

Slowing Climate Change: Plan B

Panel Detail:

Monday, May 2, 2011 9:30 AM - 10:45 AM

Speakers:

[Linda Cohen](#), Professor of Economics and Law, and Associate Dean for Research and Graduate Studies, School of Social Sciences, University of California, Irvine

[Jae Edmonds](#), Laboratory Fellow and Chief Scientist, Pacific Northwest National Laboratory

[Robert Hahn](#), Professor of Economics, Sustainable Consumption Institute, University of Manchester

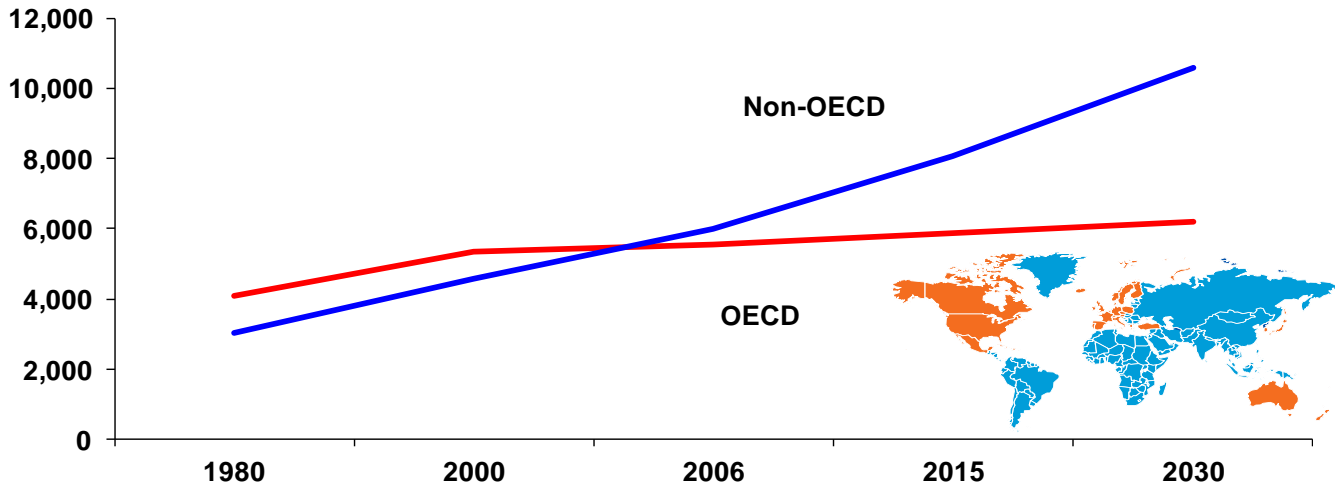
[Bjorn Lomborg](#), Adjunct Professor, Copenhagen Business School; Author, "The Skeptical Environmentalist"

Moderator:

[Peter Passell](#), Senior Fellow, Milken Institute; Editor, The Milken Institute Review

World energy consumption

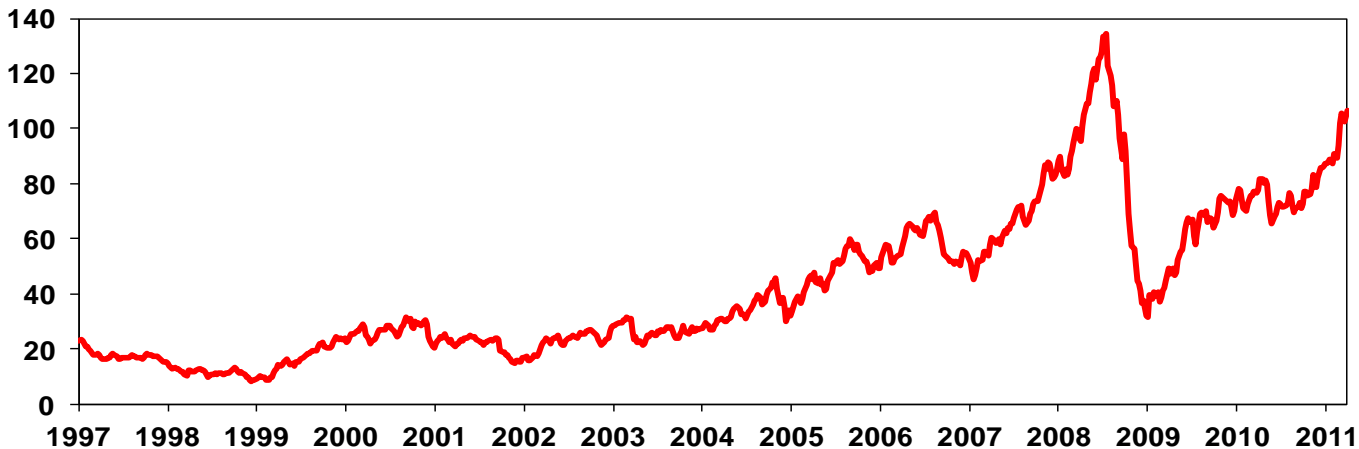
Million tonnes of oil equivalent per year



Source: IEA World Energy Outlook 2008.

Historical oil prices, 15 years

Dollars per barrel

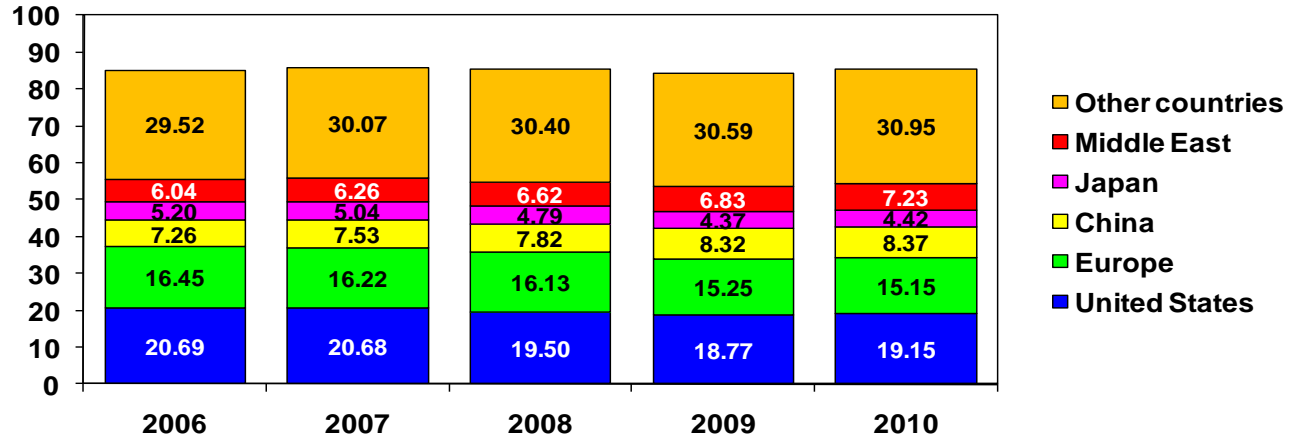


Source: U.S. Energy Information Administration.



Total petroleum consumption

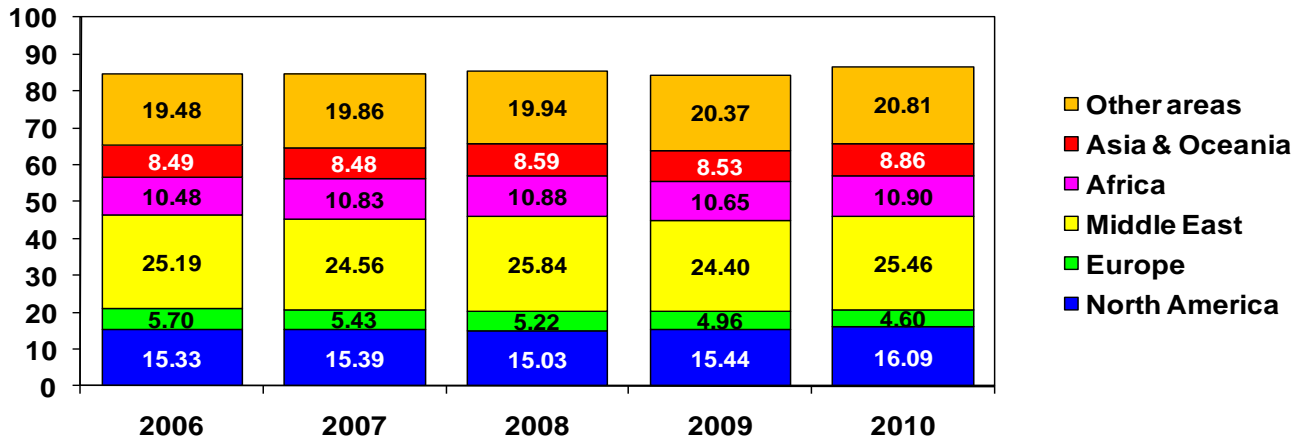
Million barrels per day



Source: U.S. Environmental Protection Agency.

Total oil supply

Million barrels per day

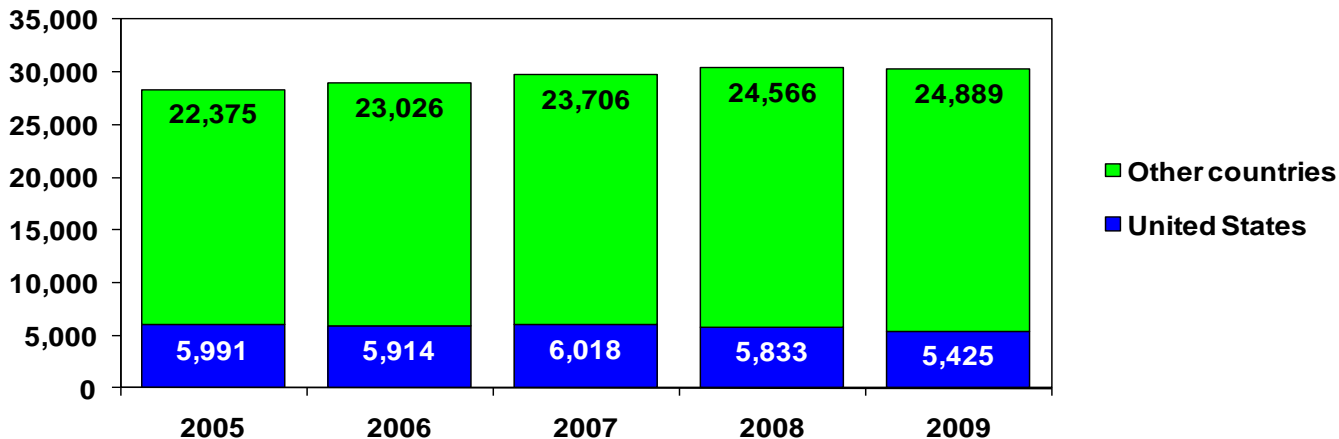


Source: U.S. Environmental Protection Agency.

Total carbon dioxide emissions from the consumption of energy



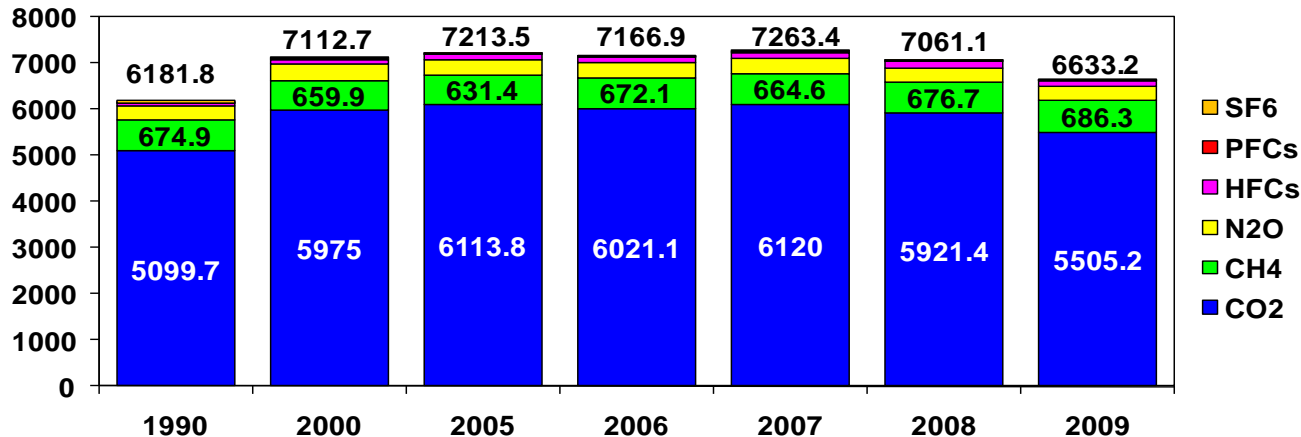
Million metric tons



Source: U.S. Environmental Protection Agency.

Trends in U.S. greenhouse gas emissions

Million metric tons



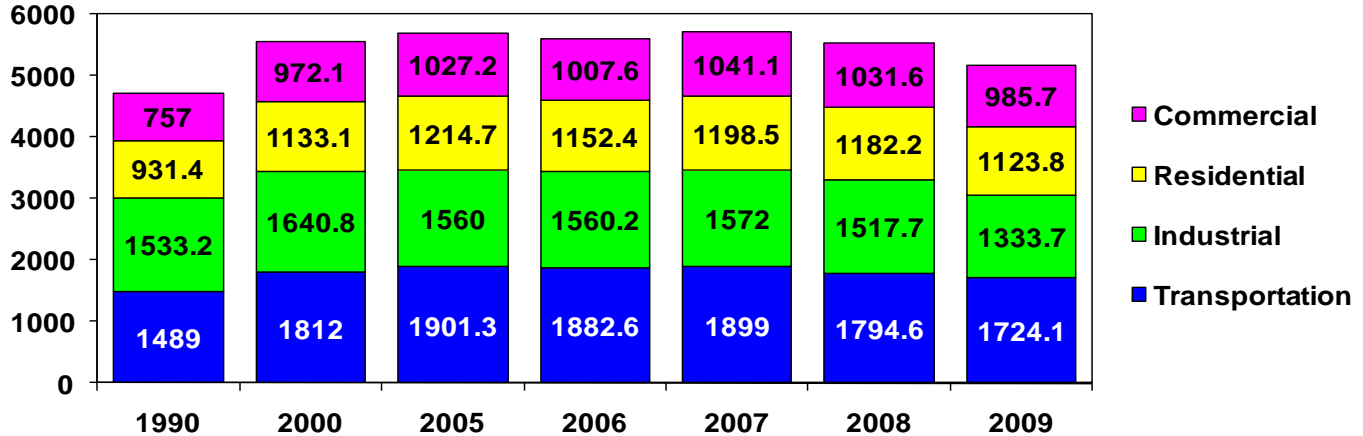
Source: U.S. Environmental Protection Agency.

CO₂ emissions from fossil fuel combustion by end-use sector



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Million metric tons



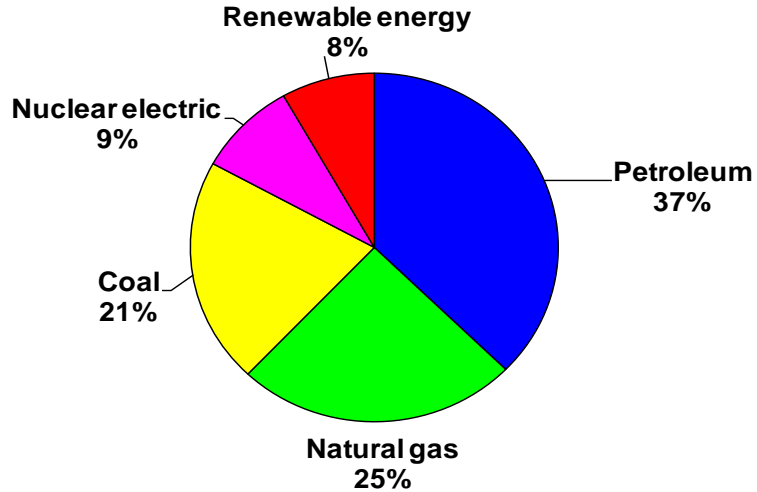
Source: U.S. Environmental Protection Agency.

U.S. energy consumption by energy source

2009



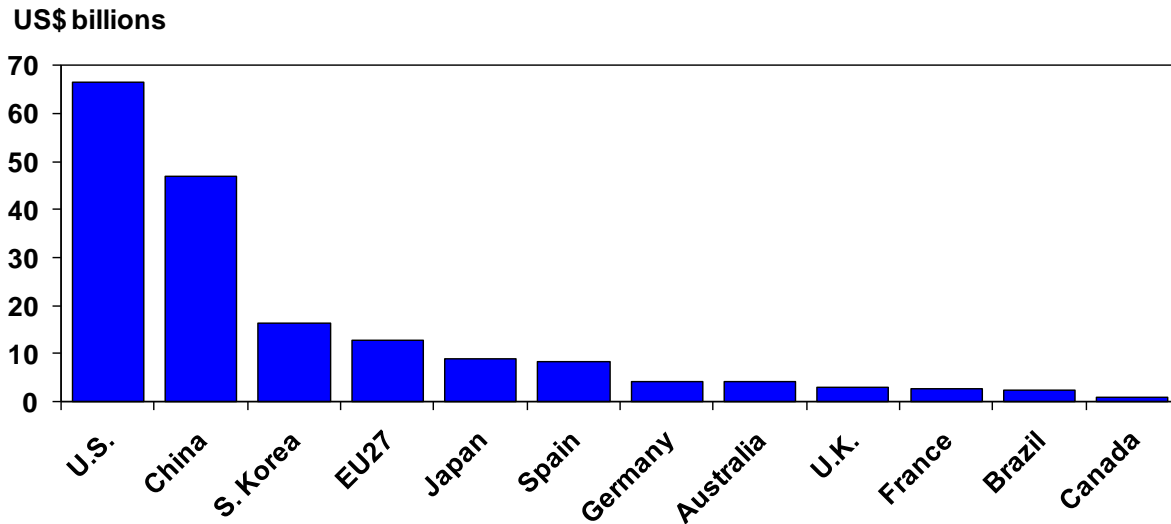
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Source: U.S. Environmental Protection Agency.

Clean energy stimulus by country

2009

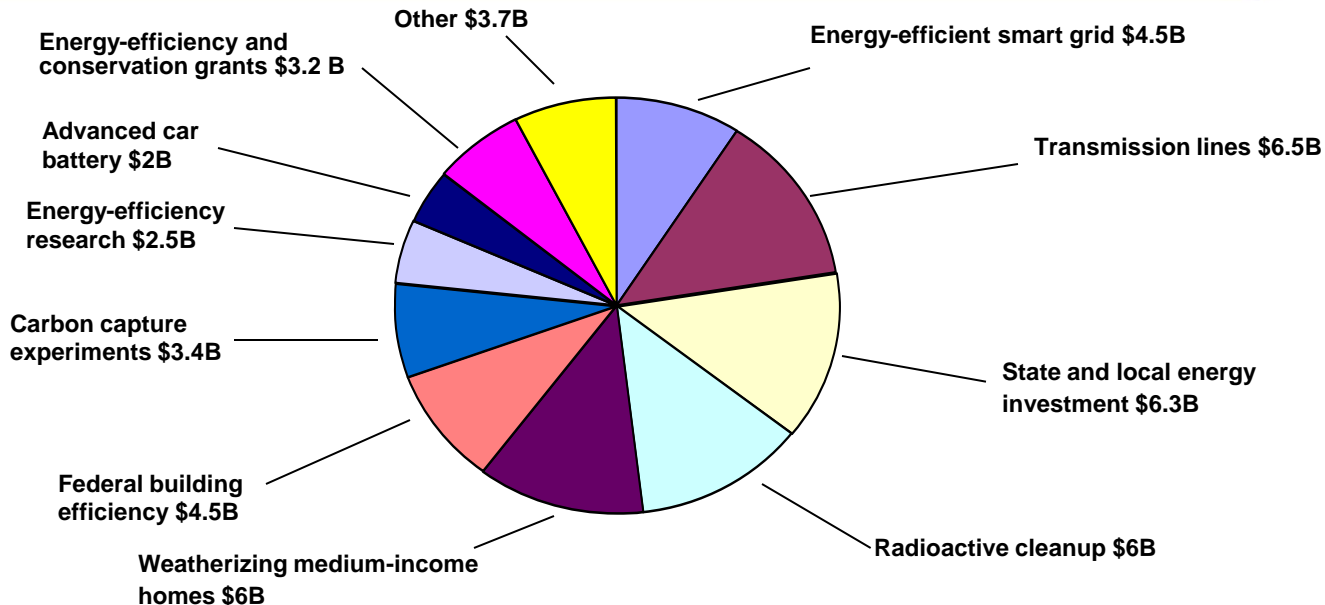


Sources: New Energy Finance, Milken Institute.

U.S. government favored alternative energy in 2009 stimulus package



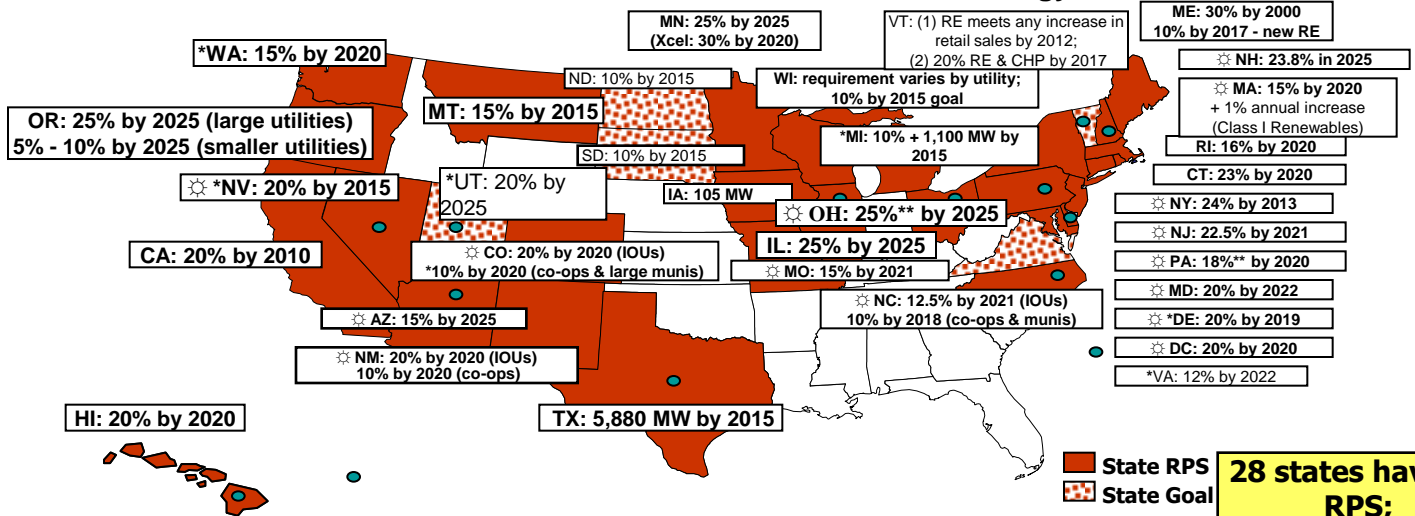
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Source: The American Recovery and Reinvestment Act of 2009.

States lead the charge toward alternatives

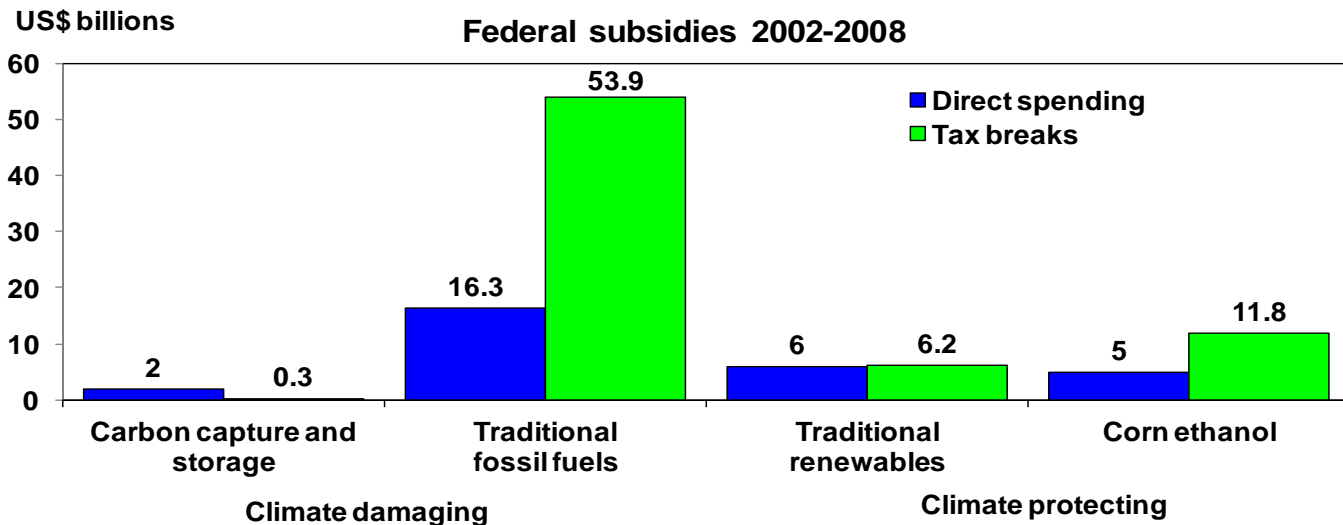
State Renewable Portfolio Standards and State Renewable Energy Goals



**28 states have an RPS;
5 states have an RE goal**

Source: DSIRE, Interstate Renewable Energy Council.

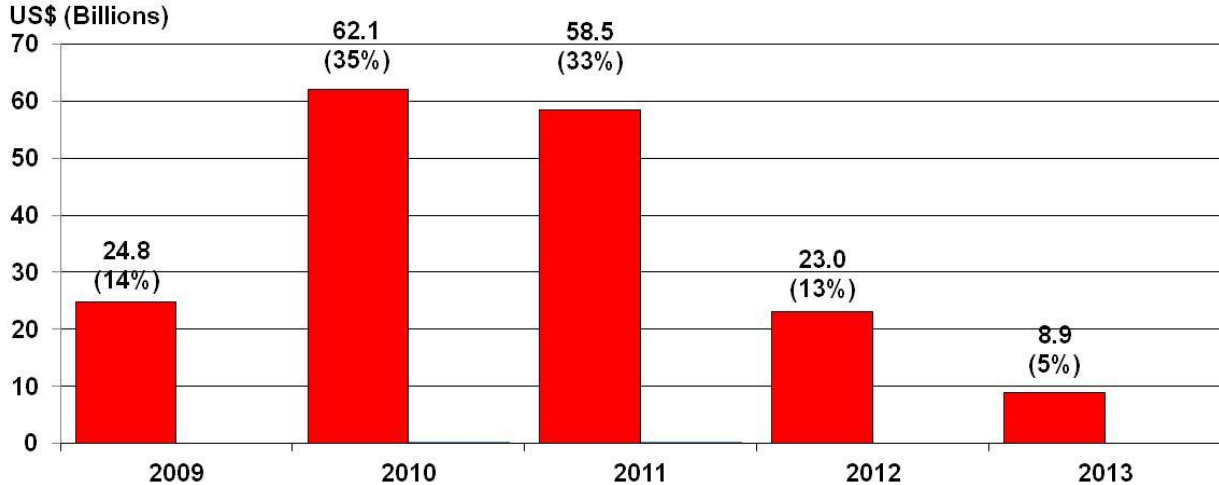
Government energy subsidies still focusing on carbon-intensive technologies



U.S. government spending on clean energy has risen but is likely to fall



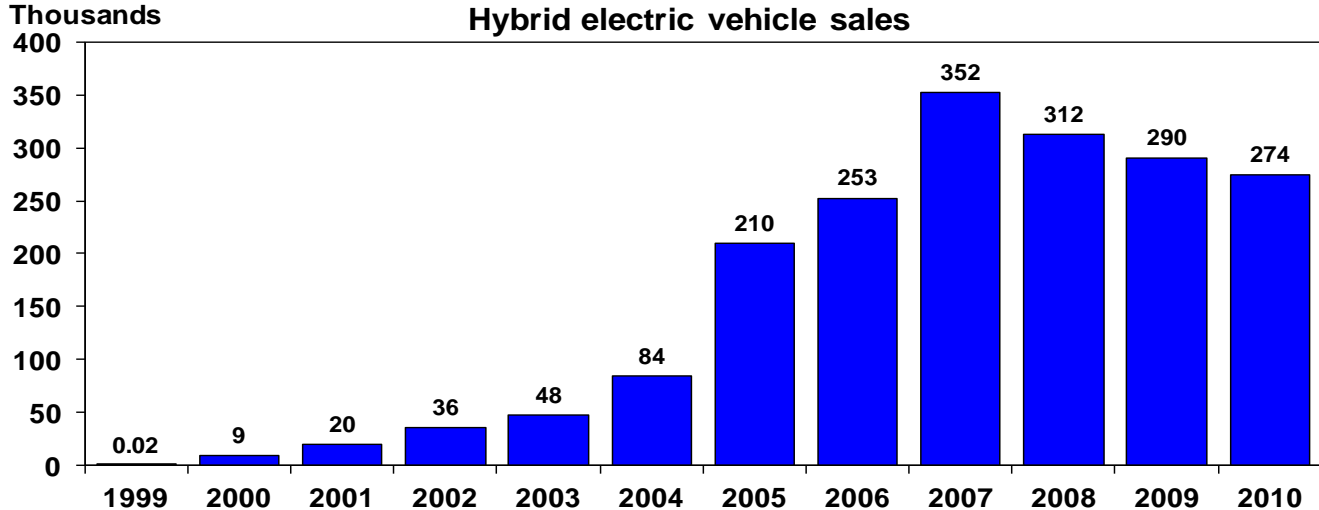
Government spending on green energy (% of total)



Source: New Energy Finance.



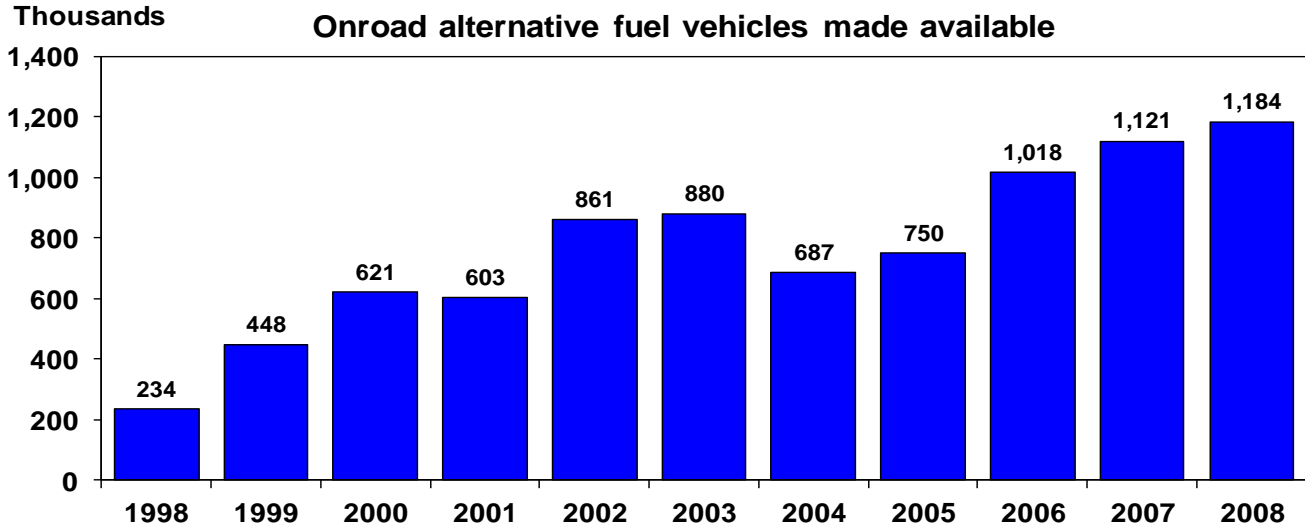
Hybrid electric vehicle sales 1999-2010



Onroad alternative fuel vehicles made available



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Note: "Made Available" means the sale or lease of a new AFV, or conversion of an existing vehicle to enable it to use an alternative fuel.
Source: U.S. Department of Energy.



Regulation enactments 2002-2010

Regulation enactments by regulation type

Reg Type	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total*
Acquis. Req'ts	7	11	6	7	11	12	14	12	13	93
Drvng. Rest.	3	8	6	8	4	5	6	11	4	55
Air Qual. Emiss.	1			2		1	3	5	6	18
Econ. Devel.	1	2	5	3	17	25	21	other**	other**	74
Fuel Prod. Stnds.	1			1	10	10	8	5	4	39
Fuel Taxes	9	7	3	10	3	8	4	2	0	46
Fuel Use Req'ts.	2	3	2	9	12	16	12	other**	other**	56
Idle Reduc.	1		3	15	10	3	16	other**	other**	48
Renew Fuels										
Mndt.	1				2	4	3	other**	other**	10
Renew Fuels Sntd.					4	1		other**	other**	5
Veh. Registr.	7	11	3	10	9	10	5	5	5	65
Clim. Change Init.								1***	7	7
Other	6	5	10	29	45	50	55	52	30	282
Total	39	47	38	94	127	145	147	92	69	632



Incentive enactments 2002-2010

Incentive enactments by incentive type

Incentive Type	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total*
Exemptions	4	3	5	5	7	6	9	12	12	63
Fuel Discounts					3		1	other**	other**	4
Grants	2	4	6	7	24	23	14	12	8	100
HOV Access	1		3		1	1	1	other**	other**	7
Loans		3		2	6	7	1	other**	5	24
Rebates	3	3	1	3	10	6	2	5	5	38
Tax Incentives	9	8	16	19	19	24	14	14	16	139
Tech. Assistance		13		1	1	1	2	other**	other**	18
Other	0	0	0	0	0	0	0	8	31	39
Total	19	34	31	37	71	68	44	51	77	432

Incentives and law enactments by fuel/technology type 2002-2010



Incentives and law enactments by fuel/technology type

Tech Type	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total*
Biodiesel	28	35	25	37	74	97	59	57	43	455
Blends	6	8	9	18	30	51	26	moved**	moved**	148
Efficiency	0	6	4	6	9	8	13	18	9	73
Emissions	6	8	12	4	23	16	16	moved**	moved**	85
Ethanol	25	29	17	30	70	98	65	52	44	430
Elec Veh's	24	34	21	26	40	32	28	50	51	306
HEVs	4	8	10	15	19	18	24	33	33	164
Hydrogen	22	24	18	18	44	28	23	34	24	235
Idle Reduc.		2	4	16	18	10	20	23	9	102
Nat. Gas	28	38	16	23	45	32	27	40	43	292
Propane	27	27	14	21	30	27	22	33	20	221
Other	12	16	21	22	53	67	42	11	16	260
Total	182	235	171	236	455	484	365	351	292	2,771