Global Top

CEFV
Center for Environmentally Friendly Vehicle

We lead in Environmentally Friendly Vehicle

Center for Environmentally Friendly Vehicle
**Vision**

- Development of the core technology for low emission, low carbon and eco-friendly vehicles, and PM-NOx reduction technologies for in-use vehicles to cope actively with the rapidly changing environmental issues in the transportation sector.
- Contribution to the achievement of both post-2020 national GHG reduction goal in response to new climate scheme and the air quality improvement goal declared in the 2nd implementation plan for the Seoul Metropolitan Air Quality Control Master Plan.
- Contribution to the national economy and the enrollment in 4th leading green car country in the world by the predominance of technology in automotive industries as one of the national growth engines.

**Overview**

- **Project Duration**: May 2011 – April 2021 (10 years)
  - 1st Phase: May 2011 – April 2016 (5 years)
  - 2nd Phase: May 2016 – April 2021 (1st stage: 3 years, 2nd stage: 2 years)
- **Government Budget**: 100 billion Won during 10 years
  - 2nd Phase: 51.2 billion Won during 5 years
- **Project Areas and Goals**
  - Low emission and low carbon technology in vehicles
  - Reduction technology of PM and NOx for in-use vehicles
  - Measurement technology of vehicle emissions

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**Phase I**
- 2011.5~2016.4
- Reduce CO₂ by 10%

**Phase II (1st stage)**
- 2016.5~2019.4
- Reduce CO₂ by 20%

**Phase II (2nd stage)**
- 2019.5~2021.4
- Reduce CO₂ by 30%

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**Development and Promotion of Environmentally Friendly Vehicles**
### Expected Outcome

- **Scientific and technological outcome**
  - Secure core technology to reduce harmful emissions from mobile sources
  - Secure low carbon technology to reduce GHGs from mobile sources

- **Industrial and economic outcome**
  - Export over 220 billion KRW in sales for low emissions technology
  - Contribute to become one of the top-four green car countries in the world

- **Environmental outcome**
  - Improve the air quality especially in the metropolitan area
  - Reduce the GHGs in transportation sector

### Action Plan of 2\textsuperscript{nd} Phase

<table>
<thead>
<tr>
<th>Stage</th>
<th>Phase II - 1\textsuperscript{st} Stage</th>
<th>Phase II - 2\textsuperscript{nd} Stage</th>
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<tbody>
<tr>
<td>Fiscal year</td>
<td>2016</td>
<td>2017</td>
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<tr>
<td><strong>Target</strong></td>
<td>Intermediate of EURO 7 / LEV 3 CO2 20% reduction</td>
<td>EURO 7 / LEV 3 CO2 30% reduction</td>
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<tr>
<td><strong>Low emission, Low carbon Technology</strong></td>
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<tr>
<td><strong>Gas car</strong></td>
<td>Commercial 1 ton truck with LPG direct injection SI engine</td>
<td>Development of lean burn LPDI engine with DeNOx catalyst</td>
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<td><strong>Biofuel car</strong></td>
<td>Ethanol flexible fuel technology with direct injection turbo SI engine</td>
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<tr>
<td><strong>Off road</strong></td>
<td>2 Cylinder off-road gasoline turbo engine with aftertreatment system</td>
<td>Off-road gasoline and diesel engine with aftertreatment system</td>
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<tr>
<td><strong>Motorcycle</strong></td>
<td>Euro 5 motorcycle engine and aftertreatment system</td>
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<tr>
<td><strong>Tire</strong></td>
<td>Ecofriendly tire for low wear and low CO2</td>
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<tr>
<td><strong>Advanced combustion</strong></td>
<td>Advanced combustion technology for low carbon &amp; low emission engine</td>
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<tr>
<td><strong>In-use, Vehicle Technology</strong></td>
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<tr>
<td><strong>In-use car</strong></td>
<td>Large size monolith type diesel particulate filter</td>
<td>SCR on DPF, GPF, Advanced 3 way catalyst, etc.</td>
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<td><strong>Green car promotion</strong></td>
<td>SCR system for in-use Euro 4 vehicles</td>
<td>SCR cleaning system</td>
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<td><strong>Measurement Technology</strong></td>
<td>Soot &amp; NOx analyzer for inspection &amp; maintenance</td>
<td>PEMS, SEMS</td>
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<td><strong>Free Competition Project</strong></td>
<td>Any project to meet CEFV's objectives</td>
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<tr>
<td><strong>CEFV Project</strong></td>
<td>Development of the PM/NOx purifying system and the core technology</td>
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