

# Potential Health and Environmental Impact from Emerging Technologies and Fuels: A report from the Health Effects Institute

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# Conclusions: Technologies & fuels to watch and emissions of potential concern

- ▶ Diesel engines: Selective catalyst reduction and emissions of nitrogenous compounds
  - ▶ Gasoline direct Injection technology and increased emissions of PM, especially ultra-fine particles
  - ▶ The use of ethanol in gasoline – especially  $>10\%$  – and emissions of aldehydes
  - ▶ Use of fatty acid esters in diesel fuel (biodiesel) and increased emissions of NO<sub>x</sub> and possibly other compounds
  - ▶ Environment and health issues related to the source of fuels, such as coal, shale, and tar sands; impact of both emissions and production of fuels
  - ▶ Use of metallic additives in fuels and the emissions of metallic particles – special concern in developing countries
  - ▶ Engine electrification and questions of exposures to electric and magnetic fields during operation of vehicles; exposure to reactive metals (such as lithium) during their life-cycle, and displaced emissions
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