Energy Efficiency and Environmental Certification Trading
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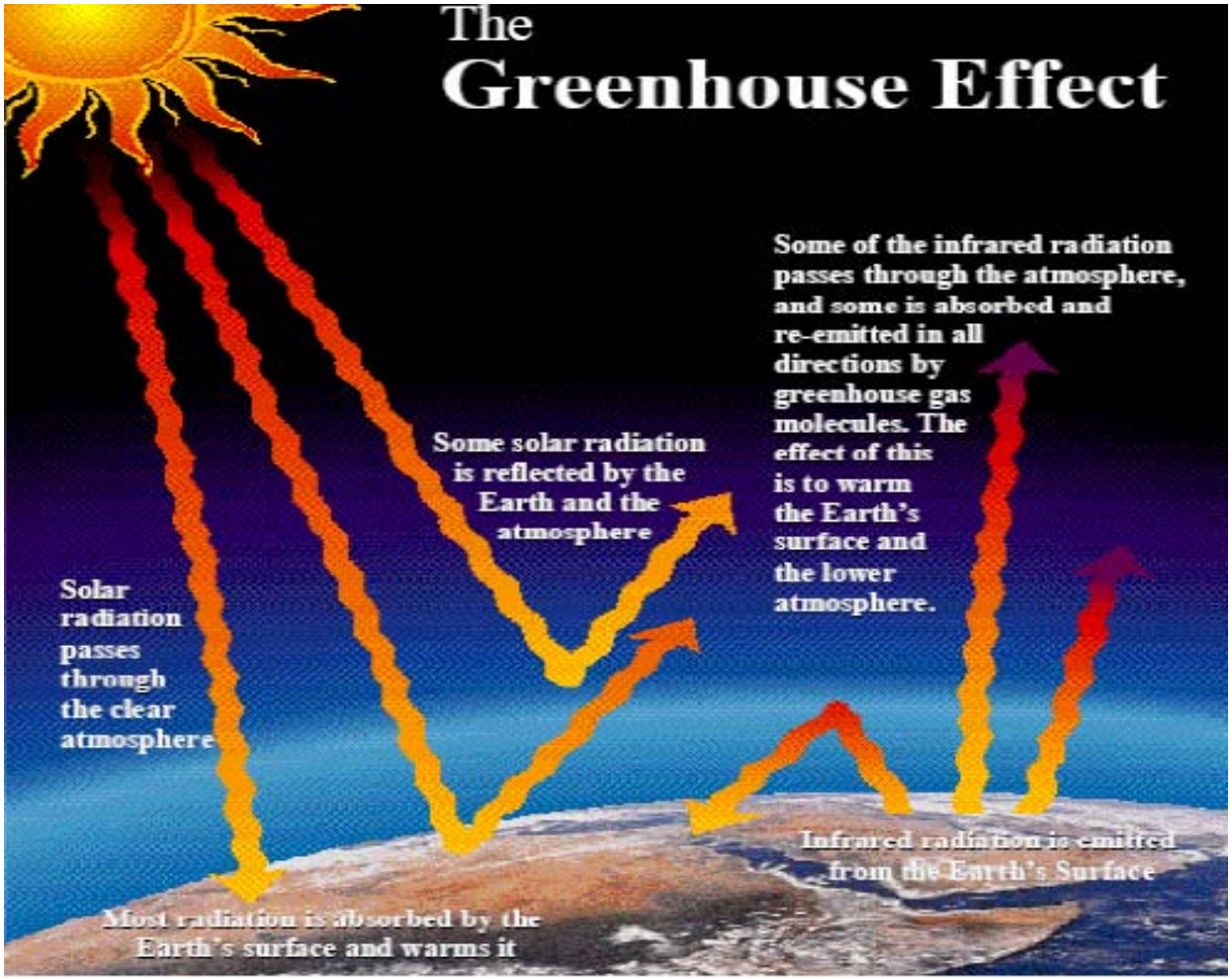
Humans Are Changing the Climate

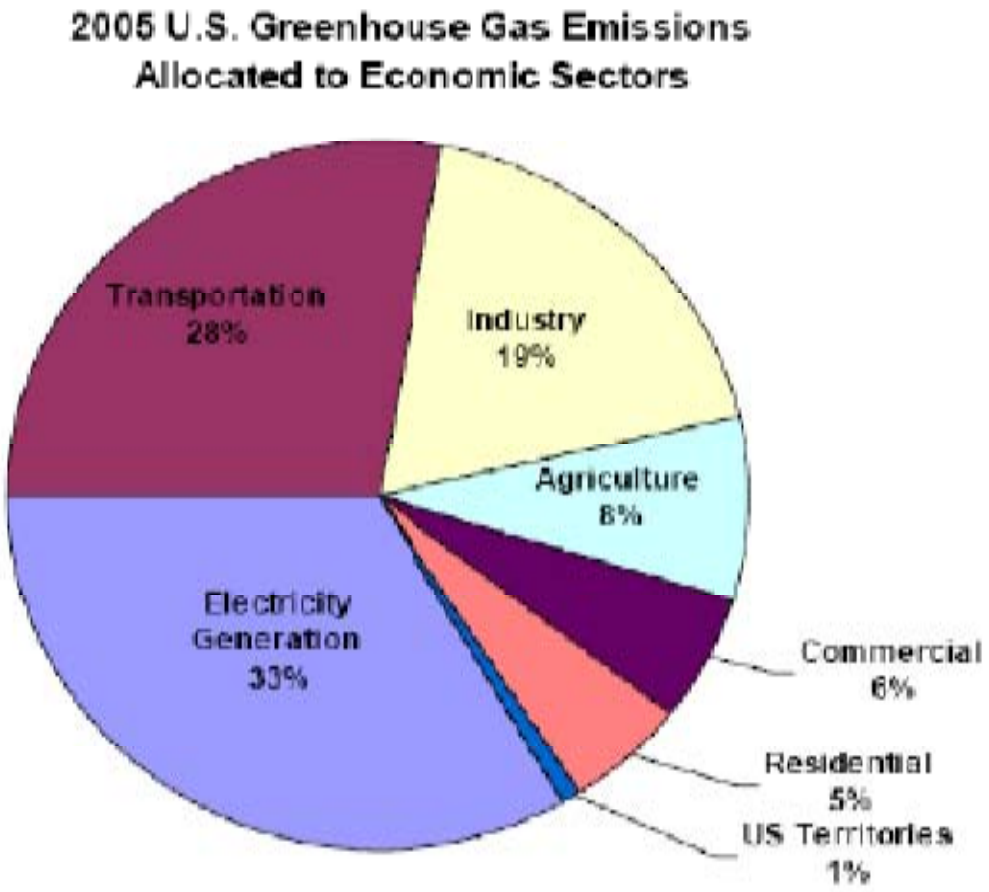


Causes of Climate Change

Fossil fuel emissions are generally thought to be the main cause of climate change

- **Rising temperatures**
  - **GHG emmissions are rising on average by 2%**
  - **Global temperatrues are set to rise by an average 3.5c**
  - **Over the last 100 years temperatures have risen by approx 0.6c**

Sources of U.S. Carbon Emissions



What is Greenhouse Gas?

Greenhouse Gas	Source
Carbon Dioxide (CO_2)	Combustion
Methane (CH_4)	Landfills, coal mines, oil/gas production, agriculture
Nitrous Oxide (N_2O)	Combustion, Fertilizers
Hydrofluorocarbons (HFCs)	Semiconductors, refrigeration, fire protection
Perfluorocarbons (PFCs)/C_xF_x)	Semiconductors, refrigeration, fire protection
Sulfur Hexafluoride (SF_6)	Electrical Power circuit breakers, switchgear

The Policy and Regulatory Environment

2007 Proposals

	S. 1766: The Low Carbon Economy Act of 2007 (Bingaman/ Specter)	S. 2191: America's Climate Security Act of 2007 (Lieberman/ Warner)	S. 280: The Climate Stewardship and Innovation Act of 2007 (McCain/ Lieberman)	S.485: Global Warming Reduction Act of 2007 (Kerry/Snowe)	H.R. 1590: The Safe Climate Act of 2007 (Waxman)
Introduced	July 2007	Oct. 2007	Jan. 2007	Feb. 2007	Mar. 2007
Start Year	2012	2012	2012	2010	2010
Coverage	All 6 GHGs	All 6 GHGs	All 6 GHGs	All 6 GHGs	All 6 GHGs
Targets	Capped sectors: 60% below 2000 levels by 2050	Capped sectors: 70% below 2005 levels by 2050	Capped sectors: 60% below 1990 levels by 2050	Whole economy: 65% below 2000 levels by 2050	Whole economy: 80% below 1990 level by 2050
Sectors	Fossil fuel, high GWP gases, some N2O	Fossil fuel, most high GWP gases, some N2O	Commercial, industrial, electric power, and transportation	Greatest emitting sectors/sources; those with most cost effective reduction opportunities	All sectors (largest/easiest to control emitters)
Structure	Cap & Trade: upstream for oil and gas; industrial and electric emitters at point of emissions	Cap & Trade: midstream for oil and gas; industrial and electric emitters at point of emissions	Cap & Trade	Cap and trade; other standards or requirements TBD.	Cap & Trade

Federal Regulatory Proposals

2007 Proposals

	S.309: The Global Warming Pollution Reduction Act of 2007 (Sanders/ Boxer)	S. 1168: Clean Air/Climate Change Act of 2007 (Alexander/ Lieberman)	S. 1177: The Clean Air Planning Act of 2007 (Carper)	S. 1201: The Clean Power Act of 2007 (Sanders)	S.317: The Electric Utility Cap-and-Trade Act of 2007 (Feinstein/ Carper)
Introduced	Jan. 2007	Apr. 2007	Apr. 2007	Apr. 2007	Jan. 2007
Start Year	2010	2011	2012	2010	2011
Coverage	All 6 GHGs	CO2, NOx, SO2, Hg	All 6 GHGs	All 6 GHGs	CO2 only
Targets	Whole economy: 80% below 1990 levels in 2050	Electric sector: 1.5 B tonnes in 2025	After 2020, reduce emissions 1.5% annually	Electric sector: 1,500 M metric tons by 2025; plus possible 3%/yr after	Electric sector: Reduce 1%/yr. to 2019, 1.5% beyond
Sectors	Electricity and Transportation	Electricity	Electricity	Electricity	Electricity generators > 25MW
Structure	Standards (Cap & Trade optional); standard for new baseload electric generators	4P Cap & Trade	4P Cap & Trade; performance standard for new generators online after 2015	4P Cap & Trade; GHG emissions standard for baseload electric generators	Cap & Trade

State Regulatory Proposals

- States are implementing GHG reduction requirements today.
- • Massachusetts
- • RGGI (Northeast states “Regional Greenhouse Gas Initiative”)
- • California
- States are considering economy-wide programs and focusing on transportation as well as stationary sources.
- States have led the move toward auction of allowances to support energy efficiency, renewables, and other technologies.
- Common reduction targets are 1990 GHG levels by 2020
- (25% reduction from business as usual) and 60% to 80% reduction by 2050.
- Continued action by states pushes Congress to act and pushes industry to support a national program.

California Climate Action Registry

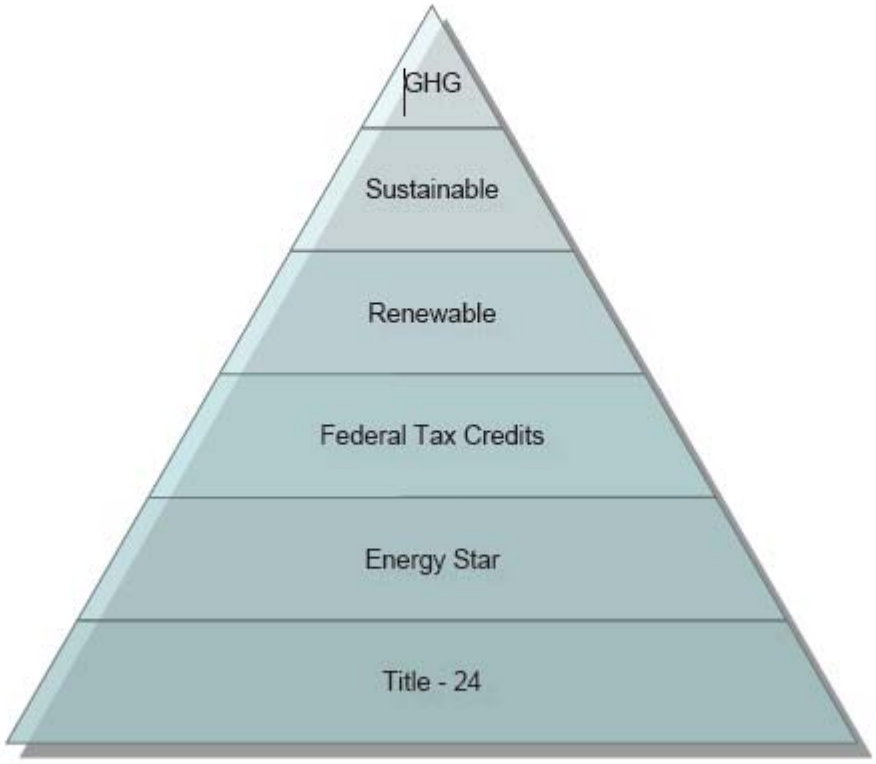
The California Climate Action Registry (the Registry) was established by California statute as a non-profit voluntary registry for greenhouse gas (GHG) emissions. The purpose of the Registry is to help companies and organizations with operations in the state to establish GHG emissions baselines against which any future GHG emission reduction requirements may be applied.

California Climate Action Registry

Certifiers

- Approved certifiers provide independent, third-party verification of Registry member's GHG emissions inventories.
- Approved certifiers have been accepted by the Registry and the CEC to provide these services following an application process and training session.
- Registry members are required to use an approved certifier for their emissions inventory to be accepted by the Registry.

Where we need to get too.



YOU MUST BE THE CHANGE YOU WANT TO SEE IN THE WORLD

Mahatma Gandhi