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Policies for a Low Carbon Society: Is the Industrialized World Doing Enough?

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Leadership

- The ability to create a vision and steer in new directions
- Can occur at the international, national, local, and societal levels

10 largest CO2 Emitters

- USA 21.44%
- China 18.80%
- Russia 5.69%
- Japan 4.47%
- India 4.23%
- Germany 3.00%
- Canada 2.02%
- United Kingdom 1.95%
- Italy 1.67%
- Korea, Rep. 1.65%

- c Germanwatch 2007

CLIMATE CHANGE PERFORMANCE index 2008

Overall Results of the Climate Change Performance Index 2008

CCPI Rank	Country	Score*	Partial Score Trend	Level	Policy
1	Sweden	65.6			
2	Germany	64.5			
3	Iceland	62.6			
4	Mexico	62.5			
5	India	62.4			
6	Hungary	61.0			
7	United Kingdom	59.2			
8	Brazil	59.0			
9	Switzerland	59.0			
10	Argentina	58.5			
11	Latvia	58.1			
12	Belgium	57.9			
13	Portugal	57.9			
14	Malta	57.8			
15	Indonesia	57.6			
16	Norway	57.6			
17	Denmark	57.3			
18	France	56.8			
20	Lithuania	55.9			
21	Turkey	55.7			
22	Bulgaria	55.5			
23	Morocco	54.8			
24	Slovenia	54.2			
25	Czech Republic	51.9			
26	Thailand	51.7			
27	Romania	51.5			
28	Algeria	50.5			
29	Spain	50.1			
30	Netherlands	50.1			
31	New Zealand	50.0			
32	Croatia	49.7			
33	South Africa	49.5			
34	Iran	49.4			
35	Estonia	49.2			
36	Finland	49.1			
37	Austria	48.7			
39	Poland	47.2			
40	China	47.0			
41	Italy	47.0			
42	Japan	46.9			
43	Greece	46.8			
44	Ireland	46.4			
45	Cyprus	46.0			
46	Singapore	45.4			
47	Ukraine	44.7			
48	Kazakhstan	44.6			
49	Malaysia	44.2			
50	Russia	43.9			
51	Korea, Rep.	41.3			
52	Luxembourg	39.2			
53	Canada	37.6			
54	Australia	35.5			
55	USA	33.4			
56	Saudi Arabia	30.0			

Climate Change and Kyoto Protocol

-grew out of ozone depletion case

-1992 UNCED

-1997 Kyoto Protocol (CO_2 reductions of 1990 levels by 2008-2012)

-8% for EU -7% for US

-6% for Japan

-2000 US withdrawal from Kyoto Process

-2002 EU, Japan ratification of Kyoto

-2005 beginning of EU emissions trading system

EU and Climate Change Leadership

- Ratification of Kyoto Protocol
- Pursuit of Concrete Post-Kyoto Targets
- Introduction of EU Emissions Trading System
- Establishment of CO2 Emissions Reduction Goal for Post-2012
- Establishment of Renewable Energy Target for Post- 2012

Strengthening of Environmental Policy in the EU

-Green parties, environmental NGOs

-Env`l crisis (acid rain, Chernobyl, climate change)

-Supranational EU and its institutions (Commission takes on more of an agenda setting role, strengthening of EU parliament)

-Harmonization of env′l laws; greater acceptance of multilateral approaches

-Given weakness of EU as a military power, environment comes to play an increasingly important role in EU foreign policy and image

-Leaders within EU (Germany, Scandinavia, UK, Netherlands)

European Union

- Promotion of Leadership role but with differentiation for EU member states
- Burden sharing (target sharing)
- Application of burden sharing for Kyoto Protocol Target
- Now being promoted in relation to EU 20-20-by 2020 goals

Kyoto Protocol EU Bubble Agreement

Member State	1997	1998
Austria	-25%	-13%
Belgium	-10%	-7.5%
Denmark	-25%	-21%
Finland	0%	0%
France	0%	0%
Germany	-25%	-21%
Greece	+30%	+25%
Ireland	+15%	+13%
Italy	-7%	-6.5%
Luxembourg	-30%	-28%
Netherlands	-10%	-6.0%
Portugal	+40%	+27%
Spain	+17%	+15%
Sweden	+5%	+4%
United Kingdom	-10%	-12.5%
European Union	**-15%**	**-8%**

Germany

1991 Electricity Feed-in Law

1994-98 Angela Merkel is Kohl's Env Minister

1995 Berlin Mandate. German govt initiates voluntary agreements with industry for CO2 reductions

1997 Within EU-bubble Germany agrees to -21% CO2 reductions

1998 Red-Green Coalition (phase out of nuclear energy, eco-tax reform)

2000 Renewable Energy Act

2001 Red-Green coalition criticizes US withdrawal from Kyoto Protocol, move to accept emissions trading

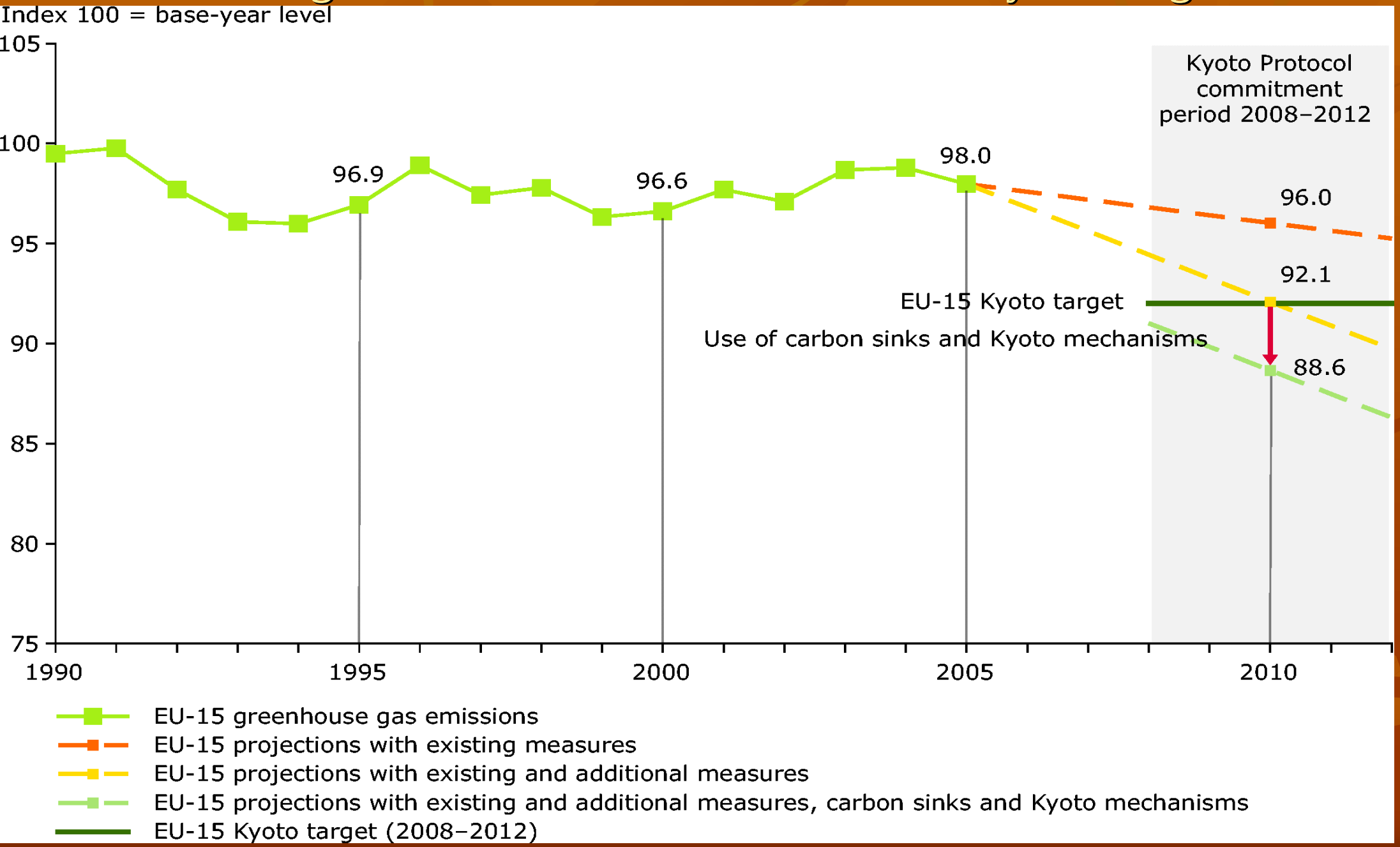
Angela Merkel: Heiligendamm June 2007

- Merkel convinces a skeptical George W. Bush to agree to G8 statement that "**Global greenhouse gas emissions must stop rising, followed by substantial global emission reductions** ." G8 text includes mention of Merkel's proposal for a 50% cut by 2050

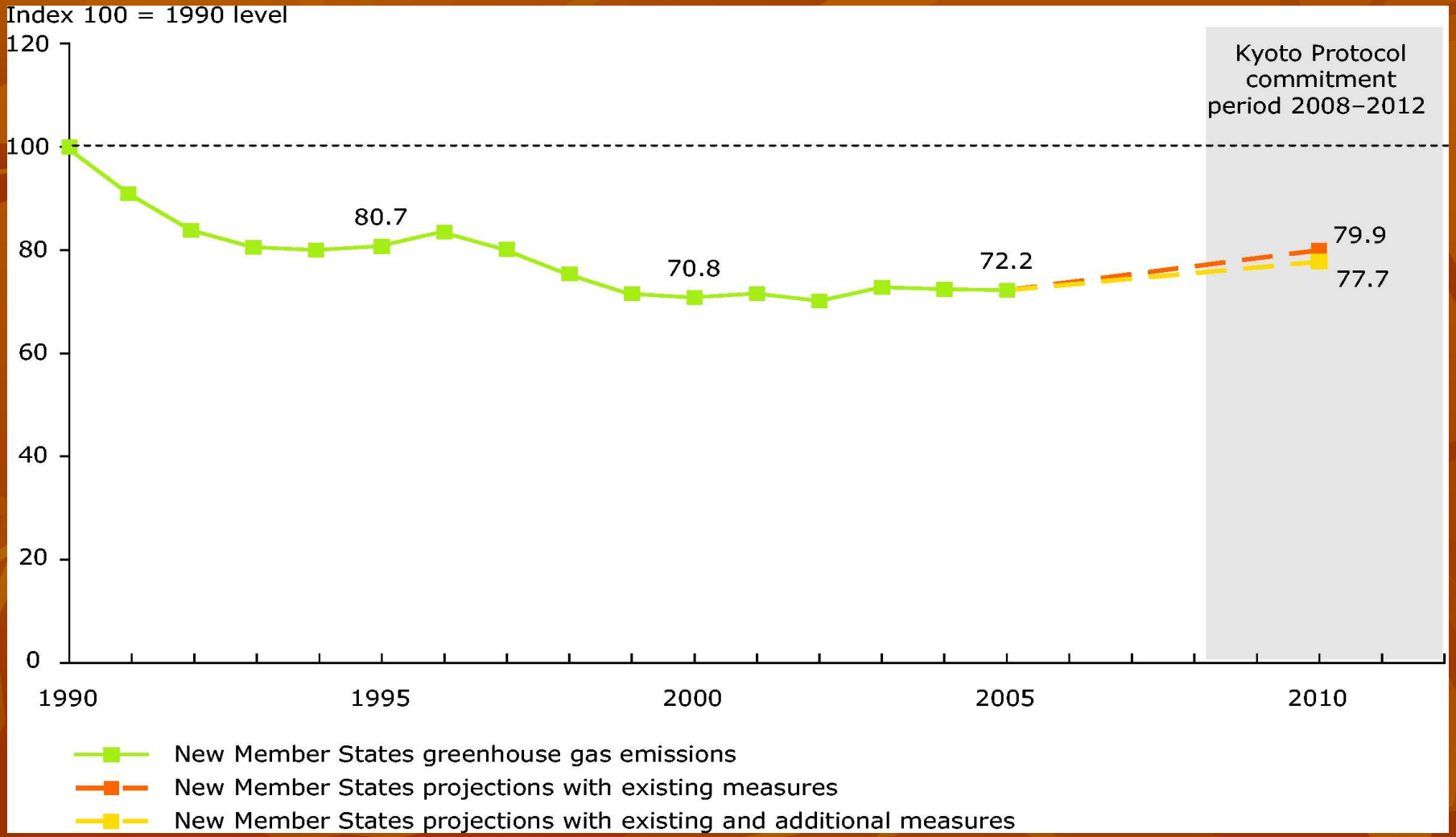
Germany

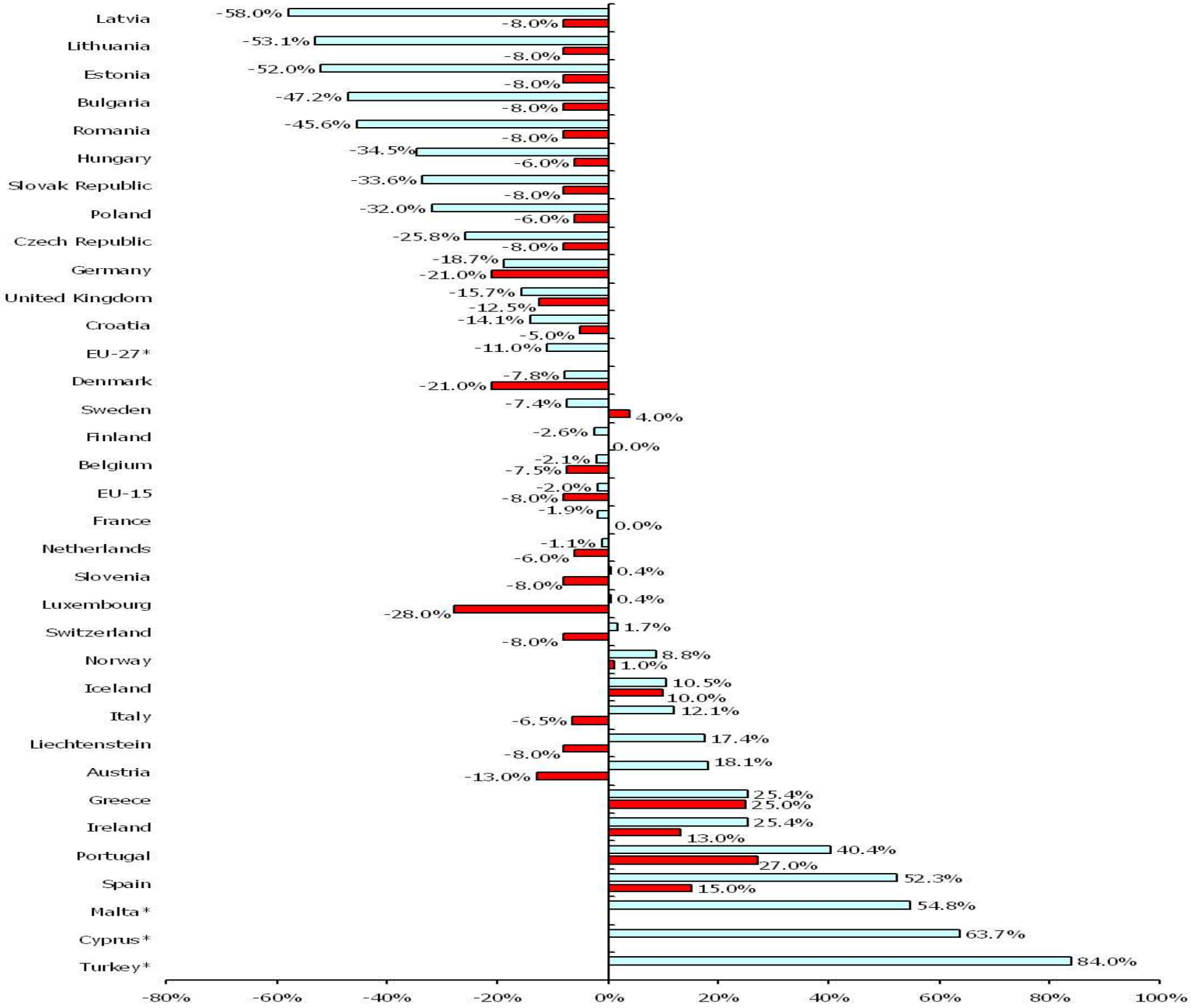
- December 2007, German cabinet adopts Climate Package (a set of policies and measures to help the country achieve its target of a 40% reduction of CO2 emissions by 2020 relative to 1990 levels).
- -renewable energies, energy efficiency, higher energy standards for buildings…

European Environment Agency (2007)
Change in GHG Emissions in EU15 and Kyoto Target



European Environment Agency (2007)
Change in GHG Emissions in EU12 and Kyoto Target

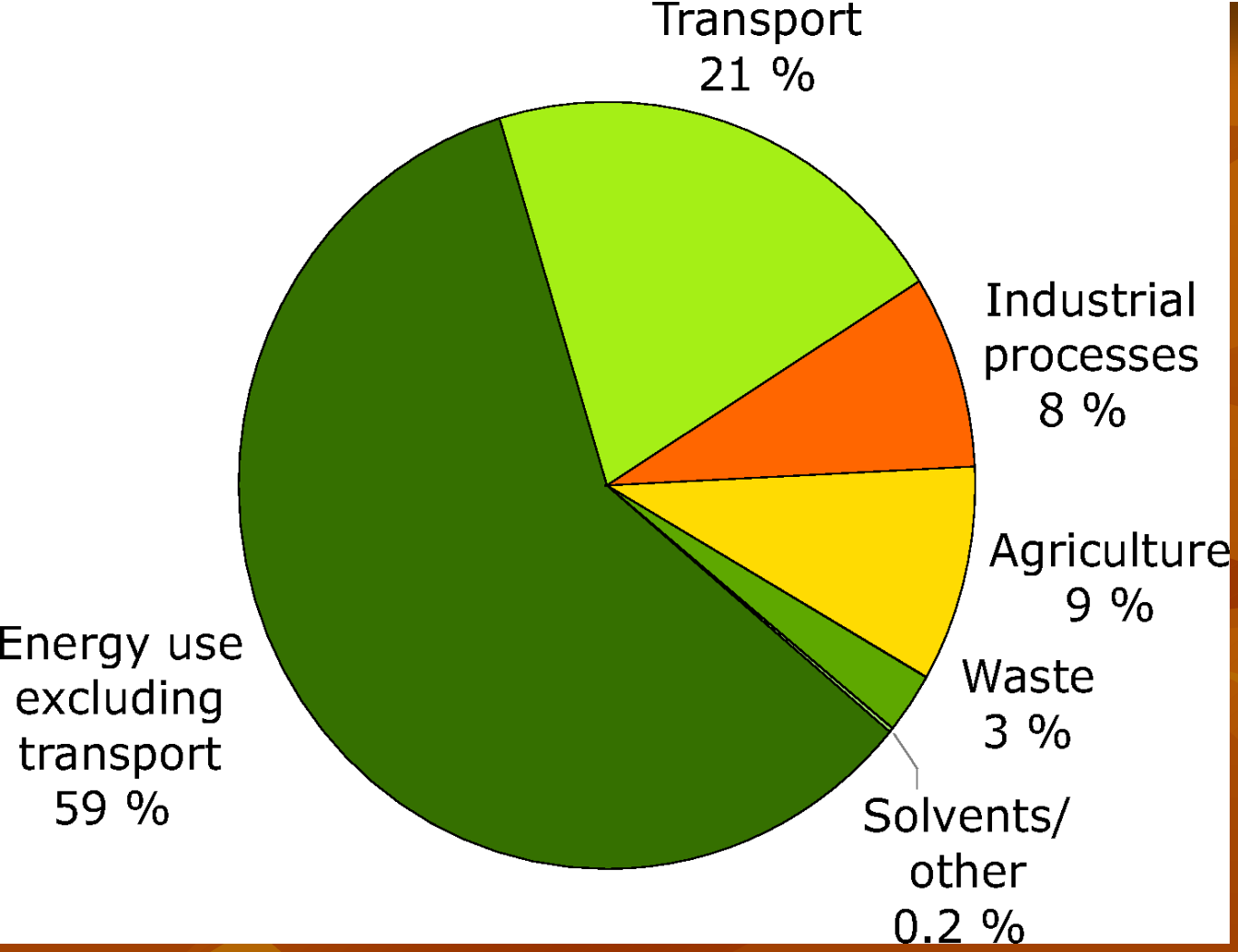



Latvia -58.0% -8.0%
Lithuania -53.1% -8.0%
Estonia -52.0% -8.0%
Bulgaria -47.2% -8.0%
Romania -45.6% -8.0%
Hungary -34.5% -6.0%
Slovak Republic -33.6% -8.0%
Poland -32.0% -6.0%
Czech Republic -25.8% -8.0%
Germany -18.7% -21.0%
United Kingdom -15.7% -12.5%
Croatia -14.1% -5.0%
EU-27* -11.0%
Denmark -7.8% -21.0%
Sweden -7.4% 4.0%
Finland -2.6% 0.0%
Belgium -2.1% -7.5%
EU-15 -2.0% -8.0%
France -1.9% 0.0%
Netherlands -1.1% -6.0%
Slovenia 0.4% -8.0%
Luxembourg 0.4% -28.0%
Switzerland 1.7% -8.0%
Norway 8.8% 1.0%
Iceland 10.5% 10.0%
Italy 12.1% -6.5%
Liechtenstein 17.4% -8.0%
Austria 18.1% -13.0%
Greece 25.4% 25.0%
Ireland 25.4% 13.0%
Portugal 40.4% 27.0%
Spain 52.3% 15.0%
Malta* 54.8%
Cyprus* 63.7%
Turkey* 84.0%
-80% -60% -40% -20% 0% 20% 40% 60% 80% 100%

Emission Changes (1990-2005)

emissions decreased most in:
Latvia (-59 %)
Lithuania (-53 %)
Estonia (-53 %)

emissions increased most in:
Malta (+55 %)
Spain (+53 %)
Portugal (+43 %).



EU Emissions in 2005 by sector

1990-2005 trends

- Between 1990 and 2005 total greenhouse gas emissions, excluding LULUCF:
- decreased by 7.9 % (444 Mt CO2-eq.) in the EU-27;
- decreased by 1.5 % (65 Mt CO2-eq.) in the EU-15;
- decreased by 27.8 % (379 Mt CO2-eq.) in the new Member States.
- EU-15 has achieved one fourth of the total reduction needed to achieve the 8 % reduction goal.

EU Action on Climate Change

- The EU aims to cut CO2 emissions:
  - by 8% on 1990 levels by 2008-12 (Kyoto)
  - by 20% by 2020 (30% if other developed countries commit to comparable reductions)

  - (tied to a goal of saving 20% of energy consumption through energy efficiency improvements by 2020)

- EU-wide CO_2 emissions trading scheme operational since January 2005

Legislative Developments: Targets for Renewables

- EU 20% renewable energy target for 2020 (as share of total energy)
- 10% target for biofuels as share of all fuel

New GHG Emission reduction targets being expressed for Post-Kyoto

- UK (-60% by 2050)
- CA (-80% by 2050)
- Warner-Liebermann (-63% by 2050 (base 2005))
- Germany (-40% by 2020)
- EU (-20% by 2020, -50% by 2050)
- Japan (-50% as a global target for 2050)

Bali Negotiations

EU proposal for a 25-40% emissions reduction target for rich countries for post-2012. Reductions are for 2020 relative to 1990 (the EU proposal was based on IPCC estimates of emission cuts that would be necessary to maintain global temperature rises to 2 degrees C by mid-century).

US and Japan reject

Changing Climate Change Dynamics in the United States

- Growing grass roots support for a strong climate change program
- State and local level climate change initiatives
- Growing Congressional support for climate change legislation
- 2008 Presidential election (Obama vs McCain)

Conference of New England Governors & Eastern Canadian Premiers

adopted a resolution recognizing climate change as a joint concern.

August 2001 regional Climate Change Action Plan (each must reduce GHGs to 1990 levels by 2010 and 10 % below 1990 levels by 2020)

Regional Greenhouse Gas Initiative

- cap-and-trade scheme for CO2 from major power plants to beginning January 2009
- Goal: stabilize CO2 emissions between 2009 and 2015
- annual cuts in CO2 emissions by 2.5 percent per year after this (total 10 % reduction by 2019 in each state)
- Includes: Maine, Maryland, Massachusetts, Vermont, New Hampshire, Connecticut, New York, New Jersey, and Delaware

California Climate Bill (AB1493)

- plan for achieving “maximal feasible reduction” of carbon dioxide emissions from vehicles, effective 2006.
- Car makers have been given until 2009 to meet the new standards.

CA Renewable Energy Portfolio Standard (2002)

aim of achieving 20 percent of its energy come from renewable resources by 2017.

U.S. Mayor's Climate Protection Agreement

As of 2008

850 mayors of U.S. cities, representing 80 million Americans, have signed.

They have agreed to strive to meet or exceed the Kyoto Protocol targets.

America's Climate Security Act (2007)

- In Dec 2007, the Senate Environment and Publics Work committee passed the Lieberman-Warner climate bill (America's Climate Security Act). The Act would create a cap-and-trade system for carbon emissions and mandate a 70 percent cut in greenhouse gas pollution by 2050 relative to 2005 levels. (11-8 vote)
- The bill estimated that $6.7 trillion would be raised over the next four decades from the sale and trading of carbon emissions allowances; the money would be used to help industries comply with the carbon reductions and to help people pay for higher energy costs.

….but

Climate Security Act (2007)

- Fails to win sufficient votes to pass in Senate (48 to 36 vote (neither Obama nor McCain cast a vote though both expressed support for the bill)
- In the lead up to the vote, President Bush expressed his disapproval of the bill, arguing it "would impose roughly $6 trillion in new costs on the American economy“

Obama vs McCain

- Both support federal leadership role for climate change
- Obama supports an 80% reduction target for 2050
- McCain first introduced a bill supporting cap and trade in 2003

Barack Obama

- **Reduce Carbon Emissions 80 Percent by 2050**
- **Cap and Trade:** will require all pollution credits to be auctioned. Some of the revenue generated by auctioning allowances will be used to support the development of clean energy, to invest in energy efficiency improvements, and to address transition costs, including helping American workers affected by this economic transition.

Barack Obama

- **$150 Billion over 10 Years in Clean Energy**
- **Double Energy Research and Development Funding**
- **Require 25 Percent of Renewable Electricity by 2025**
- **Develop and Deploy Clean Coal Technology**
- **Increase Fuel Economy Standards 50 Percent by 2030**
- **Set National Building Efficiency Goal** of making all new buildings carbon neutral, or produce zero emissions, by 2030.
- **Restore U.S. Leadership on Climate Change**
- **Create** Global Energy Forum — that includes all G-8 members plus Brazil, China, India, Mexico and South Africa –the largest energy consuming nations from both the developed and developing world.
- **Re-Engage with the U.N. Framework Convention on Climate Change**

John McCain

Proposes A Cap-And-Trade System That Would Set Limits On Greenhouse Gas Emissions While Encouraging The Development Of Low-Cost Compliance Options.

Greenhouse Gas Emission Targets And Timetables

2012: Return Emissions To 2005 Levels (18 Percent Above 1990 Levels)

2020: Return Emissions To 1990 Levels (15 Percent Below 2005 Levels)

2030: 22 Percent Below 1990 Levels (34 Percent Below 2005 Levels)

2050: 60 Percent Below 1990 Levels (66 Percent Below 2005 Levels)

John McCain

- Innovative, Development, Deploying Climate Change Technologies
- Effective International U.S. Leadership and support of UN negotiations
- Support for Adaptation