

Alongside 'banking and finance', the automotive industry has long been the other land of big figures, the land of invention of mass-production and 'fordism', a matrix of market and organisation innovations. In these times of social and economic change, its unique position in our societies is being profoundly reshaped. Not only do technologies, consumption and uses 'go green', but also, even more dramatically, so does the employment structure: armies of blue collars are to be replaced by fewer green-white collars. Paraphrasing a recent speech by US president Obama, breaking the oil-and-car addiction is going to take nothing less than the complete transformation of our economies. So far, there are more than 250 automobile production sites in Europe and 12 millions jobs (including indirect ones), close to 1 million in Germany alone; in some Member States, the industry represents about 10% of the employed labour force. On the downside, 60% of the European population lives in urban areas where urban traffic is responsible for 40% of carbon dioxide emissions and 70% of emissions of other pollutants arising from road transport. Confronting these extreme and concentrated tensions, individual transport consumers, automotive companies and public policies are altogether compelled to change, would there be any collective upturn. Analysing current players' moves, on a global scale, provides an outlook on such opportunities. *For the four drivers identified through the semantic analysis of the world press on the transition towards a cleaner road transport system, we suggest possible policy responses.*

### Key drivers

#### MARKET PRESSURE FOR OPENING UP CLEAN ENERGY OPTIONS

- In accordance with the Emissions Trading Scheme, the EC encourages an harmonised move towards a EU-wide global CO2-based taxation/incentive system, thereby allowing the development of new profitable energy markets and the deployment of a European clean Venture Capital
- The EC disseminates accurate & consistent info based on life-cycle analyses and country-specific CO2 labelling

#### Matching policy shifts and reforms

by Pierre Bihard and Alain Quévrens, February 2009

#### PUBLIC TRANSPORT DEMAND: MANAGEMENT NEEDED

- A co-ordinated EC level action plan that supports the deployment of public transport demand management should be put forth through common rules on liability; two conditions for success:
  - trans-nationally: deployment of continuous cross-border services for travel information and traffic management
  - co-modality: favouring efficient shifts between public and private, rail & road & inland waterways, regional and national modes
- Flexible 'bundled solutions' should be promoted, including: dynamic info traffic data, tariff road pricing, freight transport on flexible lanes, flexible loading areas or variable parking places and fees

#### INDUSTRY RESTRUCTURING TOWARDS AN EXPANDED RANGE OF TECHNOLOGIES

- EC and MS shall undertake immediate and large efforts to sustain the development of high-skilled labour force (technical and engineering) so as to keep the EU motor industry competitive:
  - broad consensus that conventional combustion engine will remain dominant until 2020, though many improvements are underway (hybrids, biofuels and gas –both Compressed Natural & Liquefied Petroleum)
  - beyond 2020, electric battery-powered vehicles and hydrogen-powered vehicles would progressively gain importance
- The EC supports MS initiatives for more efficient handling of goods on the EU highways, sea routes and railways that complement one another (*inter-city green corridors*)
- The EC continues to encourage local initiatives that aim at better integrating passenger and freight transport (*intra-city green corridors for public transport*): efficient interfaces needed.

#### LOGISTICS FOR GREEN TRANSPORT CORRIDORS

## IDEAS FOR CHANGING EUROPE

### A RESEARCHER'S THINKING

In support of the development of GREEN TRANSPORT CORRIDORS, much research had been undertaken on the viability of raising the limits on Europe's Heavy Commercial Vehicles to 60 tonnes and 25 metres in length.

### A BUSINESSMAN'S INTEREST

The simple fact is there is no incentive for Americans to buy more-expensive, fuel-efficient automobiles when gas prices are low so, yes, we do need a better, honest dialogue with the federal government, one based on MUTUAL TRUST. Beyond the emotional component, a stimulus package must make credit available to consumers and get consumers confident and liquid enough to buy cars and homes.

The overall conclusion from current research is that it would be possible to move to 50 tonne-trucks with a 25-25 metre length, but SIGNIFICANT INFRASTRUCTURE CHANGES would be needed.

We also very badly need a NATIONAL ENERGY POLICY. We need a productive dialogue, and workable fuel economy and emissions regulations. We cannot plan future products if we don't know the price of fuel three or four years from now.

Bernard JACOB, Pr. Laboratoire Central des Ponts et Chaussées

Bob LUTZ, Head of global product development at General Motors

### GRIPS Intelligence Corner

#### Greener vehicle technologies: Europe is leading the way

• **Green innovations related R&D areas:** (1) conventional Power train based on conventional and alternative fuels, (2) alternative Power train and energy management such as hybrid ICE/electric, fuel cells and hydrogen combustion engines, (3) materials e.g. high strength, low weight material, (4) aerodynamics, (5) improved energy efficiency of car components (e.g. power steering, air conditioning, alternator); (6) driver information devices.

• **New CO2 Efficient Technologies:** from 1995 to present, more than 50 technologies that permit a reduction of CO2 emissions were introduced by the European car industry (cf. ACEA). Among the latest, and yet to be widely adopted: new generations of turbocharged petrol engines, of direct injection systems (high precision injections), of start-stop function in small petrol-engined cars, of brake energy recuperation, of variable valve control, of double clutch (dly) transmissions.

## POLICY SUPPORT ON THE MOVE

### BIOETHANOL FOR SUSTAINABLE TRANSPORT (BEST)

#### BEST IN CONTEXT: THE ALTERNATIVE MOTOR FUEL WORK PROGRAMME

The EC Alternative Motor Fuel work programme aims at the development and demonstration of oil substitution fuels and energy efficient vehicles. In effect, greenhouse gas emissions from energy used in transport continue to grow; the transport sector remains almost exclusively dependent on oil. Activities within the Alternative Motor Fuel programme should contribute to the MITIGATION OF GREENHOUSE GAS EMISSIONS GROWTH, the REDUCTION OF OVER-DEPENDENCE ON OIL and the PROMOTION OF BIOFUELS FOR TRANSPORT APPLICATIONS.

#### THE AMBITIOUS TARGETS OF A TRANSNATIONAL CITY-BASED INITIATIVE

BEST will introduce 10 500 Flexifuel cars, 160 bioethanol buses, 13 E95 fuelstations for buses and 135 E85 fuelpumps. Through this, the participating cities and regions aim to prepare a market breakthrough for ETHANOL vehicles and for BIOETHANOL and also to inspire and obtain followers. Co-ordinated by Stockholm, other participating cities/regions are Biofuel Region (Sweden), Brandenburg (Germany), Somerset (UK), Rotterdam (The Netherlands), Basque Country and Madrid (Spain), La Spezia (Italy), Nanyang (China), Sao Paulo (Brazil).

#### INNOVATIVE DEMONSTRATION OF ALTERNATIVE FUELS TO PETROL AND DIESEL

Co-financed within the 6th framework Sustainable Energy Systems/Alternative Motor Fuels "Biofuel Cities", the project started in January 2006 and will continue till end of 2009. While the biggest part is financed by the partners themselves, the EU supports part of the investments and some of the work done. The work and investments within BEST is estimated to amount € 17.7. BEST's sister project within the European Partnership Biofuel-Cities is BiogasMAX (which uses BIOGAS produced from various types of urban waste to address urban challenges related to air and water pollution). The European partnerships Biofuel-Cities intends to develop innovative demonstrations of alternative fuels and energy efficient vehicles, which will foster the progressive take up of alternatives to petrol and diesel.

#### CHALLENGING OBSTACLES REMAIN TO BE OVERCOME

Despite all converging efforts, major hindrances persist: tax systems which make biofuels and clean vehicles still too expensive compared to fossil varieties, lack of standards for fuels, presumed safety risks, media scepticism against real benefits of biofuels. (G. Landahl, BEST-Newsletter#2, June 2008)