

Global and China Permanent Magnet Industry Report, 2012

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Abstracts

Global and China Permanent Magnet Industry Report, 2012 of ResearchInChina chiefly covers the followings:

Overview of the rare earth industry

The market of ferrite permanent magnet

The industry of NdFeB magnet

Market analysis of NdFeB magnet

The study of 13 main permanent magnet enterprises

Permanent magnet is mainly divided into two categories, that is, ferrite and rare earth magnet. Rare earth magnet mainly includes NdFeB. Due to the acute fluctuation of rare earth prices in 2011, NdFeB price correspondingly experienced wide fluctuations. The average price of NdFeB was RMB 106 / kg in January 2011, then rose sharply to RMB 615 / kg in July, but slumped to RMB 215 / kg in December. The average price in the third quarter of 2012 was RMB 173 / kg.

In 2011, some NdFeB-applied products exited the market due to drastic volatility of rare earth prices. Taking nuclear magnetic resonance imaging equipment as an example, the unit price of equipment is about RMB 3-4 million, but with the skyrocketing of the rare earth prices by 7-8 times, the material costs increased from originally RMB 1 million to above RMB 2 million, correspondingly, manufacturers have to replace NdFeB with



superconductor.

Same happens to wind power generation equipment. When the cost of material increased from RMB 600,000~700,000 / ton to RMB 1.5 million / ton, wind power generation equipment manufacturers have to abandon the excellent NdFeB, and pick up the old method of transforming electricity to magnet. Once quitted, it is very difficult for NdFeB to get into the market again, because a product has a certain life cycle, and changing design is not easy.

The price hike in 2011 made downstream enterprises purchase part of NdFeB in advance. In 2012, the NdFeB industry is meeting with unprecedented dilemma. What is worse, nearly the whole downstream market of NdFeB is on the decline, especially wind power. As the world's largest wind power country, China has seen its newly-added installed capacity drop by 10% in 2012.

The market prospects of HDD and ODD, which are the most important application fields of bonded NdFeB, look gloomy. Popular electronic products, such as tablet PC which is gradually occupying traditional PC market, don't use HDD and ODD. Traditional PC is HDD and ODD's main market, and the market may decline continually.

HDD shipment was about 620.652 million in 2011, but was only 442.32 million in the first three quarters of 2012, and is predicted to be only 582.31 million in 2012, down 6.2% year-on-year. The HDD shipment is estimated to decline to 536.82 million in 2015, down 14% compared with 2011. The ODD shipment was about 495 million in 2011, and it is expected to decline to 425 million in 2015.

Other areas, such as frequency conversion air conditioner, e-bike and loudspeaker, are facing decline too. These areas are more sensitive to price, ferrite is competent in these areas too, and the cost is much lower.

But NdFeB is applied widely in automobile market, especially EPS. It is estimated global EPS motor shipment will reach 33.9 million in 2012, and run up to 42.6 million in 2014, up 25.7%. The application scope of EPS is stretching from high-end to low-end vehicles, so the market prospect is very good. But most EPS motors are produced by Japanese companies, who will purchase local magnet with priority.

The high price of NdFeB in 2011 propelled numerous Chinese companies involve in this industry. About 90% NdFeB magnet was produced in China in 2012. The production capacity of Tianjin, Shanxi, Zhejiang, and Baotou had exceeded 300,000 tons in mid



2012, while the actual demand was less than 100,000 tons, so the production capacity was seriously excessive. Although some people believe that high-end NdFeB production capacity is not surplus, the most important application market of high-end NdFeB is HDD and ODD, whose market prospects don't look good in the long run.



Contents

1. OVERVIEW OF RARE EARTH INDUSTRY

- 1.1 Brief Introduction of Rare Earth
- 1.2 Rare Earth Application
- 1.3 Rare Earth Supply
- 1.4 Rare Earth Export of China

2. PERMANENT MAGNET MARKET

- 2.1 Permanent Magnet Industry
- 2.2 Permanent Magnet Ferrite
- 2.3 Permanent Magnet Ferrite Market in China
- 2.4 Electroacoustic Permanent Magnet Market
- 2.5 Raw Material Price Trend of NdFeB
- 2.6 Supply Chain of Rare Earth Permanent Magnet
- 2.7 NdFeB Permanent Magnet Industry in China
- 2.8 Ranking of Major NdFeB Enterprises in China

3. NDFEB MARKET

- 3.1 Market Distribution
- 3.2 Elevator
- 3.3 Market of Mobile Phone
- 3.3.1 Global Mobile Phone Industry
- 3.4 Vibration Motor of Mobile Phone
- 3.5 Voice Coil Motor (VCM)
- 3.5.1 Profile of VCM
- 3.5.2 VCM Industry and Market
- 3.6 Micro Electroacoustic Devices
 - 3.6.1 Ranking of Micro Electroacoustic Device Industry
 - 3.6.2 Market Share of Mobile Phone Electroacoustic Devices
- 3.6.3 Supply Relationship between Electroacoustic Device Companies and Mobile

Phone Vendors

- 3.6.4 Loudspeaker of Notebook
- 3.7 Wind Power Market
- 3.8 Frequency Conversion Air Conditioner
- 3.9 Electric Power Steering (EPS) Motor



- 3.10 EPS Motor Industry
- 3.11 XEV Motor
- 3.11.1 HEV, PHEV, EV
- 3.11.2 HEV, PHEV, EV Market
- 3.11.3 XEV Motor Market
- 3.12 HDD Market
- 3.13 HDD Industry
- 3.14 ODD Industry
- 3.15 E-Bike
- 3.16 Others

4. MAJOR PERMANENT MAGNET COMPANIES

- 4.1 Hitachi Metals
- 4.2 Daido Steel
 - 4.2.1 Daido Electronics (Thailand) Co., Ltd.
 - 4.2.2 Daido Electronics (Shenzhen) Co., Ltd.
- 4.2.3 Daido Electronics (Suzhou) Co., Ltd.
- 4.3 TDK
- 4.3.1 SAE Magnetics (H.K.) Ltd.
- 4.4 Chengdu Galaxy Magnets Co., Ltd.
- 4.5 Beijing Zhong Ke San Huan Hi-Tech Co., Ltd.
- 4.6 Yantai Zhenghai Magnetic Material Co., Ltd.
- 4.7 Ningbo Yunsheng High-tech Magnetics Co., Ltd.
- 4.8 Vacuumschmelze (OM Group)
- 4.9 Shin-Etsu Chemical Co., Ltd.
- 4.10 Taiyuan Twin-Tower Aluminum Oxide Co., Ltd.
- 4.11 Inner Mongolia Baotou Steel Rare-Earth (Group) Hi-Tech Co., Ltd.
- 4.12 JPMF Guangdong Co., Ltd.
- 4.13 Hengdian Group DMEGC Magnetics Co., Ltd.



Selected Charts

SELECTED CHARTS

Distribution of Rare Earth Demand in U.S. and World by Application, 2010 Distribution of Rare Earth Demand in U.S. and World by Application, 2015 Distribution of NdFeB in Japan by Application, 2000 & 2010 Global Rare Earth Output by Region, 2010 Global Rare Earth Reserves by Region, 2010 Global Newly-Added Rare Earth Capacity, 2011-2015 Newly-Added Rare Earth Capacity by Element, 2015E China Rare Earth Output and Export Volume, 2006-2012 Distribution of Imported Rare Earth in Japan by Region, 2006-2012 **Development Course of Rare Earth Permanent Magnet** China Market Scale of Ferrite, 2006-2012 China Market Scale of Ferrite in Automotive Industry, 2006-2012 China Market Scale of Ferrite in Computer Industry, 2006-2012 China Market Scale of Ferrite in Household Appliance Industry, 2006-2012 China Market Scale of Ferrite in Toy Industry, 2006-2012 Production Capacity and Growth Rate of China Electroacoustic Device Industry, 2008-2011 China Market Scale of Ferrite in Electroacoustic Industry, 2006-2012 Price of Neodymium Oxide, Oct. 2007-Oct. 2012 Price of Neodymium Metal, Oct. 2007-Oct. 2012 Price of NdFeB, Jan. 2009-Oct. 2012 Rare Earth Metal, Alloy, and Powder Supply Chain NdFeB Magnet Supply Chain SmCo Magnet Supply Chain Supply Chain of Rare Earth Permanent Magnet Supply Chain of Rare Earth Permanent Magnet in U.S.A. Global NdFeB Output, 2007-2015 China NdFeB Capacity by Enterprise, 2012 Demand for NdFeB Magnet, 2012 Global Mobile Phone Shipment, 2007-2014 3G/4G Mobile Phone Shipment by Region, 2010-2012 Shipment of Global Major Mobile Phone Vendors, Q1 2010-Q2 2012 Market Share of Global Major Smart Phone Vendors, Q2 2012 Shipment of Global Major Mobile Phone Vendors, 2010-2011 Market Share of Global Major Mobile Phone Motor Vendors, 2010-2011



Industrial Supply Relationship of Mobile Phone Motor Intuitive Illustration of VCM Profile Map of VCM AF Mobile Phone Proportion, 2011-2015 Market Share of Global VCM Companies by Revenue, 2011 Ranking of Micro Electroacoustic Device Industry Mobile Phone Electroacoustic Device Output Value by Product, 2010-2011 Market Share of Global Mobile Phone Loudspeaker Manufacturers, 2010-2011 Market Share of Global Mobile Phone Receiver Manufacturers, 2010-2011 Market Share of Global Hands-Free Earpiece Manufacturers, 2010-2011 Market Share of Global Bluetooth Headset Manufacturers, 2010-2011 Market Share of Major ECM Microphone Manufacturers, 2010-2011 Market Share of Major Mobile Phone Microphone Manufacturers, 2010 Supply Relationship between Six Mobile Phone Vendors and Their Micro Loudspeaker Providers Supply Relationship between Six Mobile Phone Vendors and Their Hands-Free **Earpiece Providers** Supply Relationship between Six Mobile Phone Vendors and Their Microphone Providers Market Share of Major Notebook Loudspeaker Manufacturers, 2010 Distribution of Global Newly-Added Wind Power Installed Capacity by Country, 2011 Distribution of Global Cumulative Wind Power Installed Capacity by Country, 2011 Global Newly-Added Installed Capacity of Wind Power, 1996-2016 Sales Volume of Frequency Conversion Air Conditioner in China, 2006-2014 Demand for High-performance NdFeB Permanent Magnet from Air Conditioner Industry, 2008-2014 Shipment of EPS Motor, 2009-2014 Market Share of Global Major EPS Motor Manufacturers, 2012 EPS Motor Output of China, 2006-2014 Typical HEV, PHEV, EV Lithium Battery Capacity, 2012 Sales Volume of Hybrid Vehicle of Toyota Global Sales Volume of HEV, EV, PHEV, 2009-2020 Sales Volume of HEV, EV, PHEV in North America, 2009-2020 Sales Volume of HEV, EV, PHEV in Europe, 2009-2020 Sales Volume of HEV, EV, PHEV in Japan, 2009-2020 Sales Volume of HEV, EV, PHEV in China, 2009-2020 Shipment of xEV Motor, 2010-2016 Quarterly HDD Shipment, Q1 2010-Q3 2012 HDD Shipment, 2009-2015



Global HDD Shipment by Region, 2011 Market Share of Global Major HDD Manufacturers by Shipment, 2011 Market Share of Global Major HDD Manufacturers, Q3 2012 ODD Shipment, 2008-2013 Market Share of Global Major ODD Manufacturers, 2012 Global Sales Volume of E-Bike, 2009-2013E Global Revenue of E-Bike, 2009-2016E Sales Prediction of Electric Assistant Vehicle in Europe by Type Organizational Structure of Hitachi Metals Main Products of Hitachi Metals Revenue and Operating Margin of Hitachi Metals, FY2005-FY2013 Quarterly Revenue of Hitachi Metals by Business, FY2011-FY2012 Revenue and Operating Income of Daido Steel, FY2005-FY2013 Organizational Structure of Daido Steel Revenue of Daido Steel by Business, FY2009-FY2012 Operating Income of Daido Steel by Business, FY2009-FY2012 Revenue of Daido Steel by Business, FY2012-FY2013H1 Revenue and Operating Income of TDK, FY2005-FY2013 Revenue of TDK by Product, Q3 2012 Operating Income of TDK by Business, Q3 2012 Revenue of TDK by Application, FY2009-FY2012 Quarterly Revenue of TDK HDD, Q2 2011-Q3 2012 Revenue and Operating Margin of Chengdu Galaxy Magnets, 2007-2013 Downstream Application of Chengdu Galaxy Magnets, 2007-2012 Operating Income of Chengdu Galaxy Magnets by Application, 2007-2011 Gross Margin of Chengdu Galaxy Magnets by Product, 2007-2008 Revenue of Chengdu Galaxy Magnets by Region, 2010-2012 Revenue and Operating Margin of Zhong Ke San Huan, 2005-2012 Revenue and Gross Margin of Zhong Ke San Huan, Q3 2010-Q3 2012 Revenue of Zhong Ke San Huan by Application, 2011 Financial Statement of Zhong Ke San Huan by Subsidiary, 2010-2011 Revenue and Operating Margin of Yantai Zhenghai Magnetic Material, 2008-2013 Revenue of Yantai Zhenghai Magnetic Material by Customer, 2008-2011 Organizational Structure of Ningbo Yunsheng High-Tech Magnetics Revenue and Operating Margin of Ningbo Yunsheng, 2006-2013 Revenue of Ningbo Yunsheng by Product, 2009-2012 NdFeB Revenue and Operating Margin of Ningbo Yunsheng, 2005-2012 NdFeB Revenue of Ningbo Yunsheng by Application, 2011 Revenue and EBITDA of OM Group, 2007-2013



VAC Revenue by Business, 2011 VAC Revenue by Region, 2011 Global Distribution of Vacuumschmelze VAC Revenue Downstream Distribution, 2010 VAC Revenue Downstream Distribution, 2011 Organization Structure of Shin-Etsu Chemical Revenue and Operating Income of Shin-Etsu Chemical, H1 FY2013 Revenue and Operating Income of Taiyuan Twin-Tower Aluminum Oxide, 2007-2013 Revenue and Operating Income of Baotou Steel Rare-Earth, 2007-2012 Revenue and Operating Income of JPMF Guangdong, 2008-2013 Revenue of JPMF Guangdong by Product, 2008-H1 2012 Revenue and Operating Income of Hengdian Group DMEGC Magnetics, 2007-2013 Revenue of Hengdian Group DMEGC Magnetics by Product, 2009-H1 2012



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