



Energy research Centre of the Netherlands



National Renewable
Energy Laboratory

Innovation for Our Energy Future

A climate for collaboration

Analysis of US and EU lessons and opportunities
in energy and climate policy



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Contents

- Rationale
- Contextual Factors
- Reviewed Policies
 - Cap and Trade
 - Renewable Energy Policies
 - Sustainable Transport Policies
- From Cases to Recommendations
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Rationale

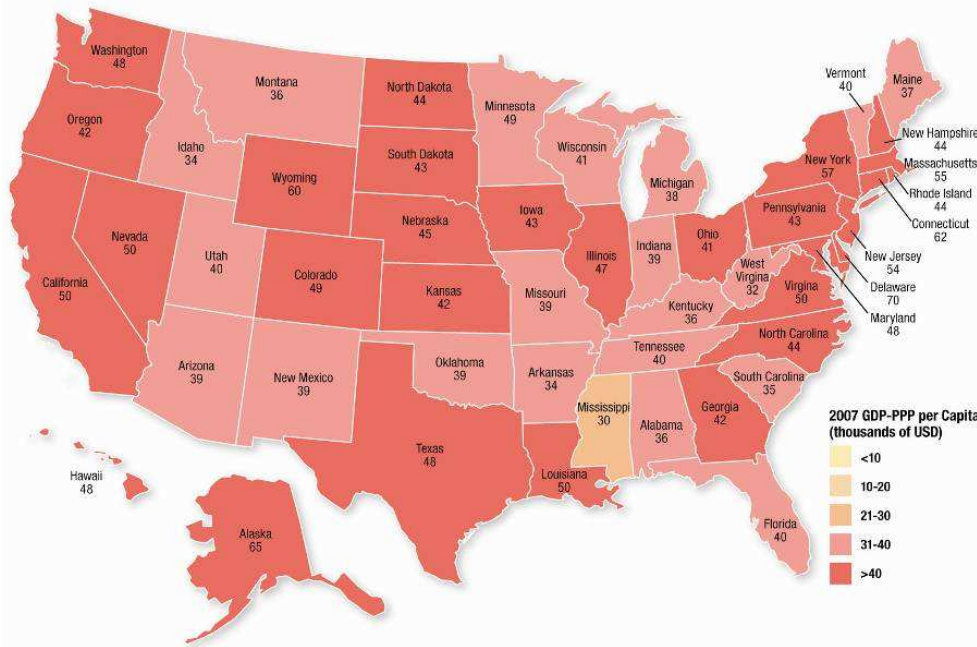
- Diverging views on climate change caused little collaboration between US and EU over past years
- Currently, policy views are converging
- US and EU have very similar interests globally
- Collaboration could create momentum internationally
- Based on current policies, what are the possibilities for transatlantic collaboration?

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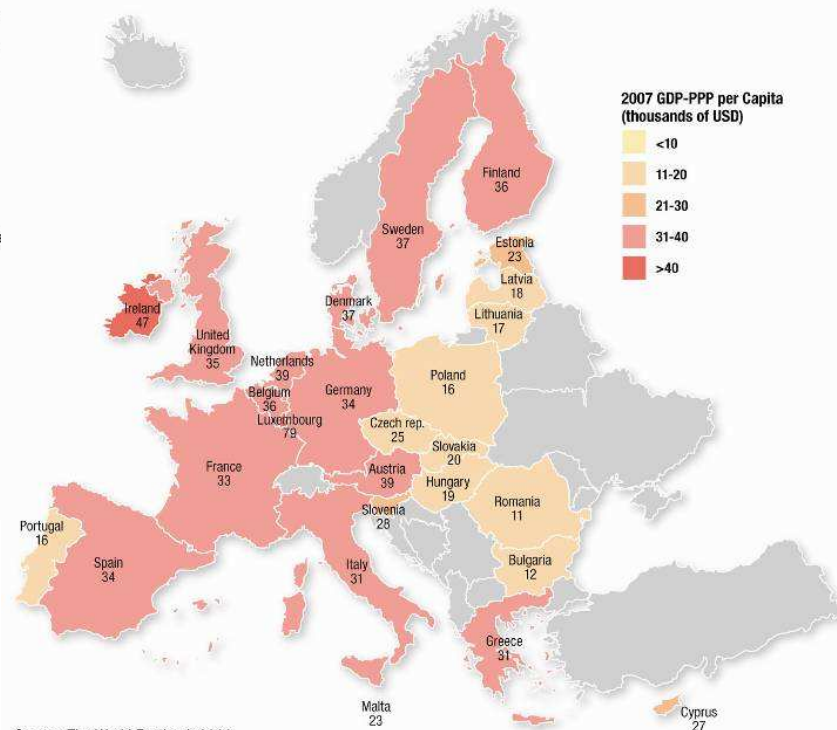
GDP/capita

US Gross Domestic Product per Capita (2007)



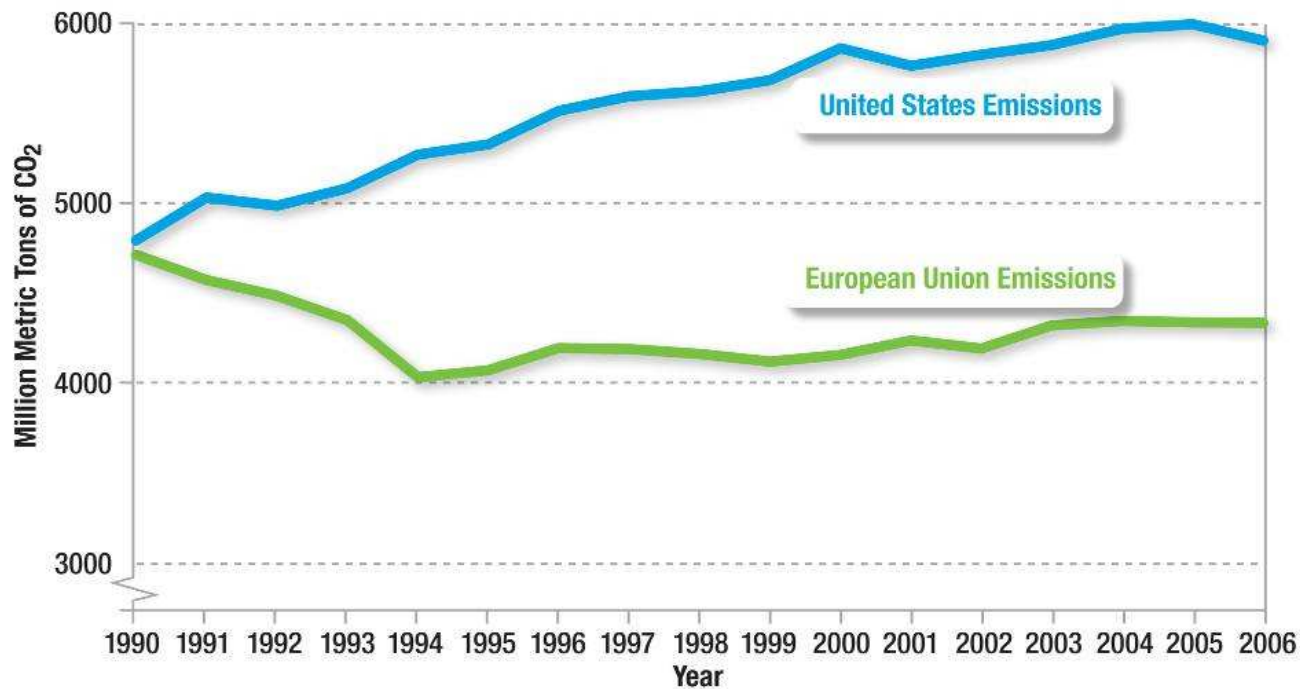
Source: Bureau of Economic Analysis 2009

EU Gross Domestic Product per Capita (2007)



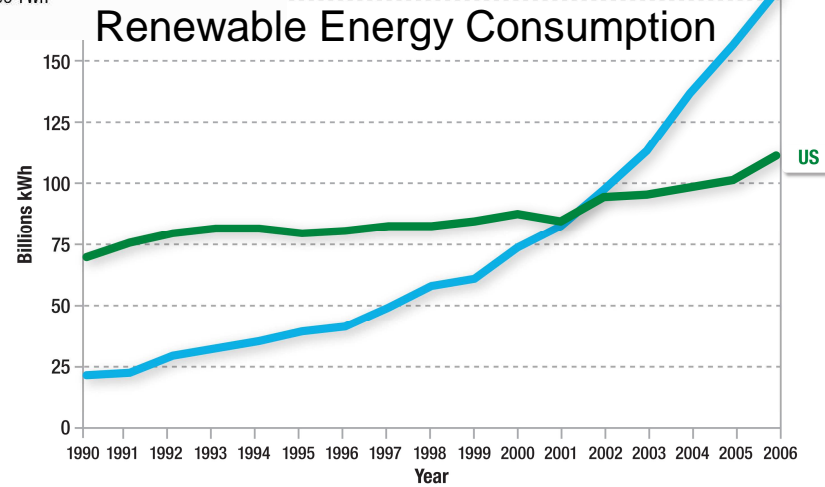
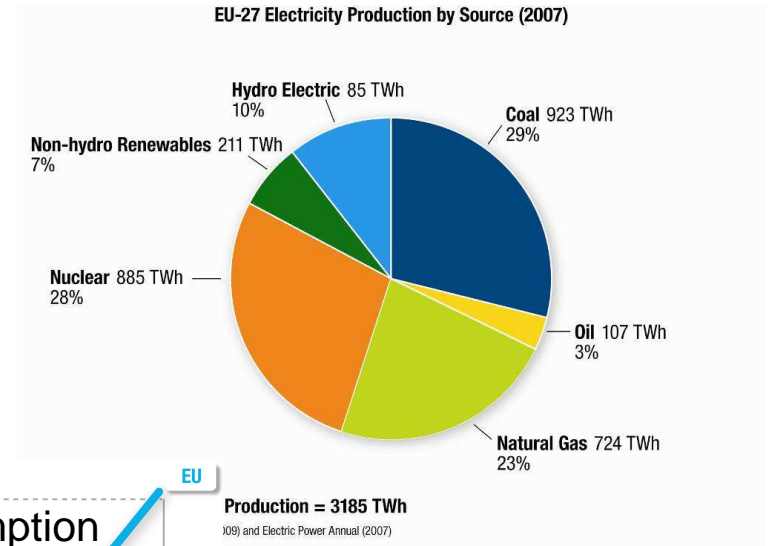
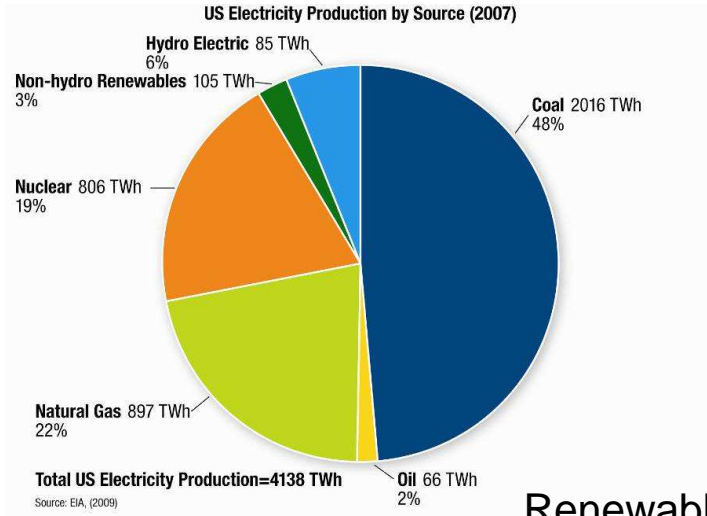
Source: The World Factbook 2008

Emission Trends



The historical data for EU includes all 27 countries that are currently in the EU, where available.
 Source: EIA, International Energy Annual 2006

Electricity Production



Governmental Structure and Implications

	EU	US
Legislation	Directive	Bill
Who drafts legislation?	Commission	Congress
Who approves?	Council + Parliament	President + Congress
Who spends?	MS more than EC	Federal gov. more than states

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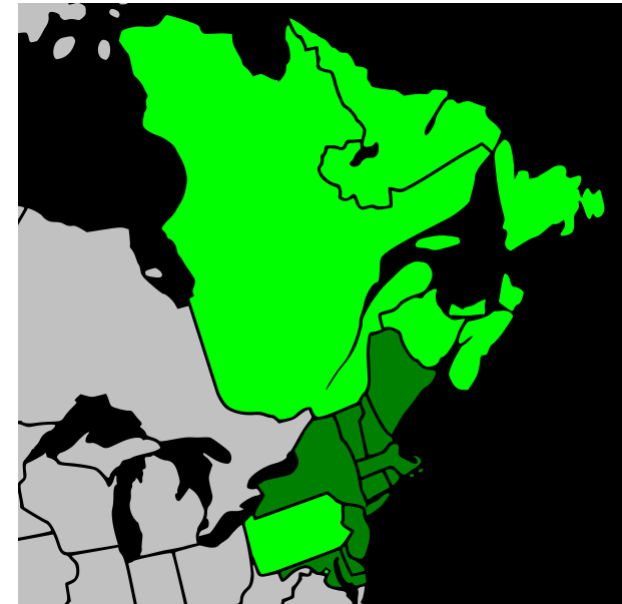
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US Cap and Trade

- Federal level: proposed Waxman-Markey (House of Representatives) and ACELA (Senate) bills
 - Unlikely to pass before 2010
- State level
 - Regional initiatives;
 - Northeast Regional Greenhouse Gas Initiative (RGGI): January 2009
 - Western Climate Initiative: scheduled 2012

RGGI

- 10 states + 6 observer states
- Started: January 2009
- Allocation method:
 - Quarterly auctions
- Reduction:
 - 1st Phase (until 2014): stabilization of emissions
 - 2nd Phase (until 2018): 10% reduction
- Sectoral coverage:
 - Fossil fuel fired electric generation $\geq 25\text{MW}$



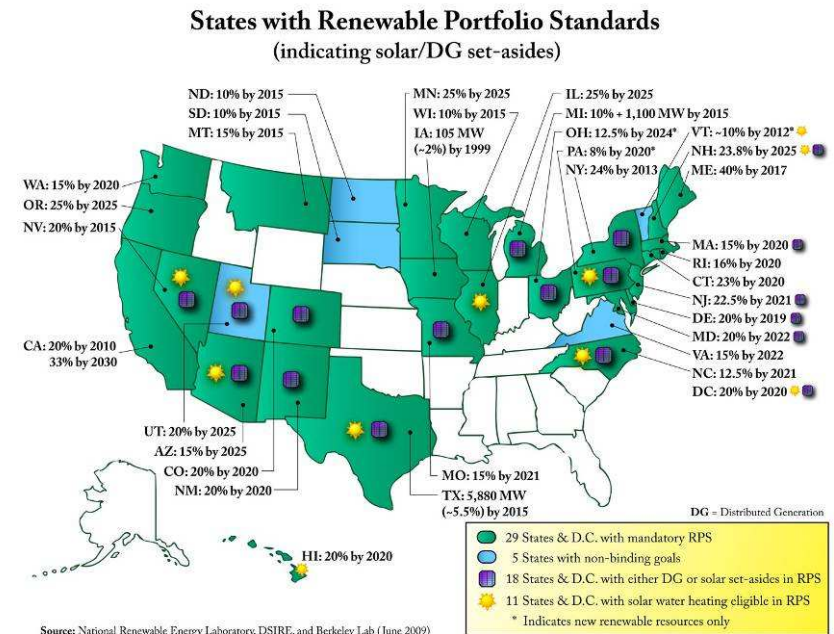
EU Cap and Trade, EU-ETS



- All 27 MS
- Started: January 2005
- Allocation method:
 - Free allocation in 1st and 2nd phase (national allocation plan)
 - Partial auctioning in 3rd phase (centralised cap)
- Reduction:
 - 1st Phase (until 2008): 2150 MtCO₂/yr (average)
 - 2nd Phase (until 2012): 2080 MtCO₂/yr (average)
 - 3rd Phase (until 2020): 1720 MtCO₂/yr in 2020
- Sectoral coverage:
 - Fossil fuel fired electric generation ≥ 20 MW
 - Industrial installations
 - Aviation (2012)

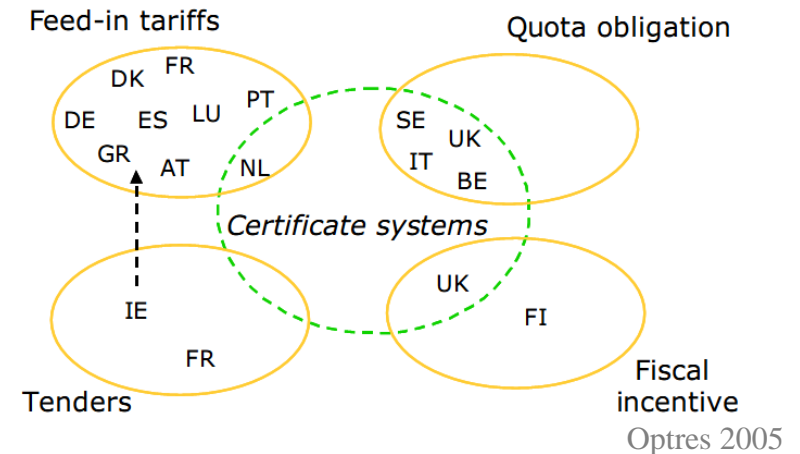
US Renewable Portfolio Standard (RPS)

- No federal RE policy in place
- RPS: 29 States + District of Columbia
- Requirement minimum share of total electricity sales from renewable power generation
- Additional elements
 - Financial penalties for non-compliance
 - Renewable energy certificates
 - Provisions for electricity from specific sources (e.g. PV)



EU RE Policies

- EU wide target of 20% gross final consumption of energy from RE
- Different regulations on MS level
 - Feed-in tariff/Feed-in premium
 - fixed compensation for each kWh fed to grid
 - Germany: high security for investors and high increase in RE
 - Obligation system
 - Similar to RPS, obligation to source a certain amount of electricity from RE
 - UK: short term contracts, only investments in large scale RE



US Sustainable Transport Policy

- Clean Air Act (proposed)
 - US-wide
 - Emission standard for passenger vehicles and light duty vehicles
 - Average fleet emissions by 2016: 155g CO₂/km
- Low Carbon Fuel Standard (LCFS)
 - California
 - Limit on fuel emissions [gCO₂/BTU]
 - Inclusion of complete life-cycle of fuel (including land-use change)
 - No incentive for specific fuel

EU Sustainable Transport Policy

- EU-CO₂ emission standard
 - Valid for passenger cars
 - Average fleet emissions by 2015: 120g CO₂/km
by 2020: 95g CO₂/km
 - Biofuel Target
 - 10% renewable fuels in fuel mix for transport sector
 - Different ways of implementation
- German policy bundle**
- Includes: standards, mandates for distributors and tax exemptions
 - Industry involvement

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From cases to recommendations

Policy cases → Observations and lessons → Recommendations

<p>RGGI, ETS</p>	<p>Converging to auctioning Role of information Sectoral, geographical scope Offsets/CDM-JI</p>	<p>Carbon market</p>
<p>RPS, FIT, targets</p>	<p>Robust policy: Budget-neutral Broad political support Realistic payback time</p>	<p>Investment certainty for RE developers</p>
<p>Vehicle standards, biofuels</p>	<p>Convergence on standards Debate on biofuel</p>	<p>Best practices and standards</p>

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Recommendations

Carbon trading:

- Share policy experiences as schemes develop
- Explore merits and conditions for merging US and EU carbon markets
- Global: Streamline rules for offsetting (CDM and offsets)

Best practices and standards

- Share policy experiences as standards are implemented
- Global: explore converging on standards, e.g. for cars and appliances
- Global: streamline biofuel sustainability criteria

Crossing the valley of death together

- Share experiences in commercialisation of new technology
- Conducting collaborative research
- Understand how to mobilise capital



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Thank you for your attention!

Any questions?!?



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