

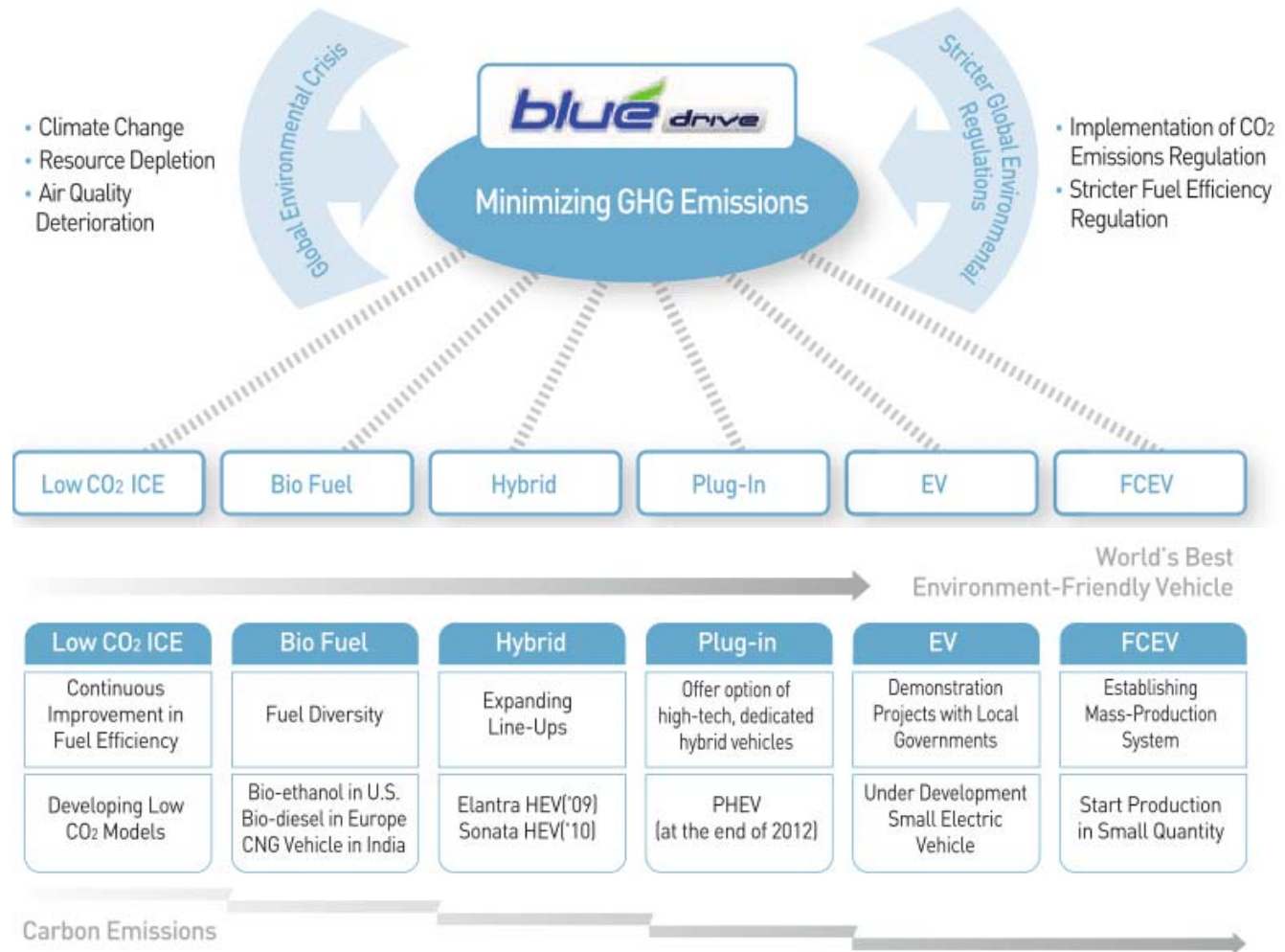


Hyundai Motor Company Contribution
European Strategy on Clean and Energy-efficient Vehicles
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“Blue Drive” - Hyundai’s commitment to sustainable transport

- ◆ Since its establishment in 1967, the Hyundai Motor Company (HMC) has grown into one of Korea’s most recognizable and trusted firms. Today, we proudly stand as one of the world’s largest automotive producers.
- ◆ “Blue Drive” is our plan to develop a range of low-carbon, fuel-efficient vehicles that minimize fuel consumption and reduce CO2 emissions, thereby meeting the social need for both mobility and environmental protection.



◆ HMC supports the vision set out in the CARS 21 mid-term review

- Internal combustion engine's market dominance
- Growing market penetration of EV, Hybrid and hydrogen vehicles
- 2050 perspective of transport decarbonisation

◆ Focus on boosting the fuel economy of existing models

- Internal combustion engine has further potential & will remain the dominant power train in the coming decade
 - The renewal of aging European car fleet will require both cost-efficient and fuel-efficient vehicles
 - As such, improving the fuel economy of the “standard” European vehicle fleet remains critical
 - HMC has developed
 - A new diesel common rail engine and new gasoline direct injection engine,
 - Idle Stop & Go (ISG) and Double Clutch Transmission (DCT).
 - We are
 - improving aerodynamics through wind tunnel tests,
 - adopting low rolling resistance tires, and
 - developing lighter cars for greater fuel efficiency.
- ⇒ EU decision-makers must acknowledge and support the work of automobile manufacturers that will improve fuel economy and reduce emissions across the majority of the European fleet

◆ EVs & Hybrid Vehicles

- Hybrid vehicles offer high commercial potential since they can be fuelled through the existing filling station infrastructure
- HMC is pursuing research on promising hybrid and “Plug-in hybrid” vehicles
- Significant obstacles remain to the successful roll-out of such vehicles

◆ Hydrogen Fuel Cell Electric

- Emitting only water, hydrogen FCEVs offer more than twice the efficiency of traditional internal combustion engines
- In September 2009, Hyundai signed letter of understanding with Daimler, Ford, GM, Honda, Renault/Nissan and Toyota
 - *“Battery and fuel cell vehicles complement one another*
 - *Strongly anticipate that from 2015, a significant number of fuel cell vehicles could be commercialised*
 - *A hydrogen network with sufficient density is required by 2015’*
- In March 2010, Hyundai unveiled its ix35 Hydrogen Fuel Cell Electric Vehicle (FCEV) at the 2010 Geneva Motor Show
- By 2012, Hyundai plans to begin manufacturing FCEVs in the low thousands & delivering them to fleet customers in Korea.

⇒ The success of EVs, Hybrids and Hydrogen Fuel Cell vehicles across the EU will depend heavily on issues beyond manufacturers’ direct control:

- The availability of the necessary recharging and refuelling infrastructure
- The availability of purchase/tax incentives to compensate for the initial higher cost of these new vehicles
- The availability of adequate finance to support automotive research into core green technology, particularly during challenging trading conditions in the automobile sector
- The transformation of EU electricity generation to provide sufficient low carbon electricity
- Consumer acceptance of new technologies – eg: “range anxiety” issue

◆ The importance of the “Integrated Approach”

- An approach that reflects the impact of the vehicle, the driver and the infrastructure on CO₂
- Automobile manufacturers will continue to deliver vehicle technology improvements
- ⇒ In order to maximise the environmental benefits & minimise the costs, these efforts must be complemented by:
 - Infrastructure investments & better traffic management systems to reduce congestion and cut emissions
 - Promotion of eco-driving and further consumer information on automobile emissions-reduction technology
 - Harmonised CO₂-related taxation across the EU
