Vehicle Electrification Fact Sheet

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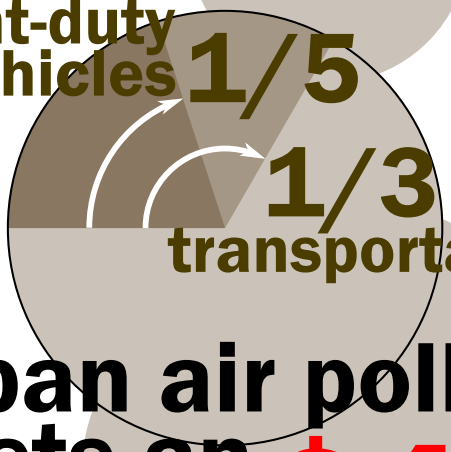
Cars are a global problem.

How?

US greenhouse gases:[1]



urban air pollution costs an annual **$44B**[2] in healthcare

Protecting US oil interests abroad costs **$31B/yr**[3] while **$36B/yr** is the "premium" associated with oil market volatility[4]

We can fix them.

How?

Hydrogen fuel cells and advanced batteries

zero
- foreign oil
- far-term GHGs
- tailpipe emissions

+immediately cut GHG emissions **50%** using H2 from natural gas[5]

It will take a portfolio of solutions to address the ills of our transportation sector.
Fuel cells and batteries are only a start.

Hydrogen fuel cells

are close to meeting car cost targets.[6]

How?
Platinum cost
System cost
Manufct. cost

Cost: −30% from 2008-2010
−40% needed 2010-2016

With auto companies promising fuel cell vehicles by 2015,

funding fuel cell research is critical to the transition to cleaner transportation.

And new vehicle tech alone is no silver bullet: Transit and active transportation are needed to meet GHG targets.[7]

1. Transp. energy data book, ORNL, (2009) / 2. Delucchi et al., J Environ Mgmt 64 (2002) / 3. Delucchi et al., Energy Policy 36 (2008) / 4. Parry et al., in Resources for the Future: Discussion Papers (2003) / 5. Thomas, Int J of Hydrogen Energy 34 (2009) / 6. Papageorgopoulis, DOE H2 Program AMR (10 May 2011) / 7. Sager et al., Environ Res Lett 6 (2011)