

# Chapter 91

## Greening the Automotive Supply Chain

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### EXECUTIVE SUMMARY

*The word “green” today connotes less environmentally destructive practises that minimize damage to the environment and decrease the side-effects of modern day living. The challenges of modern day automotive supply chain management and logistics as well as green technology adoption have grown manifold in today’s profit-driven automotive industry. A few of these challenges are explored for- Jiangxi Chuaxing Hau Autos Co. Ltd., one of China’s growing automobile manufacturers and for Toyota, the world’s largest automaker in the following case studies.*

### BACKGROUND

Green Supply Chain Management (GSCM) an upcoming field of academic research and has attracted the attention of industrialists, government and academicians alike. To achieve green supply chain management in the automotive sector, the government as well as large multinationals are pursuing these goals aggressively through legislation and by adopting best-in-class green practices.

### CASE STUDY 1: SPEED TO GREEN

#### Company Background

Established over 30 years ago, Chuaxing Hau Autos Co. Ltd. is a Sino-Foreign venture and is listed at the Chinese stock exchange as a manufacturer of automobiles. The company entered the Chinese automobile manufacturing industry, as a supplier to government sectors such as public security, people’s court and judiciary departments. It is well known in China for its famous cross-country vehicle.

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Chuaxing Hau Autos Co. Ltd. is a fast growing group. Since its establishment, Chuaxing Hau Autos Co. Ltd. production and sales of cars have been increasing by 30 percent annually and reached 460,000 cars in 2007.<sup>1</sup> Chuaxing Hau Autos Co. Ltd. produced 508,000 vehicles and achieved CNY 43.2 billion in sales in 2006, up 33 percent from 2005, with net profits up 152 percent on a y-o-y basis to CNY 2.29 billion.<sup>2</sup> The brand value of Chuaxing Hau Autos Co. Ltd. rose to CNY 13.358 billion in 2005 from CNY 2.5 billion in 1998 placing it in the ranks of the top 500 private owned companies in China and Top 500 components suppliers in the world.

Chuaxing Hau Autos Co. Ltd. is part of the large Zuaxiang Group which has 18 subsidiaries. The strategic growth of Chuaxing Hau Autos Co. Ltd. can be attributed to tie-ups with the world's large automobile manufacturers. The transfer of technology and expertise from foreign partners has benefited domestic automobile manufacturers in China, helping them to speed up the process of development of domestic brands. Several industry players have adapted technology to meet local requirements and have launched their own brands in the Chinese market.

Chuaxing Hau Autos Co. Ltd. is a strong player in the local market and has set its sights high on the international arena with its expansion into the US and accelerating finished vehicle exports. To ensure better and faster delivery of parts and finished vehicles, Chuaxing Hau Autos Co. Ltd. has tied up with leading third party logistics service providers and shipping companies. The joint venture caters to all the logistics needs of Chuaxing Hau Autos Co. Ltd. from the delivery of supplier parts to the distribution of finished vehicles.

### **Gearing up for the Electric and Hybrid Car Challenge**

Another strategy that Chuaxing Hau Autos Co. Ltd. is planning to adopt to improve its supply

chain efficiency and achieve Speed-to-Green technology is a venture into the manufacture and distribution of hybrid or electric vehicles.

#### ***a. Expansion into the Electric Car Segment***

Electric cars and hybrid cars are essentially vehicles that can be run on electricity and fuel respectively without causing as much damage to the environment as the regular motor vehicles. Electric cars run on batteries, and while they are able to perform as well as normal cars in terms of acceleration and speed, the batteries need to be recharged (sometimes overnight) and this can be a deterrent for the uptake of the car in the commercial sector.

The most obvious advantage of adopting electric cars is the zero tail emissions which will help to reduce pollution especially in urban centers. Cars emissions are a large contributor to pollution in an urban center. Another advantage is the decrease in reliance on gasoline, which is continuously rising in price and decreasing in availability.

An expansion into this segment requires a mastery of the technology as well as a unit specifically focusing on design of the electric cars. Not only does an entry into this segment require a large investment in technology and R and D, it also requires capital investment in machinery and factory lines. Servicing the electric car requires talented and trained manpower. Electric cars run best in cities, and thus seem an ideal target for the largely urban Chinese middle class (jljgroup.com, 2007). BYD and Daimler have announced plans to jointly develop an electric vehicle, with investments that may top \$134 million. According to the MIIT, the government also aims to significantly increase alternate-energy vehicles on the road by 2012. Most recently, Xinhua News reported commitment to an electric infrastructure in a \$3.4 million of investment to build a large-scale recharge station in Shandong, one of the largest car-producing provinces. Government subsidies in this sector are attracting car manufacturers to

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