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A Utility's Energy Storage and Fleet's Mileage Service Provider

June 13, 2011

This presentation is for discussion purposes, only, and contains forward-looking statements which reflect management's current plans, estimates and beliefs as of the date of the presentation. Future results could differ materially from those presented depending on future events and developments. Any future business transaction with the recipient will be based solely on a to-be-negotiated definitive agreement, and not this presentation.

Fleet Energy owns batteries in commercial vehicles.

- Revenue Stream 1: end user pays “by the mile”.
- Revenue Stream 2: local utility pays “by the hour” for the use of the batteries.

FEC's Management Team

- CEO of FEC, LG Chavez, Automotive Fleets and Business Management
  - Burt Automotive Network, growth of $526M to $2.1B over 13 years
    - Managed 1,600 employees at peak in 2008
    - $1.5 Billion in 2008 Commercial Fleet sales of over 75k units
    - Customers Include: Qwest Communications, Hertz Rent-a-Car, Enterprise Rent-a-Car, Xcel Energy, Comcast, etc
  - Director and Vice President of Biological R&D at American Home Products
  - University of Colorado - Boulder, BA in MCD Biology; University of Virginia, Ph.D. in Microbiology and Immunology

- CTO of FEC, John Bryan, Utility Engineering Project Management
  - Program Manager at Xcel Energy, Led and Implemented Industry Leading Utility R&D programs including:
    - 1 MW / 7.2 MWh Wind2Battery Program w/ 11.5 MW Wind Farm integration to MISO Markets
    - Vehicle to Grid Vehicle Electrification: 6 Ford Escape Retrofit with MISO Markets Integration
    - Outage Management System: Real Time Outage Management and Feeder Signal Data
    - SmartGridCity: Program Management and System Benefits
  - Program Manager for Qwest Communications
  - Quality Engineer for Textron Automotive (production manufacturing for Ford, General Motors, Toyota, etc)
  - University of Missouri, MBA - Finance; Vanderbilt University, BE - Mechanical Engineering

Motor Vehicle Production

Table 1-15: Annual U.S. Motor Vehicle Production and Factory (Wholesale) Sales (Thousands of units)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	10 Yr Avg
Production, total	**13,025**	**12,774**	**11,425**	**12,280**	**12,087**	**11,960**	**11,947**	**11,260**	**10,752**	**8,673**	**11,618**
Passenger cars	5,638	5,542	4,879	5,019	4,510	4,230	4,321	4,367	3,924	3,777	4,621
Commercial vehicles[a]	7,387	7,231	6,546	7,261	7,577	7,731	7,625	6,893	6,828	4,896	6,998
% of Total	57%	57%	57%	59%	63%	65%	64%	61%	64%	56%	60%

[a] Includes trucks under 10,000 pounds gross vehicle weight rating (GVWR), such as compact and conventional pickups, sport utility vehicles, minivans, and vans, and trucks and buses over 10,000 pounds GVWR.

NOTES

Factory sales can be greater than production total because of sales from previous year's inventory.
Ward's stopped collecting sales data for *Passenger cars* after 2001 because sales data are very close to production data.
Numbers may not add to totals due to rounding.

SOURCE

Ward's, *Motor Vehicle Facts & Figures,* U.S. Production and Factory Sales of Cars, Trucks and Buses (Southfield, MI: Annual Issues).

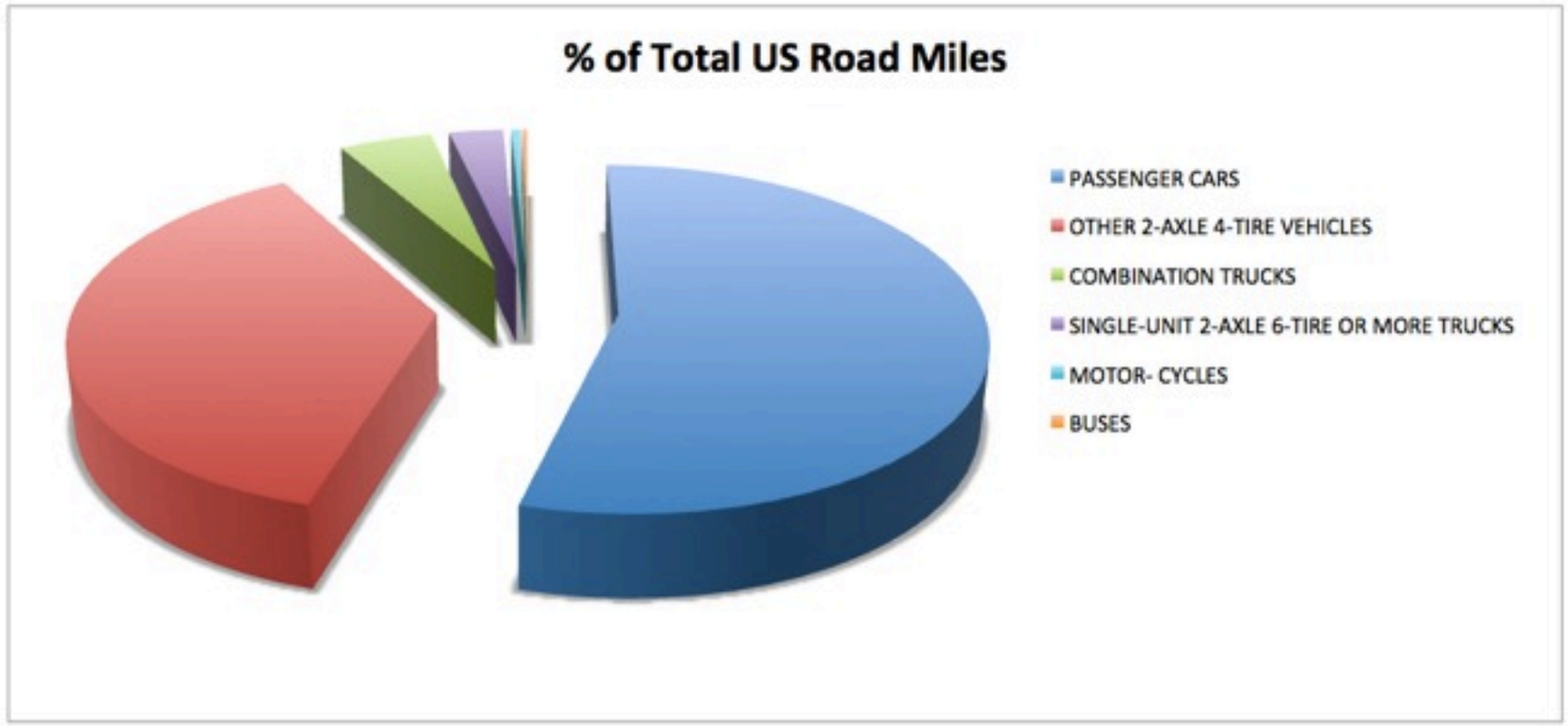
Year of Total US Vehicle Fleet	Number of Vehicles in US	Millions of Tons of CO2
2008	255,917,664	1,643.17
2001	235,331,381	1,619.27

Vehicle Miles Travelled by Class

USA 2008 Data	PASSENGER CARS	MOTOR-CYCLES	BUSES	OTHER 2-AXLE 4-TIRE VEHICLES	SINGLE-UNIT 2-AXLE 6-TIRE OR MORE TRUCKS	COMBINATION TRUCKS	PASSENGER CARS AND OTHER 2-AXLE 4-TIRE VEHICLES	SINGLE-UNIT 2-AXLE 6-TIRE OR MORE AND COMBINATION TRUCKS	ALL MOTOR VEHICLES
Number of Motor Vehicles Registered	137,079,843	7,752,926	843,308	101,234,849	6,790,882	2,215,856	238,314,692	9,006,738	255,917,664
Millions of Annual Miles per Vehicle Class	1,615,850	14,484	7,114	1,108,603	83,951	143,507	2,724,453	227,458	2,973,509
% Miles in the United States	54.3%	0.5%	0.2%	37.3%	2.8%	4.8%	91.6%	7.6%	100.0%

Vehicle Type	% of Total US Road Miles
PASSENGER CARS	54.3%
OTHER 2-AXLE 4-TIRE VEHICLES	37.3%
COMBINATION TRUCKS	4.8%
SINGLE-UNIT 2-AXLE 6-TIRE OR MORE TRUCKS	2.8%
MOTOR- CYCLES	0.5%
BUSES	0.2%

kWh	4,119,000,000,000
MWh	4,119,000,000
GWh	4,119,000
Vehicles	6,238
	0.15%
	660.307791
hours of storage	13.26654042



50% of the US Fleet would hold 6,238 GWh of Electrical Energy Storage

US Electrical Grid Produced 4,119,000 GWh of Energy in 2009

(660 Times Bigger)

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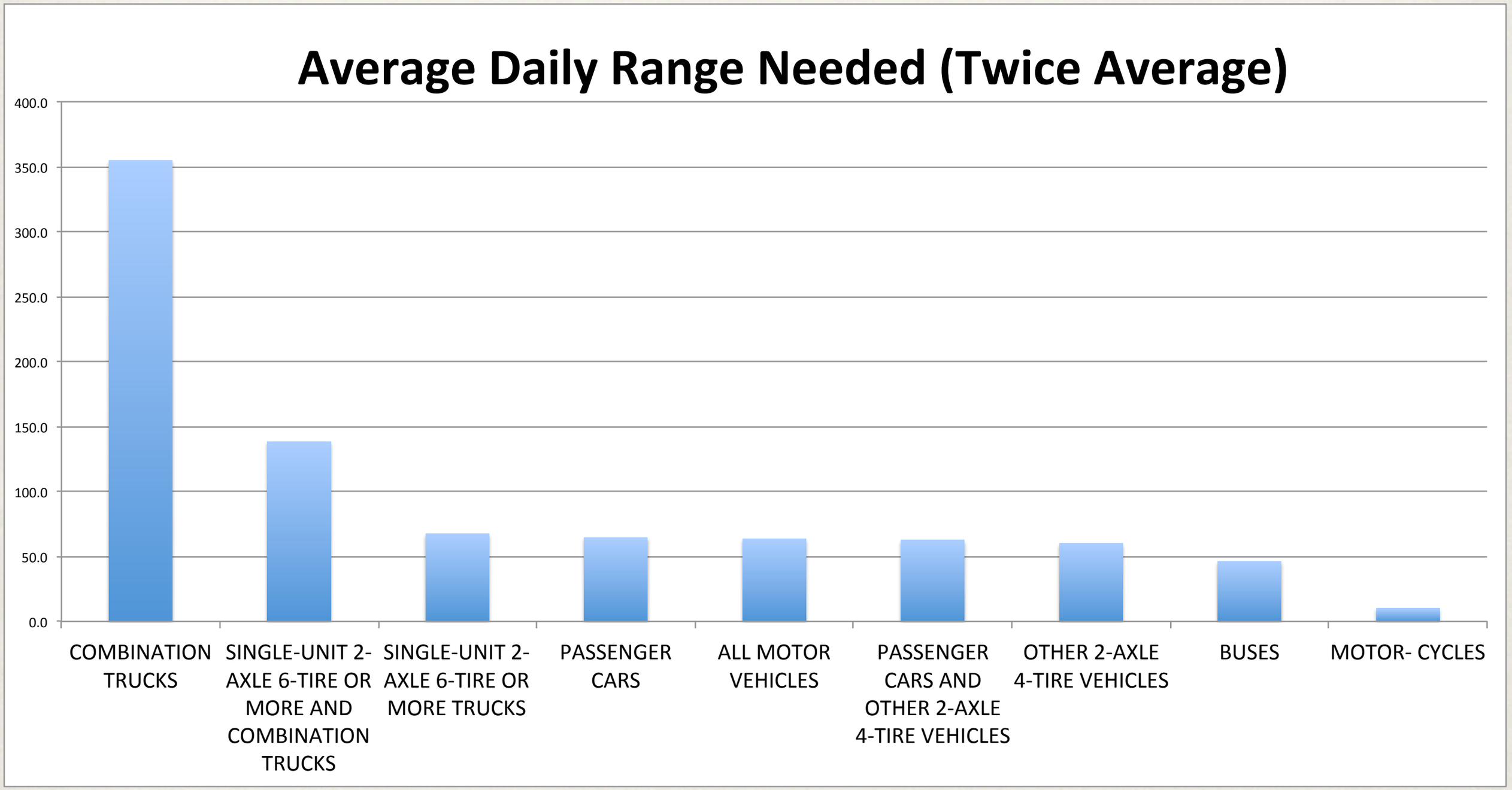
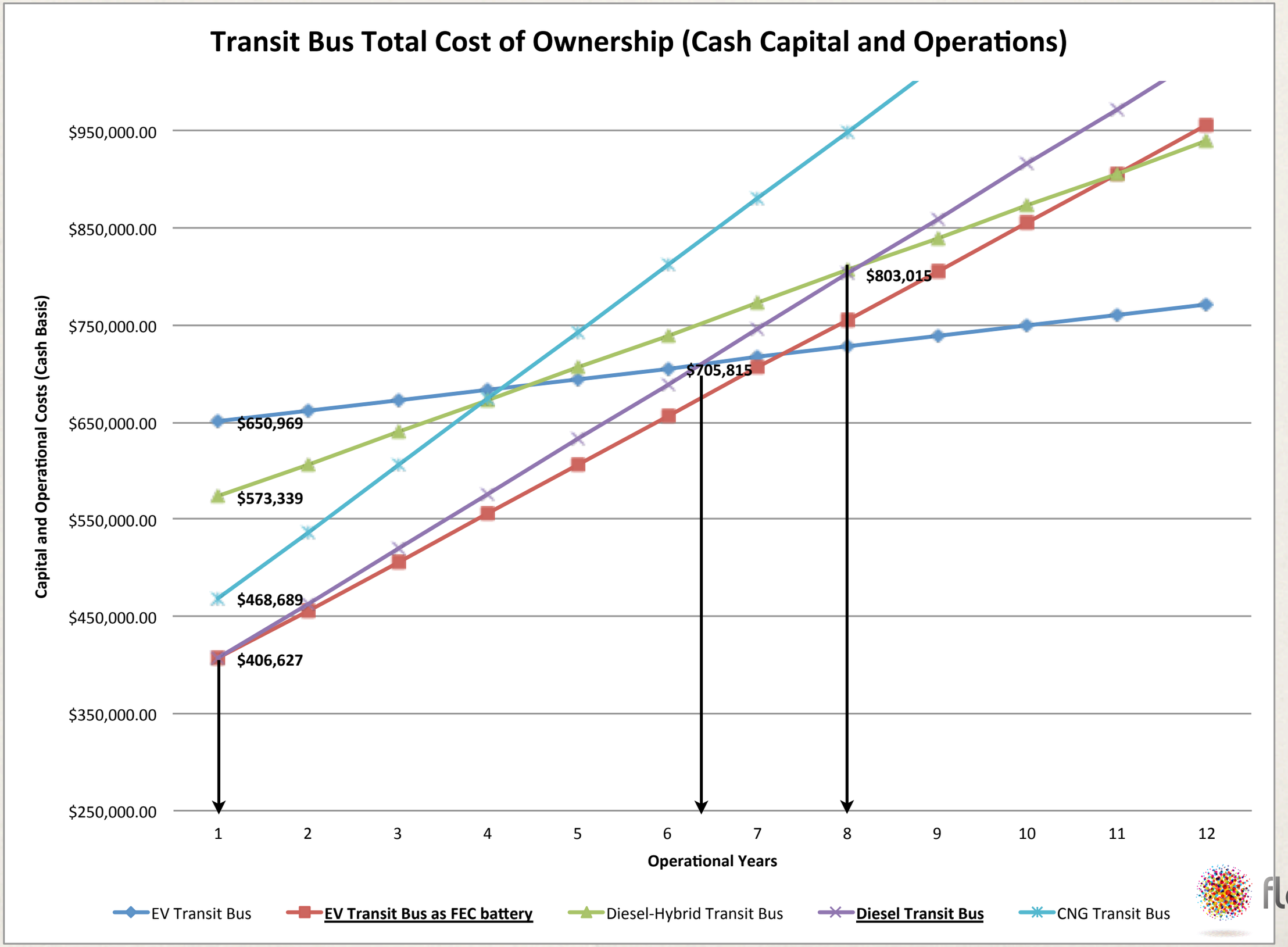
Double Average Range by Class



Top 100 Fleets or 1,007,906 Vehicles

- Grid Support is Marginal Utilization of Time
  - Per Mile of $96.35 per hour at $2.25 per Gallon
  - Per kW of $178 per hour at 2C Rate of (Dis)Charge
- Fleet Opportunities
  - Transit Buses
  - School Buses
  - Delivery Fleets
  - Insurance Companies
  - Utility Companies
  - Religious Organizations
  - Waste Management Organizations
  - Rail and Material Transport

Transit Bus Capital vs Operations



Transit Bus Capital

Bus and Bus Facilities (5309, 5318): The Bus and Bus Related Equipment and Facilities and Bus Testing Facility

The Bus and Bus Related Equipment and Facilities program (Bus program) provides capital assistance for new and replacement buses, related equipment, and facilities. It is a discretionary program to supplement formula funding in both urbanized and rural areas.

Section 5318 is the Bus Testing Facility program. Under this program, one facility is used for testing a new bus model for maintainability, reliability, safety, performance (including braking performance), structural integrity, fuel economy, emissions, and noise. The program is administered under the Section 5309 Bus and Bus Related Equipment and Facilities program.

80% of Transit Bus Capital Cost comes from DoT-FTA

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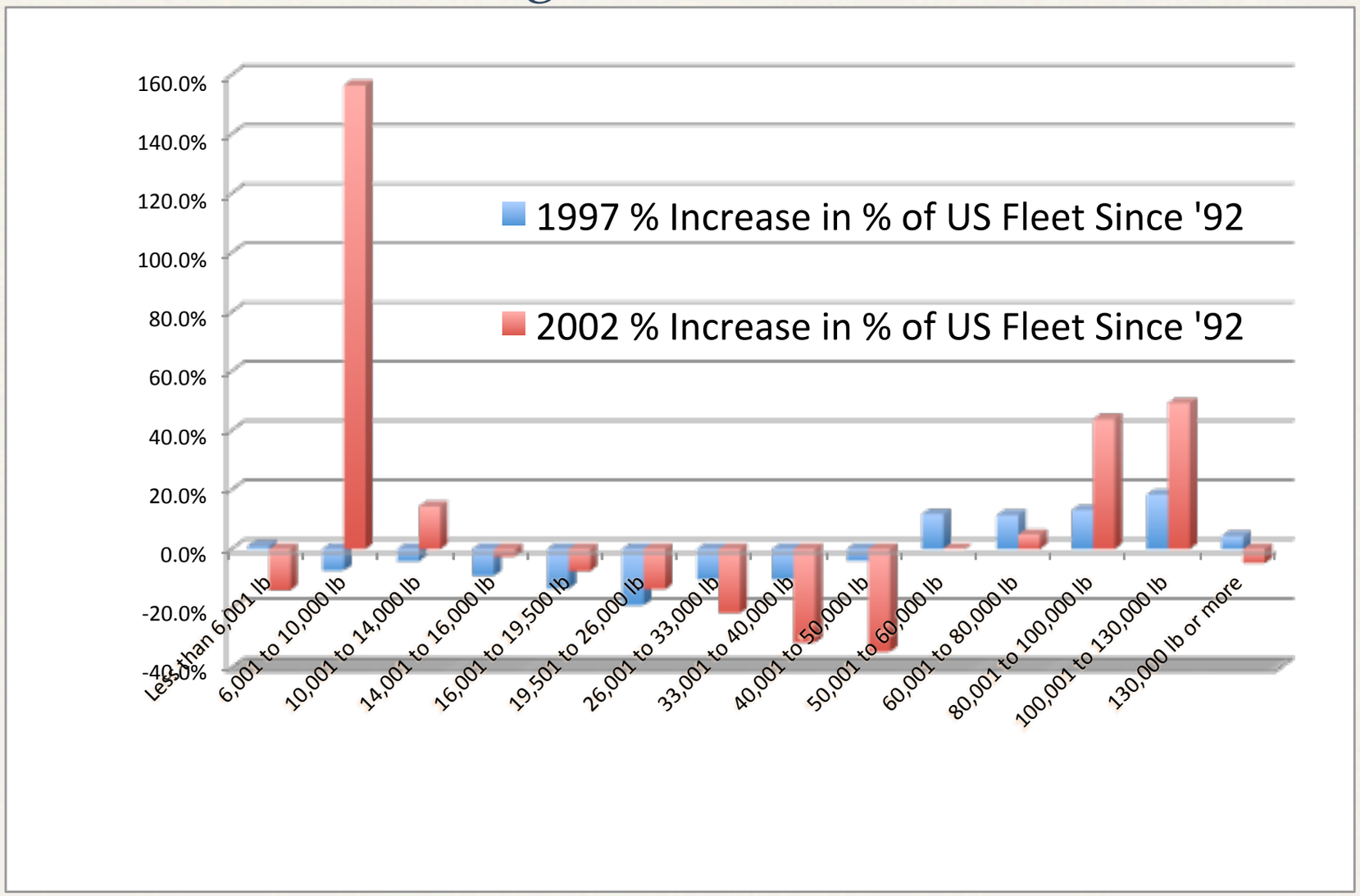
A School Bus...

- is parked at night, at peak, at mid day but has a defined route and is under fleet management.
- is parked at Tier 2 Emergency Crisis centers.
- emits harmful diesel emissions and contributes to global climate change.
- runs on imported fuel from unstable / unfriendly nations.
- is operated by schools in budgetary crisis.
- is one of 600,000 in the United States school system but is replaced on average every 20 years (the drive system tends to go first after 10 years).

An Electric School Bus...

- is parked when it can be always charged when it is needed but be filled with variable renewable energy to support the electric grid.
- would be a generation source in a regional / national crisis to maintain security in a disaster or as needed by schools or military bases.
- emits nothing while improving the integration of wind and solar on the nation's electrical grid.
- runs on local electricity which can not be outsourced while reducing greenhouse emissions by **273.98 tons of CO2 per bus**.
- will save $34,238 in school operational budgets per bus over its 20 year life.
- 600,000 Schools Buses fit the necessary range of an pure EV and save **16% of a GigaTon** of Carbon prior to considering improved renewable integration.

Class 3 Vehicles
(e.g. Ford F-350)



FedEx Express: "about 30% of our 78,000 vehicles could be 100 mile or less ranged electric vehicles"

Top 100 Fleets

Brand	Chrysler	Ford	GM	Other	Total
Totals	115,103	245,543	229,717	33,474	623,837
%	18%	39%	37%	5%	100%

Class	Cars	Class 1-2 Truck	Class 3-8 Truck	Vans	SUVs	Cross-Overs	Total
Totals	208,009	263,756	227,037	212,652	43,774	10,683	965,911
%	22%	27%	24%	22%	5%	1%	100%

Operators of Top 100 Fleets

	Self	Wheels	PHH	GE Fleet	Lease Plan	Total
Totals	427,475	101,966	72,048	62,494	32,192	813,588
%	53%	13%	9%	8%	4%	82%

Top 100 Fleet Vehicles

- Barriers
  - Utility Contracts Are Needed And Are Not Simple “Demand” Programs
  - Lack Of “Vehicle To Utility” Standard Communication Protocols
  - Financial Institutions Are “Wary” Of Utility Market Pricing
  - System Integration Is “Projects” And Not “Equipment Options”
  - Integrated Inverters (Discharge) Are Not Utility Scale (MW Not KW)
  - Public Utility Commissions Are Disjointed. Education Is Inconsistent
  - System Warranties Are Difficult To Describe
  - Federal Institutions Are Silos Not Systems (Transportation Vs Utility Budgets)
  - “Battery Moore’s Law” Creates A “Let’s Do This Later” Hesitancy

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Market Need #1

Electric Vehicle Batteries are Expensive

			High (and Low) Miles per kWh and Cost of Pack per Vehicle Class					
	High Cost of	Low Cost of	8	4	2	1	0.7	0.33
Range in Miles	Batteries (kWh)	Batteries (kWh)	Sub-Compact	Sedan	Small SUV	Class 3 Truck	Class 8 Truck	Transit Bus
40	$650	$350	$3,250 ($1,750)	$6,500 ($3,500)	$13,000 ($7,000)	$26,000 ($14,000)	$37,143 ($20,000)	$78,788 ($42,424)
75	$650	$350	$6,094 ($3,281)	$12,188 ($6,563)	$24,375 ($13,125)	$48,750 ($26,250)	$69,643 ($37,500)	$147,727 ($79,545)
100	$650	$350	$8,125 ($4,375)	$16,250 ($8,750)	$32,500 ($17,500)	$65,000 ($35,000)	$92,857 ($50,000)	$196,970 ($106,061)
150	$650	$350	$12,188 ($6,563)	$24,375 ($13,125)	$48,750 ($26,250)	$97,500 ($52,500)	$139,286 ($75,000)	$295,455 ($159,091)
200	$650	$350	$16,250 ($8,750)	$32,500 ($17,500)	$65,000 ($35,000)	$130,000 ($70,000)	$185,714 ($100,000)	$393,939 ($212,121)
400	$650	$350	$32,500 ($17,500)	$65,000 ($35,000)	$130,000 ($70,000)	$260,000 ($140,000)	$371,429 ($200,000)	$787,879 ($424,242)

A 100 Mile Range Electric Commercial Truck would cost $65,000...

...just for the battery.

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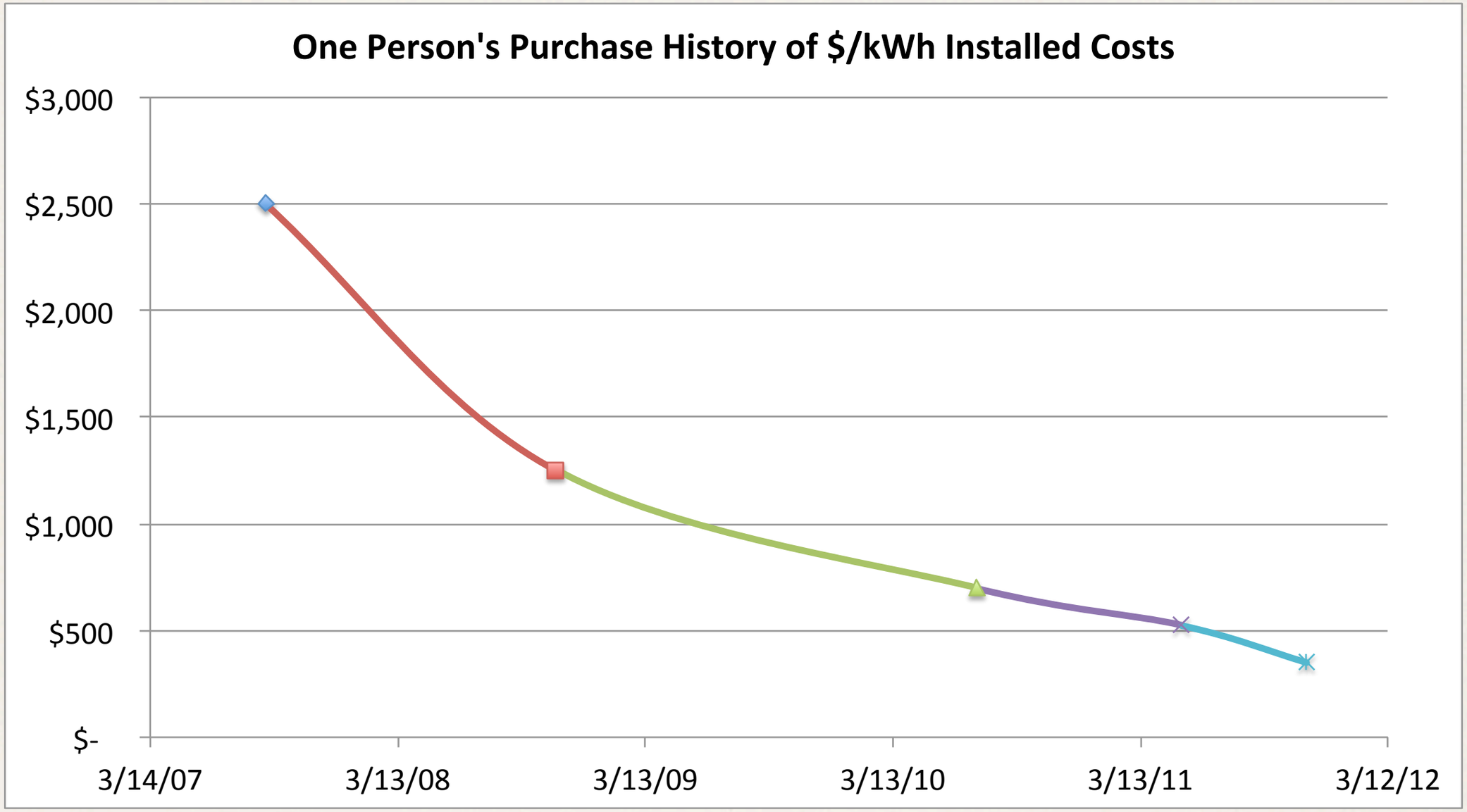
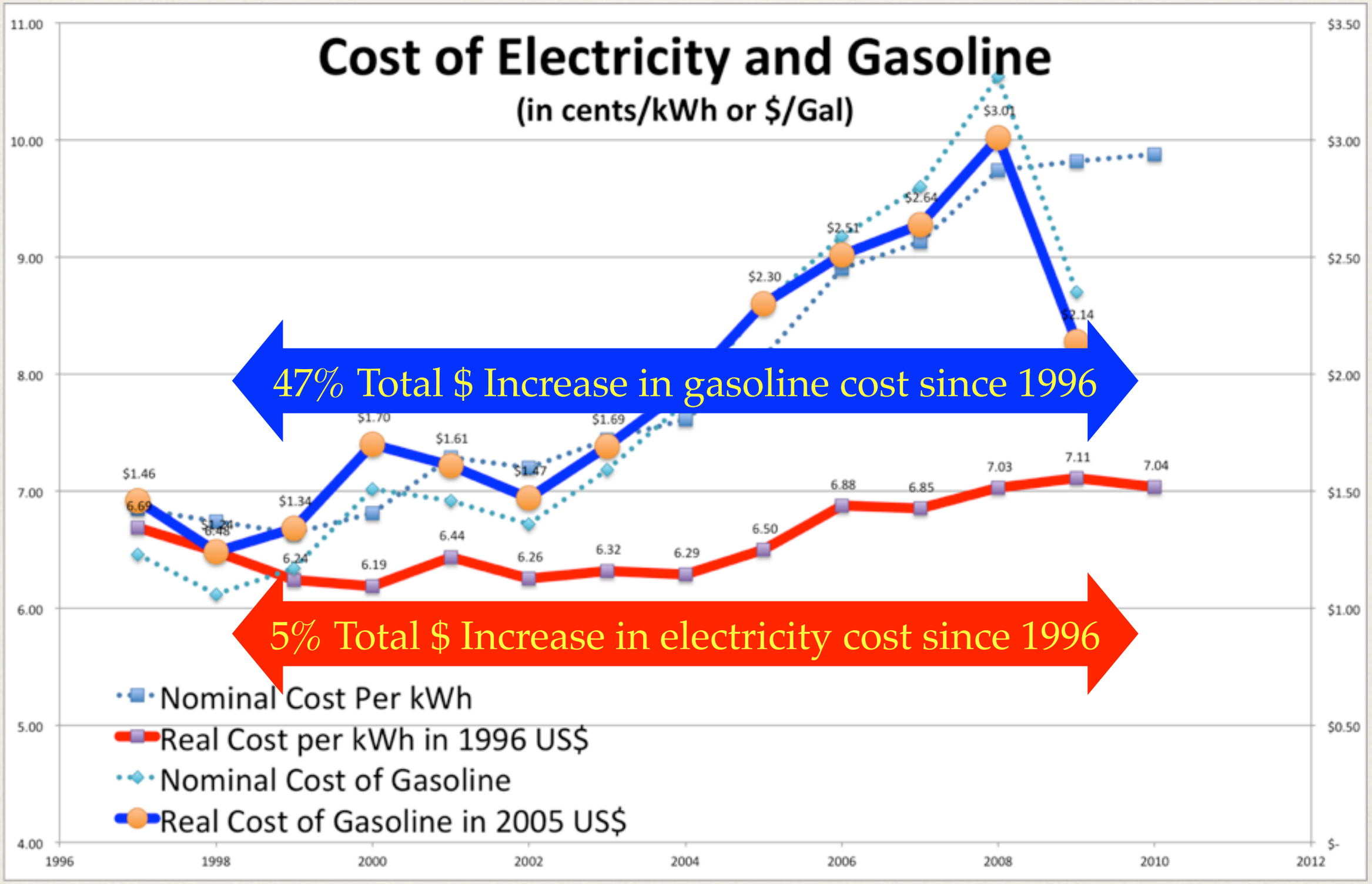
Fully Installed Li-ion Costs



Market Solution #1

Hedge Fuel Costs with Batteries

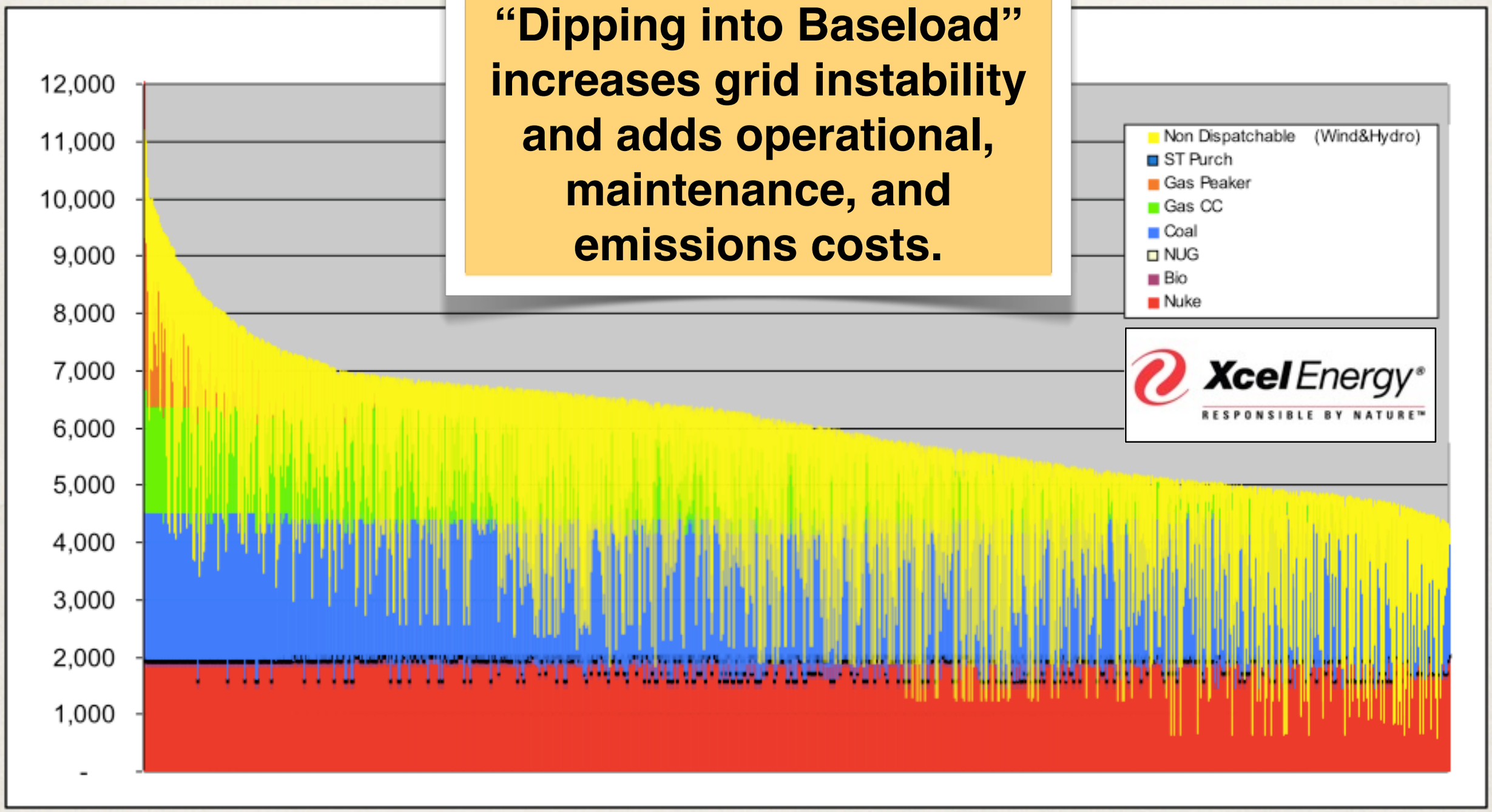


http://www.eia.doe.gov/emeu/aer/txt/ptb0524.html
http://www.eia.doe.gov/cneaf/electricity/epm/table5_3.html

Market Need #2

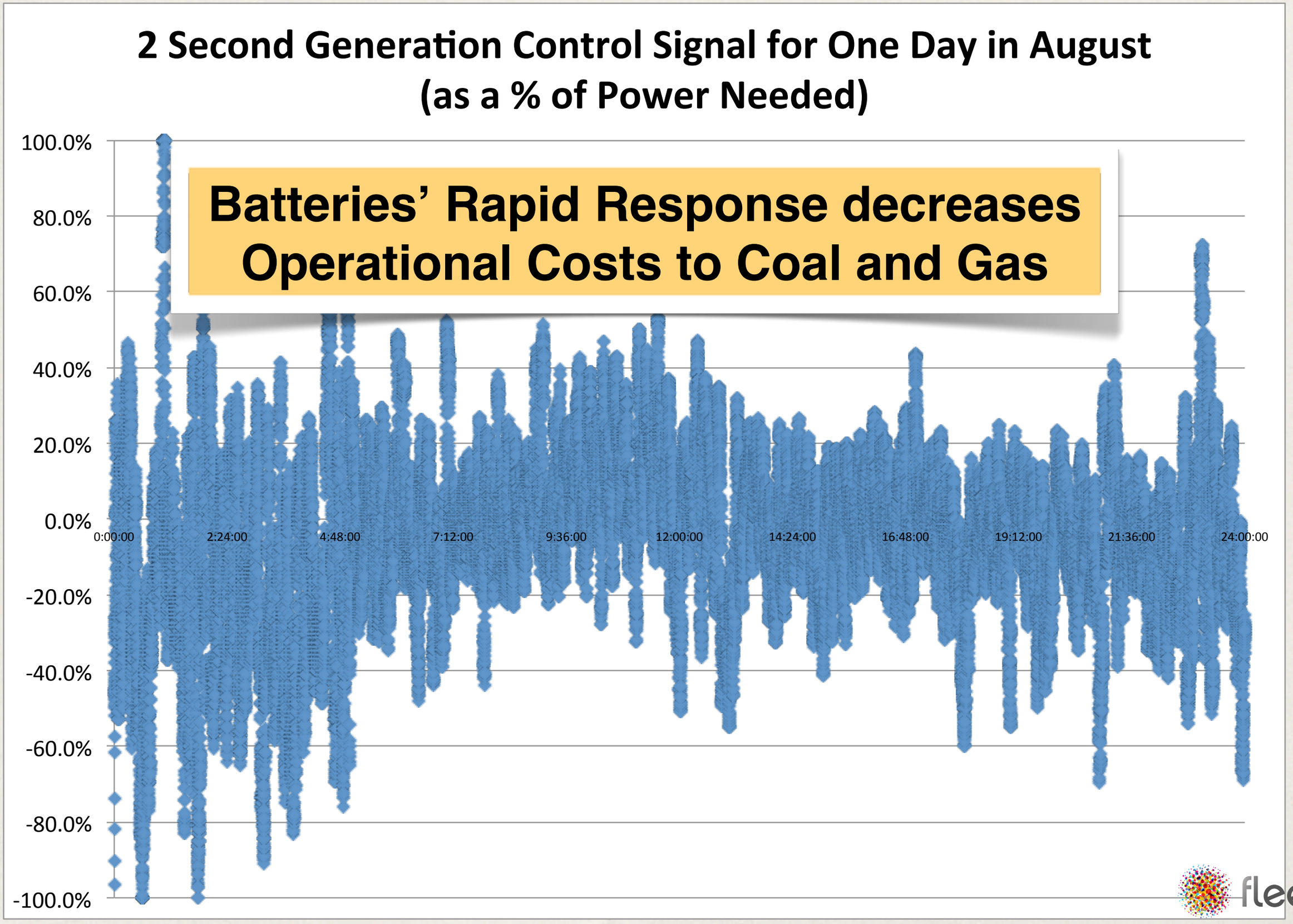
Wind (and Solar) is Problematic

"Dipping into Baseload" increases grid instability and adds operational, maintenance, and emissions costs.



NSPM System: Effect of Absorbing 30% of Wind Energy

Market Solution #2



Trucks by Weight

Table 1-21: Number of Trucks by Weight

	Thousands of trucks			Percent change 1992-1997	Percent change 1992-2002
	1992	1997	2002		
ALL trucks	**59,200.8**	**72,800.3**	**85,174.8**	**23.0%**	**43.9%**
Light Trucks					
Less than 6,001 lb	50,545.7	62,798.4	62,617.3	24.2%	23.9%
6,001 to 10,000 lb	4,647.5	5,301.5	17,142.3	14.1%	268.8%
10,001 to 14,000 lb	694.3	818.9	1,142.1	17.9%	64.5%
14,001 to 16,000 lb	282.4	315.9	395.9	11.9%	40.2%
16,001 to 19,500 lb	282.3	300.8	376.1	6.6%	33.2%
19,501 to 26,000 lb	732.0	729.3	910.3	-0.4%	24.4%
26,001 to 33,000 lb	387.3	427.7	436.8	10.4%	12.8%
33,001 to 40,000 lb	232.6	256.7	228.8	10.4%	-1.6%
40,001 to 50,000 lb	338.6	399.9	318.4	18.1%	-6.0%
50,001 to 60,000 lb	226.7	311.4	326.6	37.4%	44.1%
60,001 to 80,000 lb	781.1	1,069.8	1,178.7	37.0%	50.9%
80,001 to 100,000 lb	33.3	46.3	68.9	39.0%	106.9%
100,001 to 130,000 lb	12.3	17.9	26.4	45.5%	114.6%
130,000 lb or more	4.6	5.9	6.3	28.3%	37.0%
Not reported	<50	<50	N	N	N

KEY: lb = pound; N = data do not exist.

NOTES

Average vehicle weight is the empty weight of the vehicle plus the average load of the vehicle.

Excludes vehicles owned by Federal, state, or local governments; ambulances; buses; motor homes; farm tractors; unpowered trailer units; and trucks reported to have been sold, junked, or wrecked prior to July 1 of the year preceding the 1992 and 1997 surveys and January 1, 2002 for the 2002 survey.

SOURCES

1992, 1997: U.S. Census Bureau, *1997 Economic Census: Vehicle Inventory and Use Survey: United States*, EC97TV-US (Washington, DC: 1999).

2002: U.S. Census Bureau, *2002 Economic Census: Vehicle Inventory and Use Survey: United States*, EC02TV-US (Washington, DC: 2004).

Fleet Data by Use

Table 1-14: U.S. Automobile and Truck Fleets by Use (Thousands)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001[e]	2002[e]	2003[e]	2004[e]	2005[e]
TOTAL automobiles and trucks in fleets	U	U	U	U	U	15,257	15,570	15,869	16,879	15,530	15,196	13,642	11,985	12,128	11,884	12,274
Automobiles in fleets, total	U	U	U	U	U	9,042	9,124	9,225	9,550	7,742	7,346	6,640	5,600	5,647	5,514	5,621
Automobiles in fleets of 25 or more (10 or more cars for 1999-2001 and 15 or more cars for 2002-04)[a]																
Business[b]	2,889	2,628	2,492	1,751	1,722	1,326	1,295	1,188	1,159	3,195	2,950	2,620	930	929	873	877
Government[c]	538	504	516	401	428	1,214	1,209	1,218	1,030	885	883	734	1,360	1,420	1,200	1,200
Utilities	551	544	548	386	382	376	376	377	359	320	317	U[f]	U[f]	U[f]	U[f]	U[f]
Police	249	250	264	264	266	269	274	280	289	302	306	312	317	317	402	412
Taxi (includes vans)	141	141	140	140	141	139	130	181	190	135	136	142	148	148	156	162
Rental (includes vans and SUVs)	990	1,160	1,448	1,501	1,473	1,518	1,590	1,608	1,602	1,733	1,581	1,542	1,555	1,520	1,570	1,620
Automobiles in fleets of 4 to 24 (4 to 9 cars for 1999-2001 and 5 to 14 cars for 2002-05)[a]	U	U	U	U	U	4,200	4,250	4,373	4,921	1,172	1,173	1,290	1,290	1,313	1,313	1,350
Trucks in fleets, total	U	U	U	U	U	6,215	6,446	6,644	7,329	7,788	7,850	7,002	6,385	6,481	6,370	6,653
Trucks in fleets of 25 or more (10 or more trucks for 1999-2001 and 15 or more cars for 2002-05)[a]																
Business[d]	U	U	1,080	1,378	1,375	1,205	1,275	1,332	1,360	3,016	3,026	2,820	2,180	2,181	2,337	2,370
Government[c]	U	U	297	632	646	2,221	2,215	2,223	2,010	2,400	2,408	2,052	2,070	2,102	1,615	1,615
Utilities	U	U	593	493	487	480	482	483	459	499	498	U[f]	U[f]	U[f]	U[f]	U[f]
Other (police, taxi, etc.)	U	U	7	7	7	7	7	7	8	8	8	9	9	9	26	37
Rental trucks (not including vans and SUVs)	U	U	304	308	363	202	197	179	181	213	248	246	251	289	492	521
Trucks in fleets of 4 to 24 (4 to 9 trucks for 1999-2001 and 5 to 14 cars from 2002-05)[a]	U	U	U	U	U	2,100	2,270	2,420	3,311	1,652	1,662	1,875	1,875	1,900	1,900	2,110

KEY: SUV = sport utility vehicle; U = data are not available.

[a] The data source, Bobit Publishing, changed data collection categories in 1999 and again in 2002.

[b] Includes driver schools.

[c] Includes military vehicles and federal, state, county, and local government vehicles.

[d] Businesses with Class 1-5 trucks may include leasing, construction, plumbing, heating, food distribution, pest control, cable TV, etc.

[e] 2001-2005 data do not include employee-owned fleet information as the source has stopped publishing the data.

[f] Business and utility data have been combined in the 2002, 2003, 2004, and 2005 issues of the *Automotive Fleet Fact Book*.

SOURCE
Bobit Publishing Co., *Automotive Fleet Fact Book*, annual issues.

Annual Vehicle Distance Traveled

ANNUAL VEHICLE DISTANCE TRAVELED IN MILES AND RELATED DATA - 2008 1/
BY HIGHWAY CATEGORY AND VEHICLE TYPE

December 2009

TABLE VM-1

YEAR	ITEM	PASSENGER CARS	MOTOR-CYCLES	BUSES	OTHER 2-AXLE 4-TIRE VEHICLES 3/	SINGLE-UNIT 2-AXLE 6-TIRE OR MORE TRUCKS 4/	COMBINATION TRUCKS	SUBTOTALS: PASSENGER CARS AND OTHER 2-AXLE 4-TIRE VEHICLES	SUBTOTALS: SINGLE-UNIT 2-AXLE 6-TIRE OR MORE AND COMBINATION TRUCKS	ALL MOTOR VEHICLES 2/
	Motor-Vehicle Travel: (millions of vehicle-miles)									
2008	Interstate Rural	115,532	1,348	1,027	77,842	7,299	40,242	193,373	47,542	243,290
2007		122,183	1,420	986	82,030	7,188	42,632	204,212	49,819	256,438
2008	Other Arterial Rural	191,897	2,418	1,020	139,867	13,646	25,426	331,764	39,071	374,273
2007		204,123	2,305	1,015	145,985	13,877	26,160	350,108	40,037	393,465
2008	Other Rural	195,684	1,929	1,772	144,171	15,478	13,820	339,855	29,298	372,855
2007		203,485	1,820	1,722	148,612	15,659	14,101	352,097	29,760	385,400
2008	All Rural	503,112	5,695	3,819	361,880	36,423	79,488	864,993	115,911	990,418
2007		529,791	5,546	3,723	376,627	36,723	82,893	906,418	119,616	1,035,303
2008	Interstate Urban	262,321	2,738	1,077	169,605	10,127	30,223	431,926	40,350	476,091
2007		267,559	2,631	1,052	170,669	10,143	31,262	438,228	41,405	483,315
2008	Other Urban	850,417	6,051	2,218	577,117	37,400	33,797	1,427,534	71,197	1,507,000
2007		875,118	5,444	2,205	564,975	35,147	30,892	1,440,093	66,039	1,513,781
2008	All Urban	1,112,738	8,789	3,295	746,722	47,527	64,019	1,859,460	111,547	1,983,091
2007		1,142,677	8,075	3,257	735,644	45,290	62,153	1,878,320	107,444	1,997,096
2008	Total Rural and Urban	1,615,850	14,484	7,114	1,108,603	83,951	143,507	2,724,453	227,458	2,973,509
2007		1,672,467	13,621	6,980	1,112,271	82,014	145,046	2,784,738	227,060	3,032,399
2008	Number of motor vehicles	137,079,843	7,752,926	843,308	101,234,849	6,790,882	2,215,856	238,314,692	9,006,738	255,917,664
2007	registered 5/	135,932,930	7,138,476	834,436	101,469,615	6,806,630	2,220,995	237,402,545	9,027,624	254,403,081
2008	Average miles traveled	11,788	1,868	8,436	10,951	12,362	64,764	11,432	25,254	11,619
2007	per vehicle	12,304	1,908	8,365	10,962	12,049	65,307	11,730	25,152	11,920
2008	Person-miles of travel 6/	2,553,043	18,395	150,827	1,921,960	83,951	143,507	4,475,004	227,458	4,871,683
2007	(millions)	2,642,498	17,298	147,985	1,928,319	82,014	145,046	4,570,818	227,060	4,963,161
2008	Fuel consumed 7/	71,497,204	256,358	1,109,636	61,198,934	9,888,729	26,814,441	132,696,139	36,703,170	170,765,303
2007	(thousand gallons)	74,377,197	242,241	1,144,861	61,836,216	10,043,778	28,545,442	136,213,413	38,589,220	176,189,735
2008	Average fuel consumption per	522	33	1,316	605	1,456	12,101	557	4,075	667
2007	vehicle (gallons) 7/	547	34	1,372	609	1,476	12,853	574	4,275	693
2008	Average miles traveled per	22.6	56.5	6.4	18.1	8.5	5.4	20.5	6.2	17.4
2007	gallon of fuel consumed 7/	22.5	56.2	6.1	18.0	8.2	5.1	20.4	5.9	17.2

1/ The 50 states and the District of Columbia report travel by highway category, number of motor vehicles registered, and total fuel consumed. The travel and fuel data by vehicle type and stratification of trucks are estimated by the Federal Highway Administration (FHWA). Estimation procedures include use of State supplied data, the 2002 Census of Transportation Vehicle Inventory and Use Survey (VIUS), and other sources.

2/ Totals by highway category are from table VM-2. Some changes between rural and urban roadways can be attributed to 2002 census boundary changes.

3/ Other 2-Axle 4-Tire Vehicles which are not passenger cars. These include vans, pickup trucks, and sport/utility vehicles.

4/ Single-Unit 2-Axle 6-Tire or More Trucks on a single frame with at least two axles and six tires.

5/ Truck registration figures are from tables MV-1 and MV-9 with truck distribution estimated by the FHWA.

6/ Vehicle occupancy is estimated by the FHWA from the 2001 National Household Travel Survey (NHTS); For heavy trucks, 1 motor vehicle miles travelled = 1 person-miles traveled.

7/ Total fuel consumption figures are from tables MF-21 and MF-27. Distribution by vehicle type is estimated by the FHWA based on miles per gallon for both diesel and gasoline powered vehicles using State-supplied data, the 2002 VIUS, and other sources with nominal inputs for motorcycles and buses.

Vehicle Miles by Lane Mile Class

Table 1-33: Roadway Vehicle-Miles Traveled (VMT) and VMT per Lane-Mile by Functional Class

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Urban VMT, total (millions)	**1,627,618**	**1,663,773**	**1,686,642**	**1,727,596**	**1,805,508**	**1,892,265**	**1,951,870**	**1,977,047**	**1,994,519**	**1,983,091**
Interstate	383,259	393,465	399,986	408,618	432,633	454,385	469,070	477,283	483,315	476,091
Other arterials[a]	878,153	900,392	913,936	937,357	973,936	1,020,089	1,048,219	1,060,098	1,068,130	1,062,226
Collector	131,603	135,372	137,921	141,874	153,751	162,108	168,038	173,210	174,661	175,389
Local	234,603	234,544	234,799	239,747	245,188	255,683	266,543	266,456	268,413	269,385
Rural VMT, total (millions)	**1,062,623**	**1,083,152**	**1,110,697**	**1,128,160**	**1,085,385**	**1,070,248**	**1,037,937**	**1,037,069**	**1,035,303**	**990,418**
Interstate	260,166	268,180	273,619	279,962	269,945	266,996	258,790	257,913	256,438	243,290
Other arterials[a]	413,320	420,599	427,482	433,805	416,596	409,944	398,932	394,499	393,465	374,273
Collector[b]	264,453	267,231	272,109	275,007	263,662	260,931	251,587	251,375	251,514	241,158
Local	124,684	127,142	137,487	139,386	135,182	132,377	128,628	133,282	133,886	131,697
Urban VMT per lane-mile, total (thousands)	**858**	**869**	**857**	**861**	**856**	**860**	**862**	**856**	**851**	**829**
Interstate	5,229	5,323	5,370	5,440	5,436	5,479	5,455	5,427	5,414	5,245
Other arterials[a]	1,950	1,974	1,997	2,025	2,012	2,019	2,001	1,989	1,977	1,923
Collector	706	718	728	743	741	745	745	747	747	723
Local	198	196	189	188	183	184	187	183	181	179
Rural VMT per lane-mile, total (thousands)	**169**	**172**	**177**	**179**	**175**	**174**	**170**	**170**	**169**	**163**
Interstate	1,939	1,993	2,032	2,080	2,070	2,088	2,061	2,074	2,076	1,981
Other arterials[a]	766	778	788	797	(R) 780	771	753	744	742	705
Collector[b]	187	189	192	195	190	189	183	184	184	177
Local	30	30	33	33	33	32	32	33	33	32

[a] Urban other arterials include other freeways and expressways, other principal arterials, and minor arterials. Rural other arterials include other principal arterials and minor arterials.

[b] Collector is the sum of major and minor collectors (rural only).

NOTES

See table 1-6 for estimated highway lane-miles by functional class.

Component values may not add to totals due to rounding.

SOURCES

1980-94: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics Summary to 1995*, FHWA-PL-97-009 (Washington, DC: July 1997), table VM-202, available at www.fhwa.dot.gov/policy/ohpi as of Mar. 18, 2009.

1995-2008: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues), table VM-2, available at www.fhwa.dot.gov/policy/ohpi as of Mar. 3, 2010.

Lane-miles:

1980-95: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Information Management, unpublished data, 1997, table HM-260.

1996-2008: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Annual issues), table HM-60, available at www.fhwa.dot.gov/policy/ohpi as of Mar. 3, 2010.

The Replacement for Aging Plants

	Replacement Costs per Watt	MW over 40 Years	Replacement Costs
Hydroelectric Conventional	$2.29	58,258	$133,410,820,000
Coal	$2.22	141,574	$314,294,280,000
Other Gases	$2.60	1,000	$2,600,000,000
Pumped Storage	$2.29	4,104	$9,398,160,000
Other	$1.40	300	$420,000,000
Wood and Wood Derived Fuels	$3.84	2,321	$8,912,640,000
Nuclear	$3.82	6,903	$26,369,460,000
Petroleum	$0.98	20,049	$19,648,020,000
Natural Gas	$0.69	78,541	$54,193,290,000
Geothermal	$1.75	110	$192,500,000
Other Biomass	$2.60	192	$499,200,000
Wind	$1.97	-	-
Solar Thermal and PV	$6.17	-	-

45% of the Total

http://www.eia.gov/oiaf/aeo/assumption/pdf/electricity.pdf#page=3

Cost of the Generation Fleet (the Competition)

	Replacement Costs per Watt	O&M in $/kWh	MW of Plants over 40
Hydroelectric Conventional	$2.29	$0.025	58,258
Coal	$2.22	$0.047	141,574
Other Gases	$2.60	$0.000	1,000
Pumped Storage	$2.29	$0.025	4,104
Other	$1.40	$0.073	300
Wood and Wood Derived Fuels	$3.84	$0.069	2,321
Nuclear	$3.82	$0.005	6,903
Petroleum	$0.98	$0.021	20,049
Natural Gas	$0.69	$0.037	78,541
Geothermal	$1.75	$0.000	110
Other Biomass	$2.60	$0.000	192
Wind	$1.97	$0.000	-
Solar Thermal and PV	$6.17	$0.000	-

Gas + Wind is less than Gas + Coal

http://www.eia.gov/oiaf/aeo/assumption/pdf/electricity.pdf#page=3

Competitive Landscape

Competition is from existing natural gas and coal power plants. Those power plants could run more efficiently with higher revenue per hour of operation when combined with energy storage.

Generation Type	to Build per Watt	to Operate per kWh
Coal	**$2.22**	**$0.047**
Natural Gas	**$0.69**	**$0.037**
Wind	**$1.97**	**$0.000**
Photovoltaic	**$6.17**	**$0.000**
Fleet Energy	**$0.89**	**$0.0043***

Storage is an additional grid cost yet improves energy efficiency thereby lowering the kWh costs of all resources.

** Losses only and according to FEC's financial model under present 6 month average Ancillary Services Pricing in PJM of $13.75 / MWh*

Only Two Small Services Represent $1.5B in Annual Market Potential

	2009 Ft Collins (PRPA)	PJM Interconnect (51 Million People)	United States (Extrapolated from PJM)	Global (Extrapolated from PJM)
Total of All Services	*$84,907,618*	*$26,551,300,000*	*$160,350,544,795*	*$730,975,078,099*
Energy Service	*$46,237,974*	*$11,163,100,000*	*$67,417,006,572*	*$307,327,622,162*
Capacity Service	*$36,252,765*	*$8,752,400,000*	*$53,615,237,018*	*$244,410,782,117*
Operating Service	*$1,339,949*	*$323,500,000*	*$1,953,704,762*	*$6,375,277,816*
Regulation Service	*$945,627*	*$228,300,000*	*$1,398,514,534*	*$8,906,171,741*
Spinning Service	*$131,302*	*$31,700,000*	*$191,444,949*	*$872,722,238*

FEC's Operations are Highly Competitive in These Two Services

http://www.prpa.org/

http://pjm.com/about-pjm/who-we-are/~/media/about-pjm/newsroom/2009-financial-report.ashx