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Green Mobility:

Government Procurement as Market Driver

Greening the Government Conference
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Center for a New American Dream

- *Center Mission*: To help people consume responsibly to improve our quality of life and to protect the environment
- *Goal of Procurement Strategies Program*: to help governments and other large purchasers incorporate environmental considerations into their purchasing decisions.
- **Power of government purchasing:**
  - **In 2002, the 50 state and 87,000 local governments in the United States spent more than $400 billion on goods and services.**
  - **The U.S. General Services Administration contracts for more than $1 billion in non-tactical vehicles annually.**

Procurement Strategies Program Tools

Leveraging collective purchasing power through:

- Network of over 1,200 procurement officials
- Gov. and institutional contacts around the country
- Landmark conference calls (HEV call 280 participants)
- Training and technical assistance
- Website/on-line assistance/listserve/best practices
- Facilitating agreement on green product specifications

Why the Transportation Sector?

- One-third of anthropogenic CO_2 emissions come from motor vehicles.
- Average car emits 91 tons of greenhouse gases during its lifetime; the average light truck emits 124 tons.
- Passenger vehicles account for 40% of the oil products consumed in the United States. Over one-half of the oil we use each day is imported.
- The transportation sector is the fastest growing energy user. Fuel economy standards have helped increase the energy efficiency of automobiles, however, these standards are out of date and have not kept up with the latest technological advances, the rise in sales of SUV's and minivans, and the increase in vehicle miles traveled.

"Greening" our Transportation Sector

How?

1) Reducing vehicle miles traveled

*****2) Improving vehicle efficiency/using alternative power sources

Government can HELP through:

Policies

Incentives

Leading by example - procurement

5

Greening Fleet Vehicles: Government Leading by Example

• Fleet vehicles comprise one in five of overall new car purchases and one in three of new full-size car purchases. About 2.7 million passenger vehicles were sold to fleets in 2000.

•About 30% of fleet vehicles in use are government -- over half of these are local fleets, with the remainder split nearly evenly between state and federal. Roughly 243,000 passenger vehicles were sold to federal, state, and local government in 2000.

Government fleets purchases offer bulk purchases, steady demand, good field data and immediate reductions in polluting emissions and the use of petroleum fuel.

6

According to the American Council for an Energy Efficient Economy (ACEEE), fleet demand "could greatly enhance automakers' interest in environmental performance and is sufficient to generate economies of scale needed to bring down the costs of new technologies"

7

Benefits of Buying Hybrids

- **Decreased tail-pipe emissions when compared to similar sized vehicles (air quality attainment, public health benefits)**
- **Dramatic reduction in global warming CO2 emissions.**
- **Higher fuel economy (petroleum displacement) than comparable cars. Can be up to 50% better.**
- **Improves urban air pollution as the electric battery allows for no emissions when operating at the stop and start and at low speeds. *Second generation Prius will be nearly 30 % lower in emissions than the current Prius, producing nearly 90% fewer tailpipe emissions than a conventional internal combustion engine.***

8

"If every new car and truck in America used Prius-like technology, we could more than double the fuel economy of our vehicles and save nearly three times more oil than we currently import from the Persian Gulf By 2020."

-David Friedman,
Union of Concerned Scientists

Current Models

Honda Insight

- First hybrid available in the U.S.
- Achieves 61 mpg (city) and 70 mpg (hwy)
- Fuel efficiency 85% higher than typical subcompact
- Meets CA ULEV standards
- Compared with a typical subcompact, will reduce global warming CO2 emissions by 17 tons and gasoline consumption by 1,700 tons, throughout its useful life.

Honda Civic Hybrid

- Manual: Achieves 46 mpg (city)/51 mpg (hwy)
- Automatic: Achieves 48 mpg (city)/47 mpg (hwy)
- Fuel efficiency is 30% higher than a conventional Honda Civic.
- Meets CA ULEV standards
- Compared to existing Tier 1 standards, the Civic hybrid reduces both hydrocarbon and nitrogen oxide emissions by as much as 82%.
- In 2003, Honda plans to introduce a version meeting CA SULEV standards.

Toyota Prius

- Achieves 52 mpg (city) and 45 mpg (hwy)
- Fuel efficiency is 50% higher than comparable vehicles in its compact class.
- Meets CA SULEV standards
- Compared to existing Tier 1 standards, the Prius design reduces both hydrocarbon and nitrous oxide emissions by 97%, carbon monoxide emissions by 76%, and particulate emissions by 90%. (Statistics fully realized when low-sulfur gasoline is used.)

Upcoming Models

- Next generation Prius 2004 – (58 mpg) larger car/new hybrid system
- Ford Escape Hybrid SUV (available late summer 2004) (40 mpg)
- Toyota Lexus 330 (35-40 mpg) luxury car
- GM Saturn Hybrid (2005) (35-40 mpg) advanced hybrid system with two electric motors
- GM Chevy Equinox (Suv/pick-up) and Malibu – (2006) "mild" hybrid not propelled by electric motor, idle off, 10 to 15% fuel economy gains

State/Local Government HEV Purchasers*

Counties

- King County, WA
- Alachua County, FL
- Marion County, FL
- Windham County, CT
- Martin County, FL Police Dept
- Jefferson County, KY
- Lexington/Fayette Urban County, KY
- Palm Beach County, FL

States

- New York
- New Jersey
- Washington
- California
- Oregon
- Florida
- Nevada
- Colorado
- Missouri
- Maine

Cities

- Coral Springs, FL
- Boulder, CO
- Fort Collins, CO
- Denver, CO
- Houston, TX
- Mesquite, TX
- Coppell, TX
- New York, NY
- Los Angeles, CA
- San Francisco, CA
- Austin, TX
- San Antonio, TX
- Lake Oswego, OR
- New Britain, CT
- Seattle, WA
- Boise, ID
- Dallas, TX

*Only a partial list of HEV purchasers compiled from several sources.

Hybrid Design

Hybrids reduce emissions & improve efficiency by:

- **Recovering braking energy and storing it in the battery for later use (regenerative braking).**
- **Idle-off capacity**
- **Turning off the gasoline engine and relying on the electric motor and batteries. Electric-only drive**
- **Engine downsizing**
- **Extended battery-electric range.**
- **Interim solution moving us toward the development of fuel cell technologies.**

13

Cost Issues

- Capital costs: Can be $2,000 to $6,000 more (UCS says about $4,000)
- Fuel Savings can be up to $5,500 over lifetime (according to UCS)
- Maintenance savings (data for two years)
- Leading to lower or comparable lifecycle costs
- *+ Tax incentives/credits : Clear Act (keep credits in energy bill strong)*

14

Costs: 2001 Economic Life Cycle Cost Comparison: King County

	GPV (Taurus)	HEV (Prius)	Difference
Capital Cost	$17,505	$20,212	<$2,707>
Projected Residual Value (resale)	<$3,328>	<$4,926>	$1,598
Net Capital Cost	$14,177	$15,286	<$1,109>
Est. Fuel Cost	$5,270	$3,229	$2,041
Est. Maintenance & Repair Cost (looking at first two years)	$4,133	$2,540	$1,593
Total	**$23,580**	**$21,055**	**$2,525**

GPV replacement life cycle = 85,000 miles Average fuel price = $1.55
HEV replacement life cycle = 100,000 miles

15

2003 Economic Life Cycle Cost Comparison

	GPV (Malibu)	HEV (Prius)	Difference
Capital Cost	$14,901	$21,701	<$6,800>
Projected Residual Value	<$2,682>	<$5,208>	$2,526
Net Capital Cost	$12,219	$16,493	<$4,274>
Est. Fuel Cost	$5,882	$3,604	$2,278
Est. Maintenance & Repair Cost	$4,133	$2,540	$1,593
Total	**$22,234**	**$22,637**	**<$403>**

GPV replacement life cycle = 85,000 miles Average fuel price = $1.73
HEV replacement life cycle = 100,000 miles

16

Other Issues

- Users enjoy them – King Co. users give 4.6 average rating (out of 5)
- Concerns similar to concerns about other smaller vehicles (higher risk in accident, limited trunk space for field work, not as much ump).
- Infrequent use of vehicle can result in a dead battery – King Co. installed solar-powered charger as a remedy.

17

Collective Purchase of Advanced Vehicles:

The Center works with U.S. Communities

U.S. Communities **= a project of the National Association of Counties (NACo) in collaboration with the:**

- **National Institute of Governmental Purchasing (NIGP)**
- **National League of Cities (NLC)**
- **U.S. Conference of Mayors**
- **Association of School Business Officials International (ASBO)**

18

Pooling Purchasing Process

- U.S. Communities identifies a lead public agency to draft initial solicitation documents.
- Center's Technical team advises on product specifications and contract language. Draft documents are circulated to U.S. Communities' advisory board members and other interested public purchasers.
- Solicitation is issued and includes language that allows for public agency piggybacking.
- Selection team reviews proposals and recommends final supplier(s) to lead public agency for award.
- Supplier(s) sign participation agreement and the product line is offered to state and local agencies.
- Broad participation solicited.
- Goal is to purchase 40,000 in three years.

19

Who Can Use?

Cities	K-12 Schools	Counties
Universities	Colleges	Special Districts
Nonprofits Serving State/Local Governments	Private Universities & Colleges	State Agencies

20

Issues for Federal Purchasers

- EPACT requirement for AFV covering 75% of vehicle acquisition does not include hybrids (must be"primarily powered by electric engine").
- The Wyden-Smith hybrid car amendment would allow for partial credit (according to formula for hybrids) in EPACT (other proposals)
- Exec. Order 13149 call for federal agencies to reduce petroleum usage by 20% over 1999 rates by 2005
- GSA added Honda Civic to its schedule in FY 2003 and allowed for waiver purchase of Toyota Prius.
- GSA will likely includes hybrids in FY 2004 schedule, available in October
- Currently about 8 agencies have purchased hybrids
- Issues of lease versus purchase

21

Federal Government Fleet Contacts

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- Denise Banks, GSA, denise.banks@gsa.gov
- Holly Elwood, USEPA,OPPT, Elwood.Holly@epamail.epa.gov
- Dianne Thiel, USEPA Region 8, Federal Facilities Coordinator thiel.dianne@epa.gov

22

Government Protecting the Public

"We work to conserve as much energy as we can—that's our obligation to the American people. We spend taxpayers' money wisely, and that means we don't run experiments. We've got a good car here. Hopefully American car companies will offer something similar, soon." – Wyatt Earp, Marion County, Florida

23

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24