



Build Your Dreams

Three Green Dreams

The energy and transportation strategy under current environment situation



Build Your Dreams

ENVIRONMENT & ENERGY CRISIS

COAL



ENVIRONMENT & ENERGY CRISIS

GASOLINE

DIESEL



ENVIRONMENT & ENERGY CRISIS

53

years

*The world has
53 years of oil
left*

56

%

*Estimated 56% world oil
consumption comes from
transport based on IEO
2014 delivered energy
consumption by end-use
sector.*

95

%

*Almost all (95%) of the
world's transportation
energy comes from
petroleum-based fuels,
largely gasoline and
diesel.*

70

%

*Up to 70% air pollution
from cars and trucks*

Source

<http://www.bp.com/>

<http://www.epa.gov/>

http://evsroll.com/Car_pollution_facts.html

ENVIRONMENT & ENERGY CRISIS

A bright sun is visible in the upper right corner of the image, set against a hazy, greyish sky. The background shows a faint silhouette of a cityscape with several tall buildings. The overall atmosphere is one of a hazy or smoggy day.

October, 2013

Beijing

ENVIRONMENT & ENERGY CRISIS

December, 2013

Shanghai



ENVIRONMENT & ENERGY CRISIS

A black and white photograph of a person wearing a dark, hooded jacket and sunglasses, carrying a white plastic jug. The person is looking towards the right. The background is a hazy, smoggy street with blurred lights from cars, suggesting a polluted urban environment.

Do you want to live like this?

ENVIRONMENT & ENERGY CRISIS



Or sport like this?

NO

ENVIRONMENT & ENERGY CRISIS

Global Warming

From 1906 to 2005, global earth temperature has increased by 0.74°C.

Cities Disappearing

Excessive car emissions will cause global climate warming, accelerate glacier melting and sea horizon rising – after 400 years, even Shanghai will disappear.

Disasters & Diseases

The harmfulness of CO₂ and other car emissions not only brings climatic disasters, but also causes various kinds of diseases and are harmful to people's health.

We need to do something
Actually **we are doing** something
Something **significant**, for the earth



September, 2014
NY, USA

CITY CLIMATE LEADERSHIP AWARDS

Tang Jie

Vice Mayor of Shenzhen



September, 2014
NY, USA

Largest Pure Electric Bus and Taxi Fleet in the World-- Shenzhen



850 BYD e6



780 BYD buses

REAL CASE IN SHENZHEN



Fleet	Accumulated Kilometers	Fuel Saving (L)	CO ₂ Saving (kg)	Number of Trees Planted
850 electric Taxis	293,440,000	29,344,000	67,978,310	339,891
780 electric buses	64,000,000	30,301,561	67,558,400	337,791

Unleaded gasoline : 8.91 kg CO₂ per gallon
Diesel: 10.15 kg CO₂ per gallon
Source: <http://www.eia.gov/oiaf/1605/coefficients.html>
Diesel Bus Average Fuel Consumption per 100 km: 40L
Gasoline Taxi Average Fuel Consumption per 100 km: 10L
PS: 1 L equals to 0.26 gallon



NO.1

Global
"Technology 100"
(2010, No.1) by
Business Week

Rank	Company	Country
1	BYD	CHN
2	APPLE	USA
3	TENCENT HOLDINGS	CHN
4	AMAZON.COM	USA
5	TATA CONSULTANCY	IND
6	PRICELINE.COM	USA
7	CENTURYLINK	USA
8	COGNIZANT TECH.	USA
9	INFOSYS TECH	IND
10	SOFTBANK	JPN
11	WPG HOLDINGS	TWN
12	MEDIATEK	TWN
13	NTT DATA	JPN
14	RAKUTEN	JPN
15	NINTENDO	JPN
16	SAMSUNG ELEC. MECH.	KOR
17	WIPRO	IND
18	CHINA MOBILE	HKG
19	YAHOO JAPAN	JPN
20	ORACLE	USA



NO.1

15,000 engineers, most engineers working on new energy vehicle field





New Energy Vehicle Sales Volume



Lifetime
Achievements

Zayed Future
Energy Prize
2014



Three Green Dreams

- **Affordable Solar Power**
- **Energy Storage**
- **Electrified Transportation**



SOLAR POWER

BYD SOLAR POWER **ADVANTAGES**

1. **High Efficiency (more power out of small space on the roof)**
2. **Excellent Optical Performance**
(power even under less-than-optimal condition)
3. **Steady DC Output Voltage**
4. **Easiness in Being Installed**



***Our solar panels have been approved by prominent certifying organizations such as UL, CE, TUV, IEC and PV Cycle.
We can offer the key part of inverter, Insulated Gate Bipolar Transistor (IGBT).***

PHOTOVOLTAIC PRODUCTION CHAIN

Monocrystalline
Silicon Ingot



Monocrystalline
Wafer



Monocrystalline
Cells



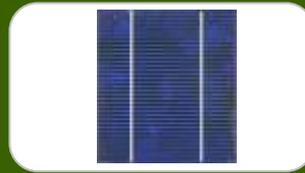
Monocrystalline
Solar Modules



Polycrystalline
Silicon Ingot



Polycrystalline
Wafer



Polycrystalline
Cells



Polycrystalline
Solar Modules

BYD PRODUCTION LINE



Wafer



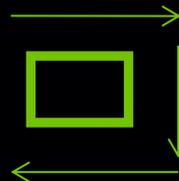
Cell



PV Product

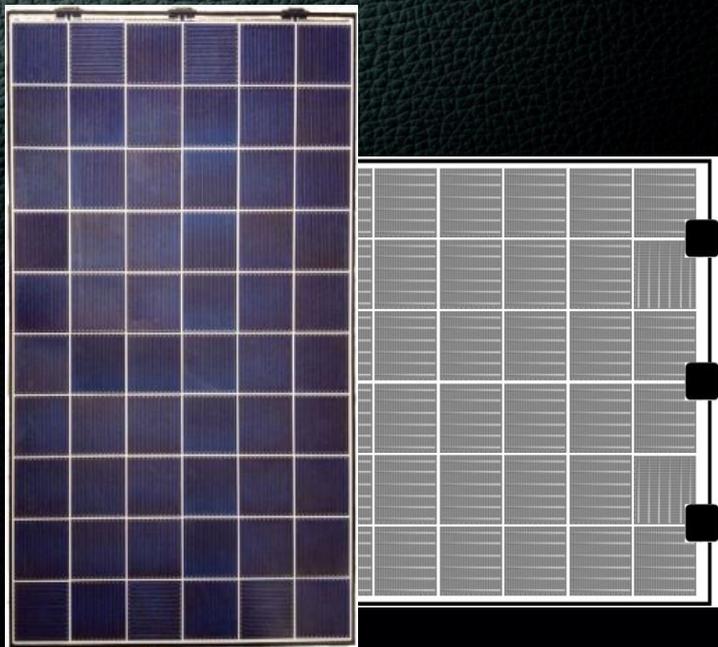


Module



- **1.4GW** wafer production capacity
- **1.4GW** cell production capacity
- **1.4GW** module production capacity

BYD PV MODULE



18.5

EFFICIENCY

- Average cell efficiency up to 18.2%
- Excellent optical performance

+

TOLERANCE

- Positive tolerance 0~3%
- Reliability for output performance

25

YEARS
WARRANT

- 12 years for product
- 25 years for liner warranty

GRI



- Residential roof top systems
- On/Off-grid commercial systems
- On/Off-grid utility systems

3rd

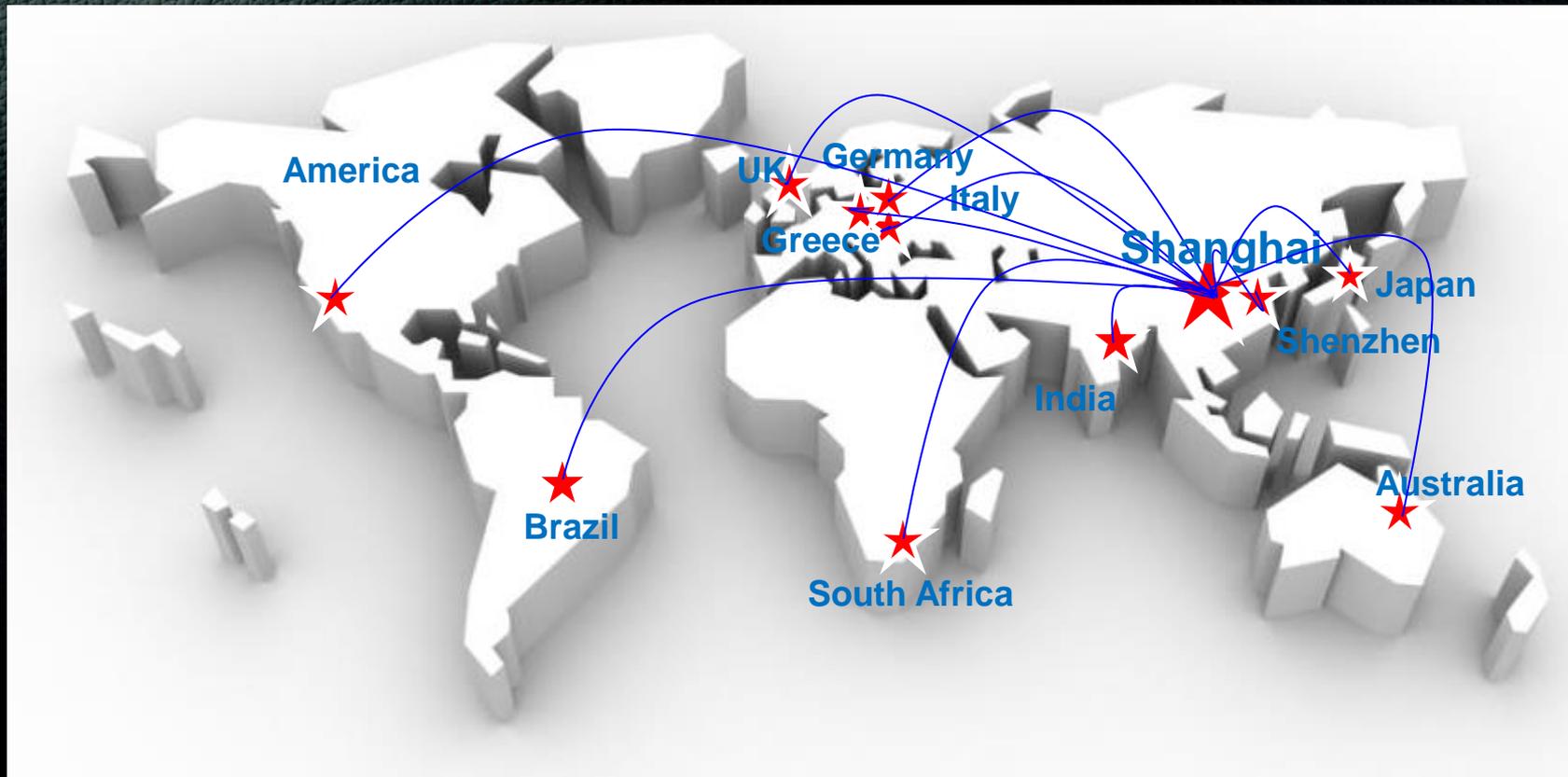
party test

- TUV Salt corrosion resistance test
- TUV Ammonia corrosion resistance test
- 5400Pa for Snow Load Test
- 5400Pa for Wind Load Test



- IEC 61215, IEC 61730, UL1703,
- ISO9001:2008, ISO14001:2004

BYD PV GLOBAL FOOTPRINTS



ENERGY STORAGE

For Grid Operations

Peak load shaving: discharge during the high power demand,
charge during the low power demand.

Store and transfer electricity = a **smarter grid**

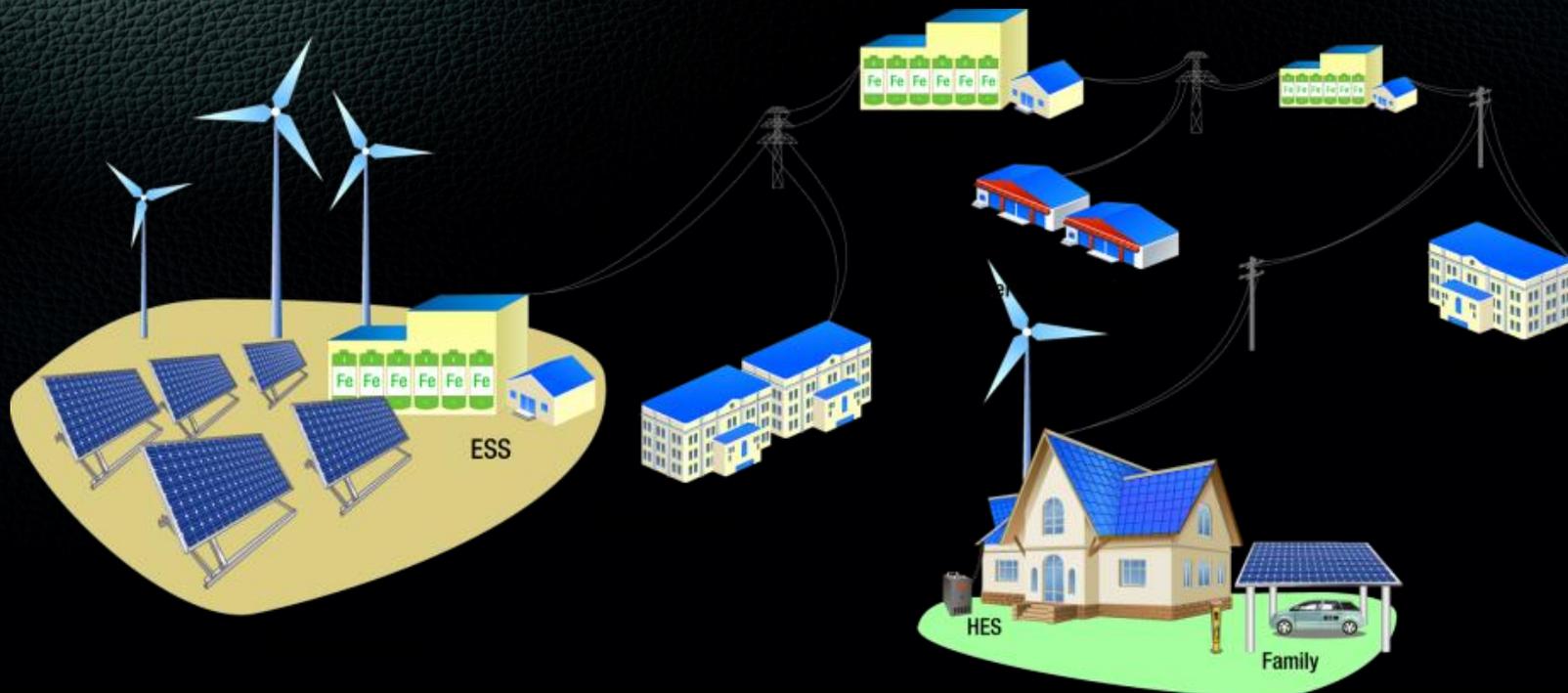
Short response time: 4ms only

Improved transmission line and equipment lifetime

Reduced Security Risk

For Renewable Balancing

Creates a Firm Capacity Output
Ramp-rate Control on renewable energy generation for higher efficiency



8 Years

Working on ESS

Over **50** Projects
In service



Austria, Belgium, England, Germany, Greece, Italy, Netherland



USA, Canada,
Brazil,

Senegal,
South Africa

Australia

China,
Philippine

Over **400** MWh

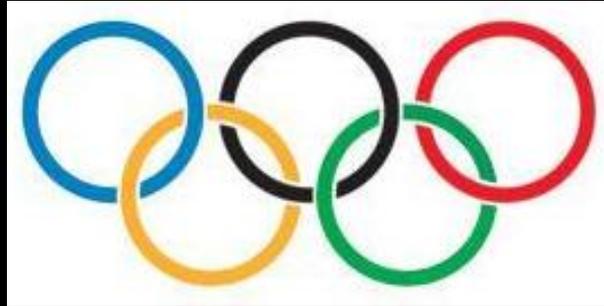
In service



400

Opening Ceremonies

Olympic Games



CORE TECHNOLOGY

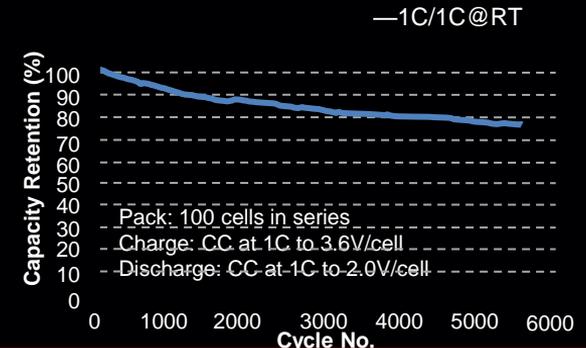
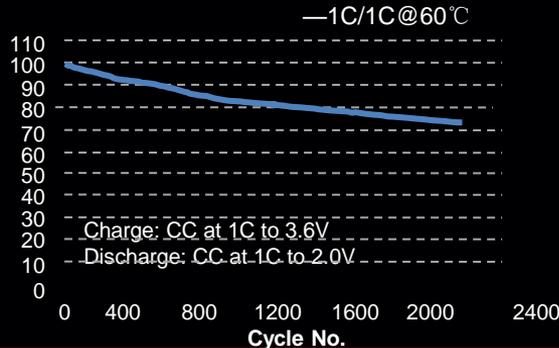
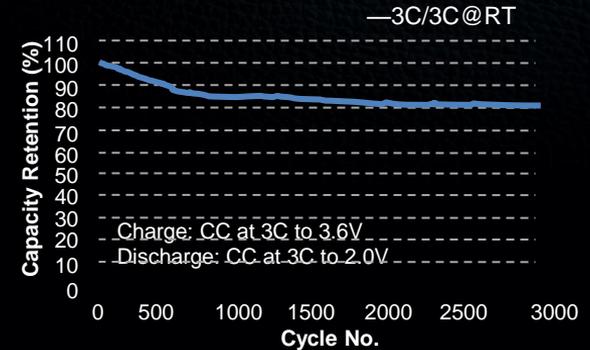
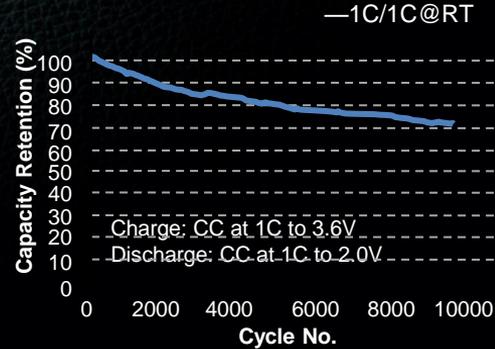


19 years battery manufacture experience.

Over **700 MWh batteries** service in EVs, Buses and ESS.

- More than 6,000 life cycles
- Excellent safety
- High power output and high energy density
- Good performance in high temperature condition

Life Cycle Tests



FULL SCALE ENERGY STORAGE SOLUTION

~MW
≤ 100KW
≤ 10KW
≤ 1KW

Micro Grid System



250KW/250KWh
(20'container)



500KW/1000KWh
(40'container)



38KW/40KWh



50KW/100KWh



3KW/10KWh



9KW/10KWh



Portable Power System

6MW/36MWh



20MW/40MWh



Utility Scale ESS

Community System

Home Based System

ELECTRIFIED TRANSPORTATION



BYD: the **first** Auto Manufacturer in the world to launch Fe Battery Operated Electric Vehicle



BYD 7+4 STRATEGY



BYD EV ROADMAP

Range

300km

250km

200km

70km

50km

e6 luxury version



e6 taxi version



Electric bus K9



Electric coach C9



Electric mid-bus K7



Electric articulated bus K11



Electric truck T5/T7/T9



DM I: F3DM



DM II: Qin



Electric forklift

Electric Business Car

Electric Taxi

Electric Bus

Electric Bus Logistic Car

Usage

AC charge: 5 Hours

100%

Environmentally
Friendly Battery



0 Emissions

zero

>155 Miles



Aluminium-alloy Body



50 Miles/
100 kWh



Low Operating Costs



Passenger-Oriented
Design

In-Wheel Drive



187 Miles

**Large Luggage Space
Spacious Interior**

90 mph

5 passengers

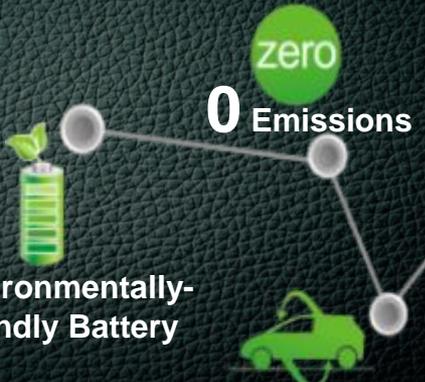
No Heavy Metals

Fire Safe

0 Emissions

No Roll-over

Environmentally-Friendly Battery



BYD EV GLOBAL FOOTPRINTS

Public Transportation

40 countries **156** cities

BYD EV GLOBAL FOOTPRINTS



BYD EV GLOBAL FOOTPRINTS

Consumer Market

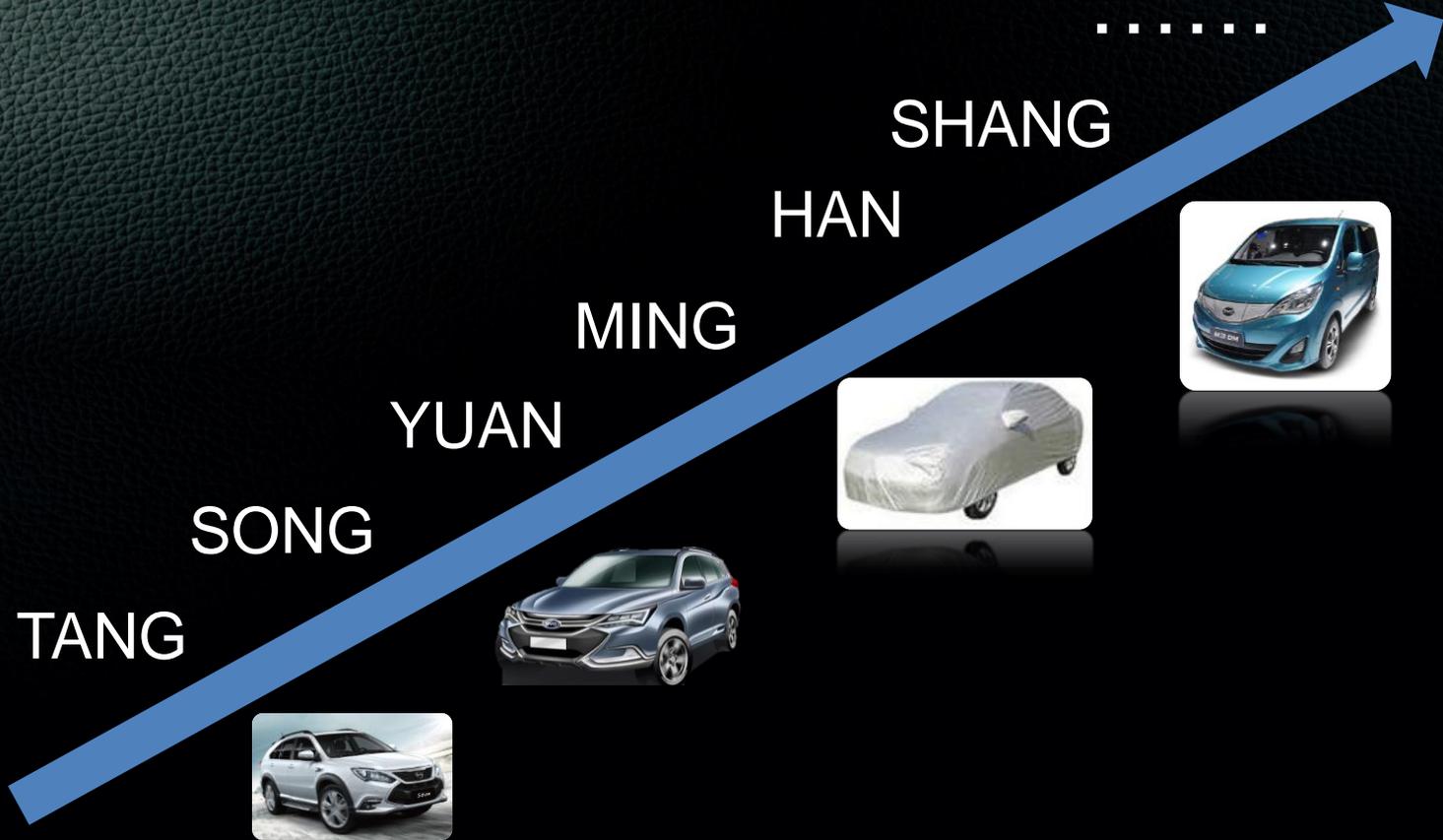
3rd Globally

Higher than
VW, BMW, Tesla, Renault, etc.

PI	WORLD	Feb.	YTD	%	'14PI
1	Nissan	3.763	7.206	15	1
2	Mitsubishi	2.166	5.458	11	2
3	BYD	2.289	4.542	9	7
4	Volkswagen	1.867	4.415	9	11
5	Tesla	2.001	4.113	9	3
6	BMW	2.120	3.852	8	9
7	Renault	1.352	2.353	5	8
8	Ford	1.294	2.232	5	5
9	Toyota	832	1.707	4	6
10	Chevrolet	872	1.606	3	4

(1) - Includes Holden Volt, Opel and Vauxhall Ampera;

MORE HYBRYDS ARE COMING...



Three Green Dreams

This is the sky we look forward...





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