Lessons Learned from Regional, State, and Local Climate Initiatives

Steve Winkelman
Center for Clean Air Policy

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Overview

- Introduction
- GHG goals, inventories, baselines
- Projected reductions by sector
- Transportation GHG reductions
- Implementation status
- Federal and cross-cutting issues
- Conclusions

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- Founded in 1985 by a bi-partisan group of Governors
- Work domestically and internationally on air quality and climate change issues
- Work closely with states developing climate change plans and facilitating stakeholder processes (e.g., CA, CT, MA, ME, NJ, NY, WA)
- Thanks to Greg Dierkers, Mac Wubben, CCAP
- Mix of state (CT, ME, NJ, NY) and foundation funding: Energy, Surdna, Kendall, Merck, Rockefeller Brothers, NY Community Trust, Goldman

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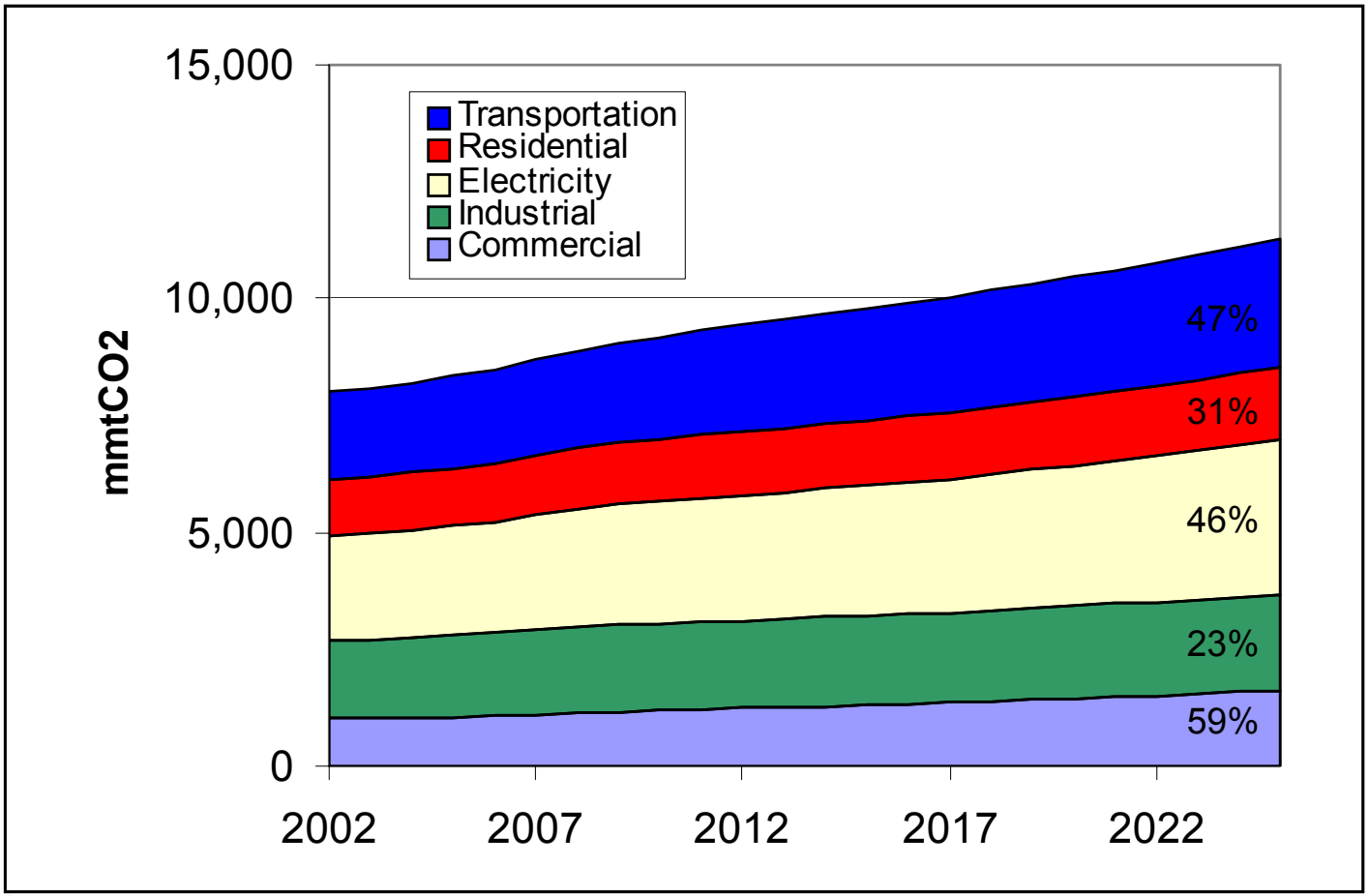
Transportation: Second Fastest Growing CO_2 Source in U.S



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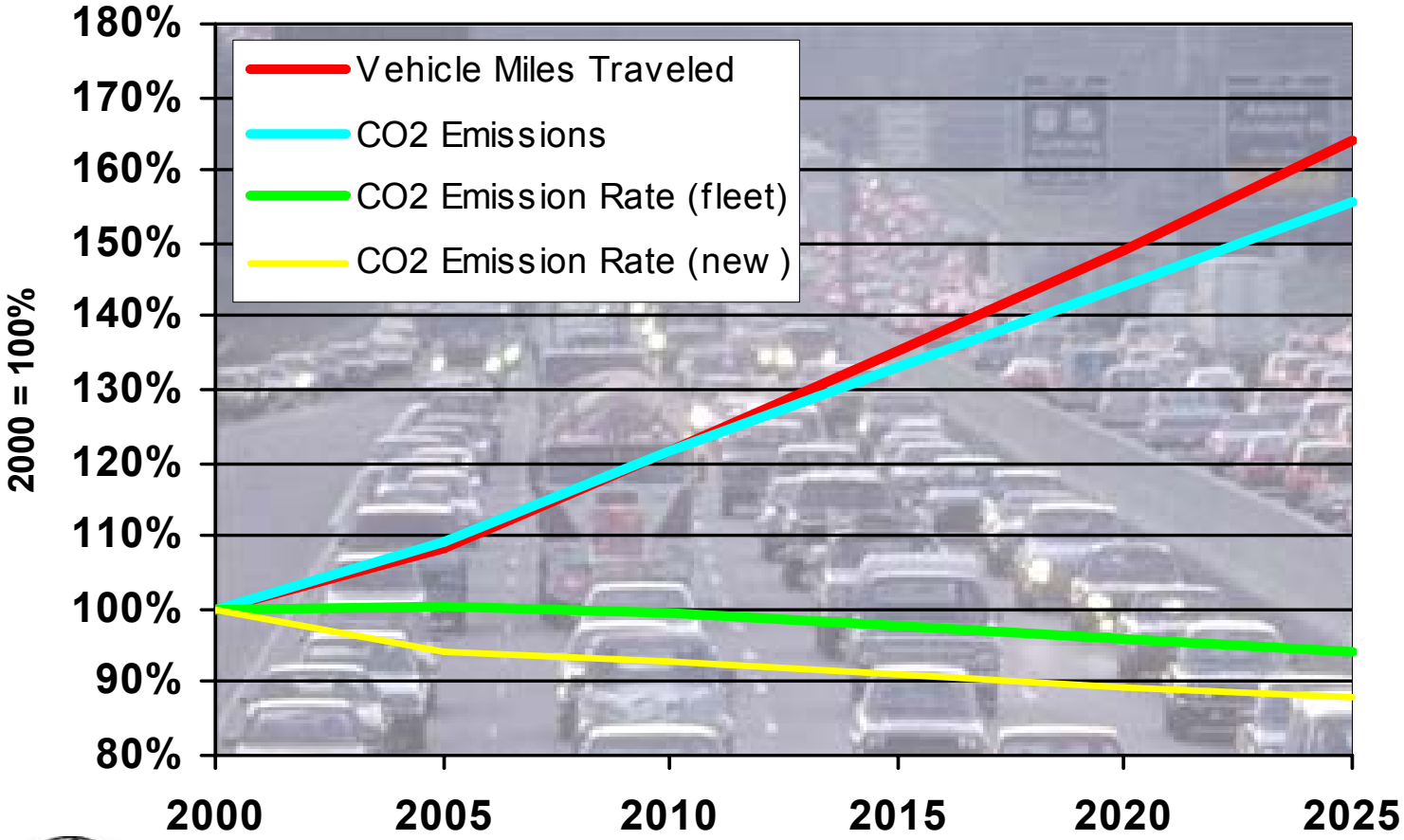
Source EIA 2005 Annual Energy Outlook

VMT Growth Projected to Outpace CO_2 Emissions Improvements



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Raw data from: US DOE, EIA "AEO 2005"

State & Regional GHG Reduction Targets

International	
Rio Convention (UNFCCC–1992)	1990 levels by 2000
Marrakech Accords (UNFCCC–2001)	5.2% below 1990 by 2012
Regions	
European Union	8% below 1990 by 2008-12
New England Governors / Eastern Canadian Premieres	1990 by 2010, 10% below by 2020, 75-85% long-term

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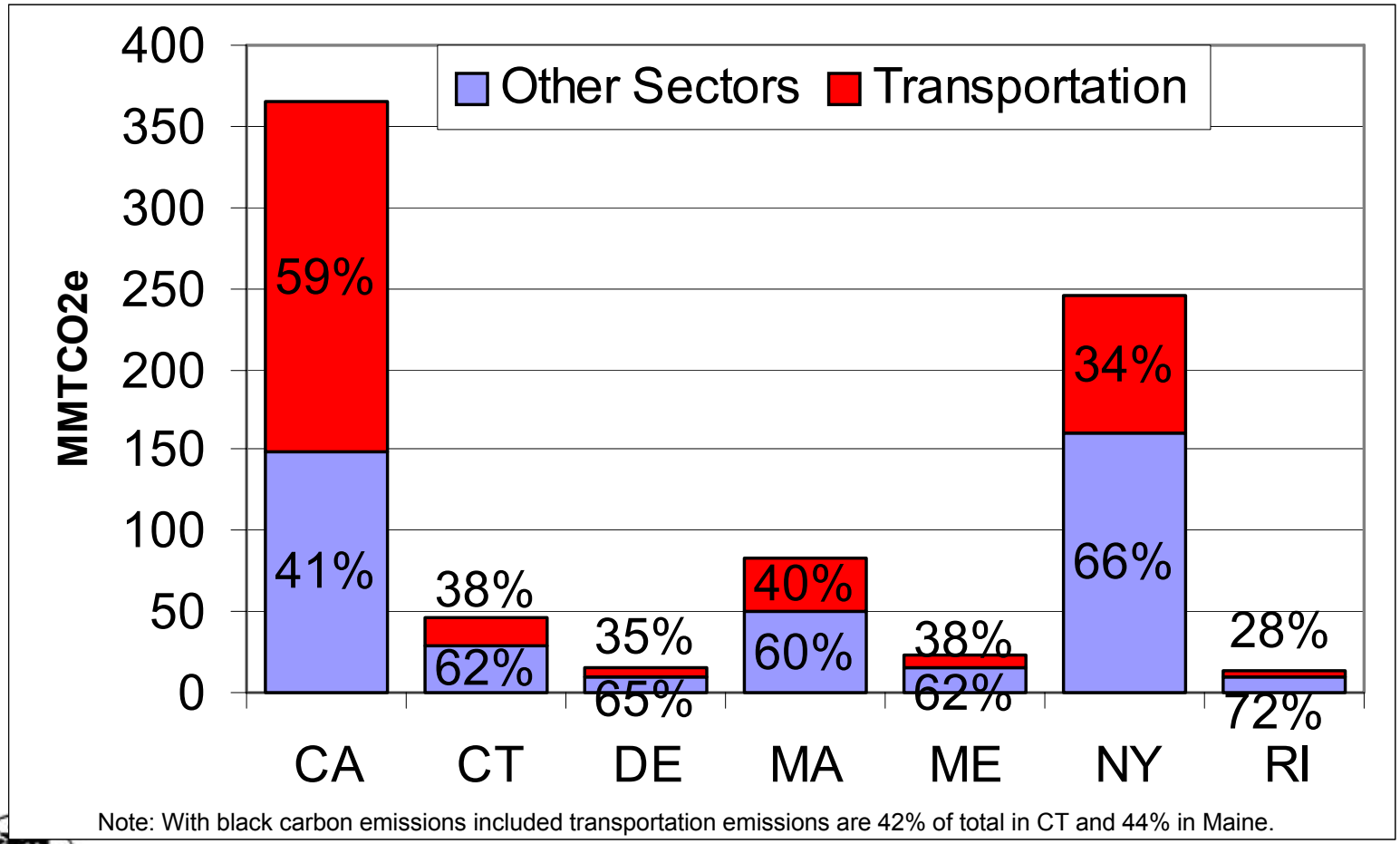
U.S. States	
New Jersey	3.5% below 1990 by 2005
New York	5% below 1990 by 2010, 10% below 1990 by 2020
Delaware	7% below 1990 by 2010
Puget Sound	1990 levels by 2020 (WC Governors)
California	meet or exceed NEG goals (WC Governors)

State Transportation Emissions

(percent of total)



Note: With black carbon emissions included transportation emissions are 42% of total in CT and 44% in Maine.

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Baseline & Forecast Challenges (1)

- Boundary/Data Issues
  - » Emissions attributed to either the purchase location (fuel sales) or site of emissions (VMT)
  - » VMT & Fuel Sales can imply different trends
    - – NY, NJ, CT (improbable implications for fuel economy)
  - » Mismatch can be due to boundary issues (commuters, through-traffic), data quality/consistency or reporting issues (fraud?)
  - » Quick-fix approach: cue up with regional fuel use/VMT
  - » Need more research, data improvements, consistent methodologies

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Baseline & Forecast Challenges (2)

- Are baseline assumptions realistic?
  - » Puget Sound Regional Council: +16% VMT growth
    - +16% VMT growth, -7.5%/capita, (25% pop. Growth)
  - » AEO = 60% growth in the Pacific Northwest
    - +29% VMT/capita (24% pop growth)
  - » PSRC did not have a business-as-usual scenario because state law required compliance with plan
  - » Approach: used PSRC growth rate but stakeholders recommended polices to ensure plan implementation
    - e.g, transit funding, efficient development incentives

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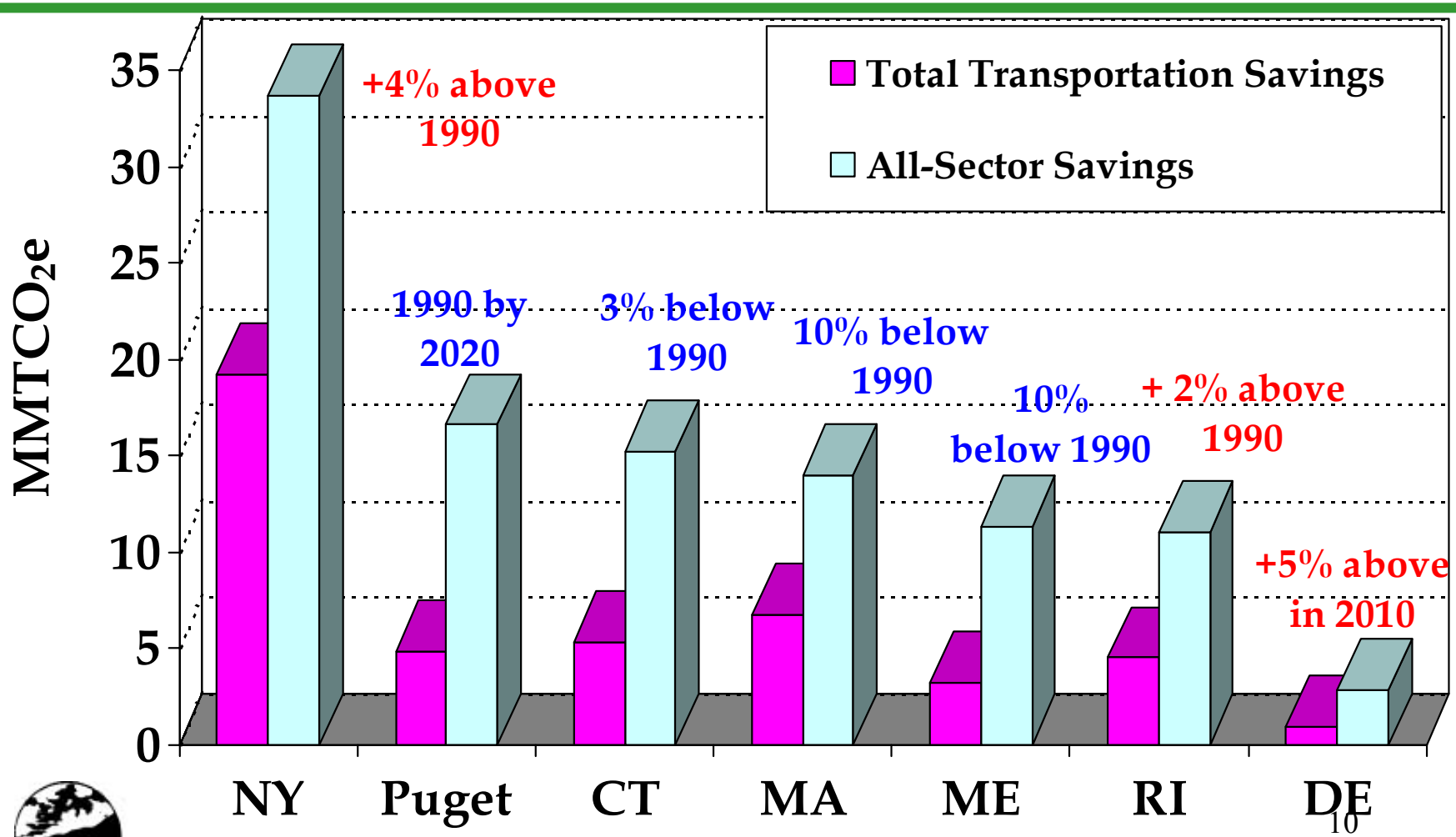
2020 GHG Reductions State Plans

(and comparison to 1990 levels)



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Note: CT and ME include reductions from black carbon measures

Transportation Reductions by Category (with Black Carbon)

	Percent of Total Transportation Reductions				
Option Category	**CT**	DE	**ME**	NY	RI
Technology	**42.9%**	47.5%	**31.0%**	59.0%	70.7%
Fuels	**0.0%**	4.4%	**24.7%**	10.5%	7.5%
VMT	**9.2%**	48.1%	**20.5%**	27.0%	21.8%
Black Carbon	**45.2%**	n/a	**22.8%**	n/a	n/a
Other	**2.6%**	0.0%	**0.9%**	3.5%	0.0%

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Transportation Reductions by Category

	Percent of Total Transportation Reductions				
Option Category	**CT**	DE	**ME**	NY	RI
Technology	**78.4%**	47.5%	**40.2%**	59.0%	70.7%
Fuels	**0.0%**	4.4%	**32.0%**	10.5%	7.5%
VMT	**16.8%**	48.1%	**26.6%**	27.0%	21.8%
Other	**4.8%**	0.0%	**1.2%**	3.5%	0.0%

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State Vehicle & Fuel Measures Implementation

Location, Year	Measure
New York, 2002	Pavley (Gov. announcement) Biodiesel in state vehicles
Connecticut, 2003	Top 30 measures recommended for immediate action, includes: Pavley & LEVII, feebates, transit, clean diesel
New Jersey, 2004	LEVII (legislation) Freight technology/port redevelopment
Massachusetts, 2003	Pavley & LEVII, examining feebates
Rhode Island, 2005	Feebates (legislation)
California, 2005	Pavley & LEVII, (legislature (1/05) & Lawsuit (12/04) H_2 Highways, Clean Diesel capital
Maine, 2005	DEP recommended all 55 measures to the legislature
Washington, 2005	Pavley & LEVII, (Executive & legislative), Clean Diesel

State Smart Growth Implementation

Location, Year	Measure
New York, 2002	Require MPOs to report CO_2 impacts of transportation plans
Connecticut, 2003	3% VMT reduction goal, transit service, regional modeling
New Jersey, 2004	Urban housing & Brownfield redevelopment Commuter rail improvements, infrastructure infill areas
Massachusetts, 2004	Commonwealth Development (principles, capital) Fix it First, TOD program & 'Take the T Home' LEM program
California, 2005	CA MPO Study, Petroleum Reduction Study update (implementation-focus), 2005 Climate Change Process
Washington, 2005	VMT growth reduction goal of 11% by 2020

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Black Carbon

- Black Carbon = elemental carbon in PM
  - » Science evolving, very uncertain
  - » Up to 25% of global warming may be caused by BC (Hansen)
  - » Up to 50% of BC is from transportation sector (Streets, Bond)
  - » Potentially important way to slow climate change (Jacobson, M)
- Federal engine/ & fuel regulations will significantly reduce BC
  - » 1) EPA stds: all new on-road engines 90% PM redux beginning in 2007
  - » 2) pending EPA rules requiring similar reductions for all new nonroad engines (to phased in between 2008 and 2014); and
  - » 3) federal fuel standards for low sulfur and ultra low sulfur
- Retrofit technologies can reduce BC emissions by 90%
  - » Initial cost estimates of $6 – 14 per MTCO2
  - » Significant health benefits from PM reductions

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Freight

- Freight gets looked at last in state climate plans
- Key recommended measures in New York
  - » Truck stop electrification, state biodiesel purchases, rail infrastructure
- CCAP Freight Efforts
  - » International dialogue on freight and climate change (June or Fall)
  - » CCAP working at Port of NY & NJ
    - – Multi-modal freight: port & rail infrastructure enhancements
    - – Diesel retrofits
    - – Freight logistics improvements

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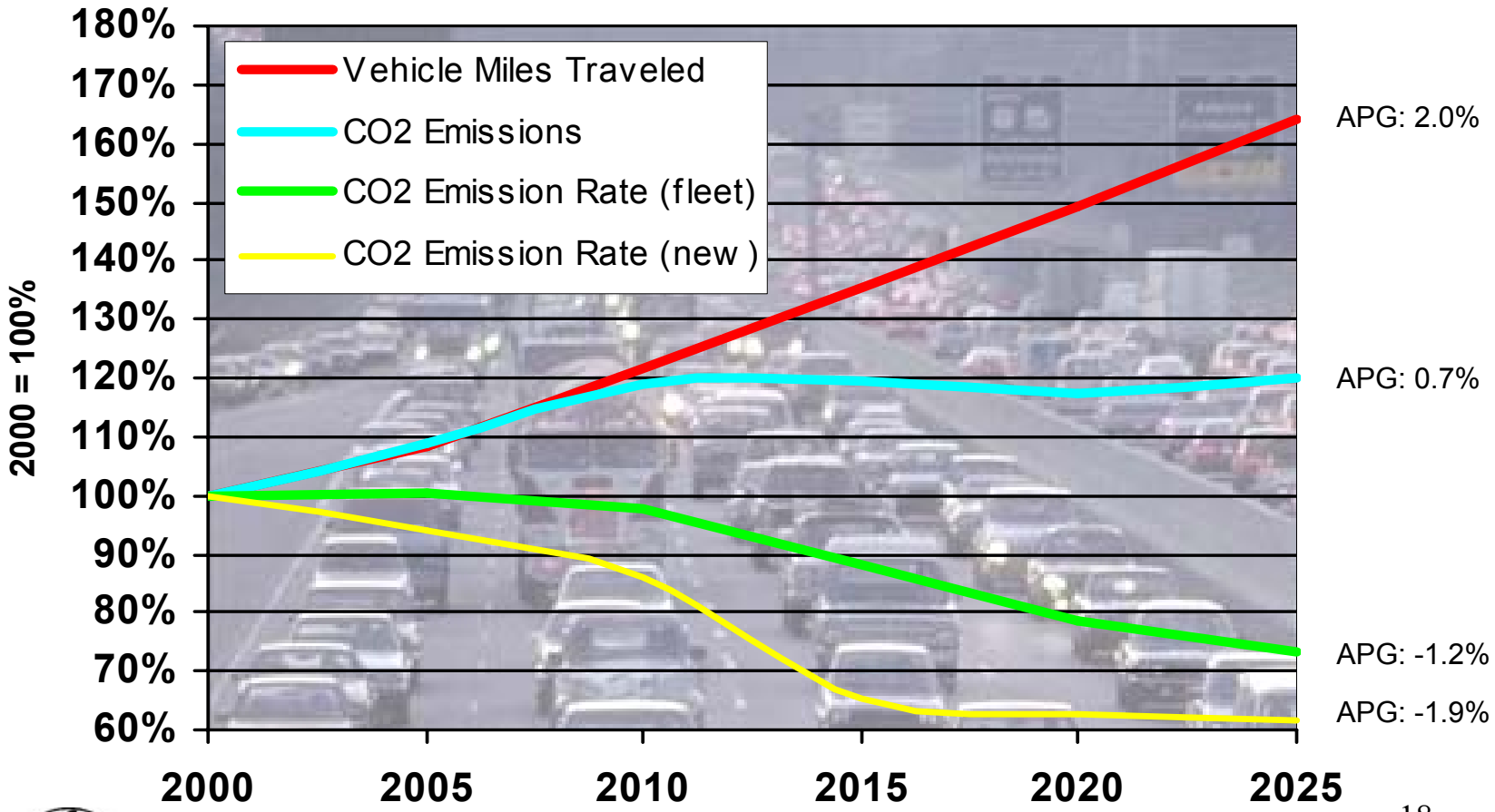
Federal Efforts

- SAFTEA = Petroleum Dependency Act?
  - Perverse funding formulae: pollute more, get more $
  - 20% transit match vs. 50% highway match
- JOBS Creation Act (renewable fuels, summer 2004)
  - Ethanol: 5.2¢/gal tax credit for ethanol from the general fund
  - Biodiesel: 1¢/gal. tax credit for each percentage point of biodiesel
- Corporate Tax Bill (SUVs, Oct. 2004)
  - 'Reduced' SUV deduction from $100K to $25K (original amount)
- Working Families Tax Relief Act (Hybrids, Sept. 2004)
  - Restores AFV & hybrid income tax deduction to $2,000 for vehicles purchased in 2004-05. Drops to $500 and expires at end of 2006.

What if Congress were to require California GHG standards? (!)



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Raw data from: US DOE, EIA "AEO 2005"

Conclusions

- Hard to get below 1990 GHG levels by 2020 (esp. transport)
- If transportation doesn't deliver, more pressure is placed on other sectors, which are also growing rapidly
- U.S. states are developing strong climate plans with transportation playing a key role
- Need progress on all fronts: tech, fuels, VMT, freight, HSR
- Black carbon is a wild-card at this point
- GHG reductions sold on broader co-benefits
- Need to think broader than GHG reductions to what kinds of communities, regions and travel choices we want…

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Medium & Long Term Options

- Vehicle standards: 20-30%
- Biofuels: 5-10%
- Transit and regional smart growth: 3-25%
- Low-GHG hydrogen fuel cells face major technical, economic & environmental challenges
- Cellulosic ethanol requires technical break-through and significant land area
- Transit & land use especially define the long term emissions pathway
- We seem willing to undertake heroic efforts in pursuit of high-tech solutions such as hydrogen fuel cells with uncertain GHG benefits…
- So, why not undertake similar efforts to promote the efficient renewable technology that we are all born with – our feet?!

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Who is currently developing the more promising transportation technology??

GM or Benny?

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For more information:

www.ccap.org

- Transportation Emissions Guidebook (3-05)
- NY, CT, ME Climate Plans
- State Leadership on Transportation & Climate Change
- Freight and Climate Change (6-05)
- Transportation and GHG Emissions Trading
- Transportation & the Clean Development Mechanism (3-05)
- Smart Growth and Air Quality Primer

Steve Winkelman
Manager of Transportation
swinkelman@ccap.org

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