

Steve Ellis/
Honda

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Honda's proposal for NGV as Enhanced AT-PZEV

Near-zero emission Natural Gas Vehicles (NGVs) promote a pathway to zero emission FCVs, and rival even Battery EVs for Well-to-Wheel emissions. They should qualify as Enhanced Silver, at least for an interim (transitional) period, e.g. through 2014. Natural gas is a dominant clean energy source for electricity and hydrogen near term. ZEV policy needs to encourage this ZEV-enabling path and option. We are the only OEM still committed to NGVs, given the challenges of dedicated AFVs and infrastructure. Honda has even been promoting and developing home refueling systems for AFVs.

Enhanced AT-PZEV: definition, proposed modification:

| Staff's ISOR Proposed Definition | Modification we propose | Rationale |
|----------------------------------|---|--|
| 1.0+ credit | Increase current NGV credit from 0.7 to 1.0 or greater. | ZEV enabling, and demonstrated emissions performance is similar to BEVs in SCAB. |
| "ZEV fuel" | Qualify the direct use of natural gas for a transitional period (through 2014). | Natural gas is a clean energy source for ZEV fuels today (electricity and hydrogen). |

The credit value for the NGV is not consistent with other Enhanced AT-PZEVs proposed, based on environmental performance and ZEV-enabling component technology as well as infrastructure development contribution.

Credit comparison under latest CARB proposal:

| AT-PZEV Technology | Near Term Fuel | '09-'11 | '12-'14 |
|---------------------|--|-----------------|-----------------|
| H2 ICE Vehicle | H2 from natural gas | 6.9 credits | 2.3 credits |
| Natural Gas Vehicle | Natural gas (directly used) | 0.7 credits | 0.7 credits |
| PHEV | Electricity from natural gas, & gasoline | 3.7-7.2 credits | 1.2-2.4 credits |

Evidence of dedicated NGV environmental (emissions) performance and benefits:

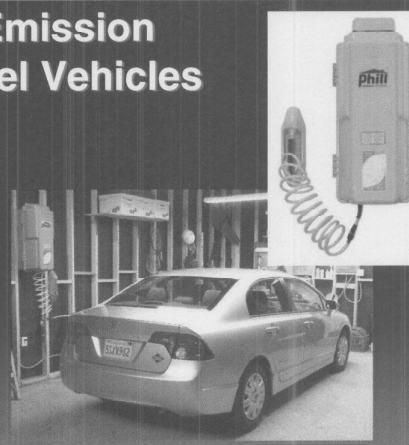
1. NGV is a dedicated alternative fuel vehicle that introduces the public to non-petroleum options, and serves as a bridge to fuel cell vehicles and hydrogen in terms of vehicle component technologies, infrastructure development, and as a transitional fuel for hydrogen production.
2. UC Riverside Study of Extremely Low Emission Vehicles: recent research on real world emissions impacts demonstrated near-zero emissions impact.
3. GREET 1.6 well-to-wheel comparisons: emission impacts (CO2, VOC, NOx, etc.) similar to BEV on National and CA grid mix.
4. VTT Technical Research Centre of Finland: measured Civic GX and confirmed virtually no PM emissions even in terms of particle number.
5. American Council for an Energy-Efficient Economy: analysis of health-cost related emission impacts and GHG impacts shows Civic NGV comparable to Battery EV model. Rated "greenest" model in recent years.

HONDA
The Power of Dreams

Near-Zero Emission Alternative Fuel Vehicles

NATURAL GAS (CNG)

- *Critical bridge to fuel cells and hydrogen (component technology, market challenges, refueling technology & infrastructure)*
- *Near zero emissions: CARB AT-PZEV and EPA "Inherent Low Emission Vehicle"*
- *GHG reductions*



Steve Ellis
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I am Steve Ellis, Manager for sales and marketing of Honda's dedicated Alternative Fuel Vehicle (AFV) efforts.

Honda has been a pioneer in the marketing of Natural Gas Vehicles (NGVs) and Fuel Cell Vehicles (FCVs) for real consumer use. This is very challenging indeed, given the infrastructure alone! Many thought we would quit the difficult challenge – some others have!

Honda proposes that near-zero emission dedicated NGVs qualify as Silver-Plus for an interim period, through 2014. NGVs promote a real path forward to ZEVs (H2 FCVs) – we know first hand as the only OEM left to face the challenges of consumer marketing of a dedicated AFV using gaseous fuel, and the clear links with our Zero-Emission Fuel Cell program.

**Enhanced AT-PZEV:
Definition,
Honda proposed modification**

| Staff's Proposed Definition | Modification we are proposing |
|------------------------------------|--|
| 1.0+ credit | Increase current NGV credit to 1.0 or greater to reflect benefits |
| "ZEV fuel" | Qualify the direct use of natural gas for a transitional period (through 2014). |

Here is our proposal for transitional qualification of NGVs as Silver Plus (Enhanced AT-PZEV).

Through 2014, qualify the direct use of natural gas as a "ZEV fuel". Electricity and hydrogen in CA are often made from NG today.

Credit comparison under latest Staff proposal:

| AT-PZEV Techology | Near Term Fuel | '09-'11 | '12-'14 |
|------------------------------|---|------------------------|------------------------|
| H2 ICE Vehicle | H2 from natural gas | 6.9 credits | 2.3 credits |
| Natural Gas Vehicle | Natural gas (directly used) | 0.7 credits | 0.7 credits |
| Plug-in HEV (gasoline) | Electricity from natural gas, & gasoline | 3.7-7.2 credits | 1.2-2.4 credits |

This shows a comparison of the credit values, according to the latest Staff proposal. The natural gas vehicle AT-PZEV credit has not been adjusted to reflect its relative value.

If credit values and categories get too far out of alignment with environmental value, cost, and our own real experience with an effective ZEV pathway, we may defeat ourselves as we all strive to advance our collective zero emission programs and goals.

30 Years of Environmental Innovation

| | |
|---------------------------------|--|
| 1975 Civic CVCC | 1st vehicle to meet U.S. Clean Air Act Standards, without a catalyst |
| 1988 Civic CR-X HF | 1st car to break the 50mpg barrier |
| 1996 Civic | 1st Gasoline LEV (Low Emissions Vehicle) |
| 1997 Accord | 1st Gasoline ULEV (Ultra-Low Emissions Vehicle) |
| 1997 EV Plus | 1st advanced 4-pass electric vehicle with NiMH batteries |
| 1998 Civic | 1st 50-state LEV |
| 1999 Accord | 1st Gasoline SULEV (Super Ultra-Low Emissions Vehicle) |
| 1999 Insight | 1st hybrid in U.S. & world's most efficient gasoline-powered car (70mpg) |
| 2000 Civic | 1st 50-state LEV |
| 2000 Civic GX | 1st AT-PZEV (Advanced Technology-Partial Zero Emissions Vehicle) |
| 2002 FCX | 1st government-certified fuel cell car |
| 2002 Civic Hybrid | 1st hybrid AT-PZEV |
| 2005 Civic GX & Phil | 1st home-refueled natural gas-powered vehicle |

I mentioned Honda's experience, history, and commitment to innovation for environmental technology.

We have serious ideas about constructive pathways forward to address ZEV goals. We take advantage of our early experience and learnings, and don't want to see them disregarded by the complex new structure of ZEV.

Thank you for your attention to this important matter.