250 mi range with a one-hour recharge. The car has only sold in measureable quantity Shenzhen taxi operating under government control (initially reporting the batteries to be "unreliable").

The Coda was imported from Great Wall, managed to squeak by NHTSA testing with two stars, and no issues reported with US Customs... but was just such a POS that it was simply a failure without any assist from the Feds.

If you're trying to point to the failure of BYD to sell busses to Long Beach, please... California openly courted Mr. Wang to come to the state and build electric busses. The Governor even pushed for a USD2Million tax break so the fine folks from BYD could build the busses there. Problem is that BYD's first foray into CA manufacturing featured Chinese workers living in a crummy San Gabriel dormitory being paid USD1.50/hour plus USD50/day per diem --- less than minimum wage. BYD didn't even try to deny it: they said CA law didn't apply because these were non-US workers on guest visas. They paid a USD100k fine. Perhaps they have since learnt Rule number one if you want to sell to any government agency: do not immediately embarrass the hell out of your sponsor.

Anyhow, I will defend your statement that the Qin will be imported to the US in 2015 because that is what Mr. Wang has stated in a recent press release. Of course, this is the same guy who said in 2009 that the e6 would be here in 2010...

Posted by: [Herman](#) | [March 22, 2014 at 10:40 PM](#)

People Inside the box are often blind to what is really going on. People outside the (USA) box have seen how imports are blocked for 1001 reasons and how free trade with USA is too often a one way street.

China is winning the current trade war because it understood that we will buy their lower price goods regardless of the national policies and environmental damages.

Made in China or made in USA excellent BYD e-city buses will be blocked for the next 10 years or so or until such times as 100+ countries are using them.

Posted by: [HarveyD](#) | [March 23, 2014 at 05:46 PM](#)

This will surprise anti-BYDs posters but one of their latest 40-passenger e-bus ran for 30 hours in NYC and for 325 Km (202 miles) in Denmark on a single charge.

Both are above the given specs.

BYDs city e-buses are so good that most major cities will place orders soon.

Posted by: [HarveyD](#) | [March 24, 2014 at 01:58 PM](#)

The CEO Wang Chuanfu said BYD can product vehicle like tesla in mintues(分分钟造出tesla),here is what Chinese think about him.

The link below
<http://www.zhihu.com/question/21224528>(all in Chinese, hope you guys have google chrome)

I will translate the main point.

1. BYD never built performance car
2. Poor power management system
3. Tesla have star consumers

I agree with Herman, the reason why you guys could brought E6 is BYD did not submit the F3DM for crash testing. Here is test of the vehicle from BYD(C-NCAP)

<http://www.c-ncap.org.cn/>

BYD F0 3stars
BYD F6 4stars
BYD F3 3stars
BYD G6 4stars
BYD S6 5stars
BYD 7150 5stars

Geely EC7 5stars in C-NCAP test <http://www.c-ncap.org.cn/app/cncap/pzsj.jsp?pzid=2847>

here is EU test result

http://www.euroncap.com/results/geely_emgrand/ec7/2011/462.aspx

open your eyes see another test

<http://www.ancap.com.au/crashtestrecord?Id=420>

<http://www.c-ncap.org.cn/app/cncap/pzsj.jsp?pzid=1874>

The vehicle get 5 stars in C-NCAP but only 3 or 4 stars in other countries test. You may ask why only show the result about GEEELY, we talk about BYD.

They never tested.

As a Chinese researcher, I feel there is large gap between China auto makers and other international companies, no matter the hardware or software.

Posted by: [Danieling](#) | [March 24, 2014 at 07:45 PM](#)

EP

Don't personally insult Harvey, we could go into your narcissism but don't.

Posted by: [SJC](#) | [March 25, 2014 at 06:05 AM](#)

E-P may be ONE of a kind, with the whole truth ALL of the time. He must think that he is some sort of God.

Good for him and thank God that we do not have too many of the same.

Time will soon prove him wrong: with less NPPs, CPPs and NGPPs in operation, with more improved batteries, more higher efficiency solar panels, more extended range EVs and FCEVs, more wireless EV chargers, more smart houses, more solar & wind farms with storage, etc.

Posted by: [HarveyD](#) | [March 25, 2014 at 11:48 AM](#)

It would be nice if Harvey could come up with fractional truths now and then.

One of Harvey's repeated claims is that Quebec could supply a large fraction of the USA with hydropower for RE balancing. Frankly, he's either innumerate or crazy. [Hydro Quebec reports 171 TWh of total generation in 2012](#), compared to the USA's electric consumption of over 4000 TWh; Quebec's total generation is barely over 4% of the US total. As a matter of fact, [the USA's 276 TWh of hydro generation in 2012](#) was 60% greater than Quebec's **total** generation for the same year.

Contra Harvey, there is no way in hell that Hydro Quebec is going to supply balancing power for an all-RE eastern North America. Just won't happen. The resource is totally inadequate to the scale of the task. (NB: the 675 MW Gentilly 2 reactor could have supplied 3% of Quebec's total electric demand by itself.)

I took quite a bit of time to dig up the facts for this, Harvey. That is something you seldom do. You are not entitled to make false claims of fact and escape criticism for it, not even if you believe it with your whole heart.

Posted by: [Engineer-Poet](#) | [March 25, 2014 at 08:37 PM](#)

As usual, E-P assumed a lot more than I said. Here are the facts:

1. I never mentioned ALL of USA, only the East coast States, about 13 (original USA) out of 50 or about 25%.
2. 25% of 4,000 TWh = 1,000 TWh
3. Energy wasted is over 50% in those States
4. (*) e-energy really required = 1,000 TWh x 0.5 = 500 TWh.
5. some 80% of those essential 500 TWh (about 400 TWh) could be supplied locally with Solar-Wind farms and existing NPPs.
6. The missing 100 TWh could easily be supplied from our potential unharnessed

Wind and Hydro at the rate of a meager extra 10 TWh/year equivalent or an extra 6% or so a year. It is not a major challenge.

NB: (*) The lower cost solution is to reduce wasted e-energy, i.e. 50+% of current consumption.

Since our peak demands are during the 3 cold winter months due to electric heating for 85% of our houses, we already have huge surpluses for the other 9 months of the year. Most of those 9 months correspond to peak demands South of us. It would be a good match!.

Eventually, we could add another 50,000 mega-watt of Hydro (equivalent to about 50 NPPs) and up to 100,000 mega-watt of Wind power in high quality wind areas (equivalent to about 40 NPPs).

Buried and/or under water DC power lines would not be visible. The first such line to NYC may be built before 2020.

Posted by: [HarveyD](#) | [March 27, 2014 at 01:32 PM](#)

1. I never mentioned ALL of USA, only the East coast States, about 13 (original USA) out of 50 or about 25%.

2. 25% of 4,000 TWh = 1,000 TWh

The US population is not allocated by political subdivision. Electrical demand is not allocated by capitation either.

3. Energy wasted is over 50% in those States

4. () e-energy really required = 1,000 TWh x 0.5 = 500 TWh.*

Transmission losses in the USA average 7%. The "savings" you posit have been achieved where, exactly?

5. some 80% of those essential 500 TWh (about 400 TWh) could be supplied locally with Solar-Wind farms and existing NPPs.

Existing NPPs supply ~19% of US generation. Even assuming a never-before-demonstrated overall 50% demand cut, that only brings it up to 38%. The remaining 62% is roughly twice what wind+solar can supply without radical improvements in e.g. storage.

Eventually, we could add another 50,000 mega-watt of Hydro

To [the existing total of 35 GW?](#) Harvey, you're crazy.

Posted by: [Engineer-Poet](#) | [March 30, 2014 at 01:09 PM](#)

USA is using 2X to 3x the per capita energy than many other industrial nations. If others can do it, so could USA? The ongoing drive to consume more and more has to be reversed.

USA is also creating 2X to 5X the per capita emissions than most other industrial nations. If others can do it, so could USA. Canada is even doing worse. The ongoing drive to consume more and more has to be reversed.

Reducing energy demand or waste is 2X to 3X cheaper than increasing e-energy production by 2X to 3X. A lot more can be done.

The above message is slowly making its way into the US population, special to the younger people who are starting to use more efficient SEER 27 Heat Pumps instead of SEER 10 A/C, LED lights, better built insulated houses, public transportation, bicycles and walking more. This trend may gain speed as more and more people move from the middle class to join the lower poor class.

The local-national building codes have to be changed so we get houses, offices, factories, schools, commercial buildings etc requiring 2X to 3X times less energy. It has started but much more could be done. We could have a better look at what is being done in Japan, Germany, Denmark, Sweden, Norway etc.

US East Coast States could produce many times more Solar + Wind energy. Coupled with existing NPPs and effective e-energy conservation programs, they could use existing and future Hydro + Wind energy imports as gap fillers, specially in the Spring, Summer and Autumn when we have huge surpluses (25,000+ mega-watts or 25 NPPs equivalent)

Our total installed Hydro + wind is 49,600 mega-watts with another 5,000 being installed. Peak demand is getting close to 45,000 mega-watts in January. The above include public and private facilities.

North-South buried high voltage DC pipelines make more sense than polluting Tar Sands fossil fuel pipelines, specially for future electrified vehicles.

More and more posters will see it in the not too distant future. The time has arrived to progressively spend less on polluting fossil fuel and more on clean electrification.

Posted by: [HarveyD](#) | [March 31, 2014 at 09:06 AM](#)

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