

Policy Options

The basic climate change policy approaches under consideration for the United States are:

- 1) **Cap and Trade:** A market based system where the *right to pollute is either sold or given away to industry by government* and then those *rights can be traded in a free market.*
- 2) **Carbon Tax:** Those that mine or develop carbon sources and release carbon into the atmosphere *pay a tax to the government* on their production or release *in proportion to the amount of carbon produced or released.*

Politics

- Taxes are VERY unpopular
- Free market mechanisms have bi-partisan support
 - Appeal to conservatives
 - Promise reductions
 - Create a new industry: carbon traders

Therefore, cap and trade has dominated the discussion

Allocation Options

Bill	Lieberman-McCain 2007	Bingaman-Specter Draft 2007	Kerry-Snowe 2007	Sanders-Boxer 2007	Udall-Petri 2006	Obama Admin. 2009
Allocation	Some percent auctioned , balance allocated free	10% auctioned , 55% free (but gradually phased out), 29% to states, 5% for agric. sequestration, 1% early reduction	Some percent auctioned , balance allocated free	No allocation set, any allowances not allocated to covered entities should be given to non-covered entities	20% free, 20% to states (reduced yearly), remaining 60% to Treasury, Energy Dept, and State Dept	100% auctioned -revenue to federal govt- \$646 billion revenue rebated to consumers

Banking

- Banking allows emitters to carry over unused allowances into the next cap period
- Emitters can either reduce emissions below the cap and hold the allowances that they generate if there is free allocation OR
- Emitters can buy extra allowances gambling that the price is lower now than it will be next period- this reduces the allowances available on the market for others

Banking Proposals

Bills	Lieberman-McCain 2007	Bingaman-Specter Draft 2007	Sanders-Boxer 2007	Markey-Waxman 2009
Banking	Allowed	Allowed	Not allowed	Allowed-unlimited

Borrowing

- Borrowing is allowing emitters to borrow from future years to satisfy current allowance needs
- Allows higher emissions now, with the presumption that emissions will be reduced in the year borrowed from
- Likely that there will be appeals for relief in years borrowed from- delays compliance

Borrowing

Bill	Lieberman-McCain 2007	Sanders-Boxer 2007	Bingaman-Specter Draft 2007	Kerry-Snowe 2007
Borrowing Provisions	Borrowing up to 25%	No borrowing provided for	No borrowing provided for	No borrowing provided for

Safety Valve

- Places a cap on the price of allowances=price controls
- Converts from cap and trade to a flat tax in reality
- Reduces the internalizing of emission costs and allows less cost efficient emitters to persist

Safety Valve Provisions

Bill	Lieberman-McCain 2007	Bingaman-Specter Draft 2007	Udall-Petrie 2006	Sanders-Boxer 2007
Safety valve provision	No safety valve	Government issues more allowances if reach \$7 per ton	Price capped at \$25/ton of carbon (<\$7 per ton of CO ₂)	No safety valve

Offsets

- Allows substitution of credits for reducing emissions in uncovered sectors
- Issue is verifying that the reductions would not have happened without the investment and that the reductions do indeed occur

Offset Provisions

Bill	Lieberman-McCain 2007	Sanders-Boxer 2007	Waxman 2006	Bingaman-Specter Draft 2007
Offset provisions	Can offset up to 30% with sequestration and other offsets	No offsets but credits for sequestration	No offsets, no sequestration credits	Unlimited offsets allowed

Last Session Bills

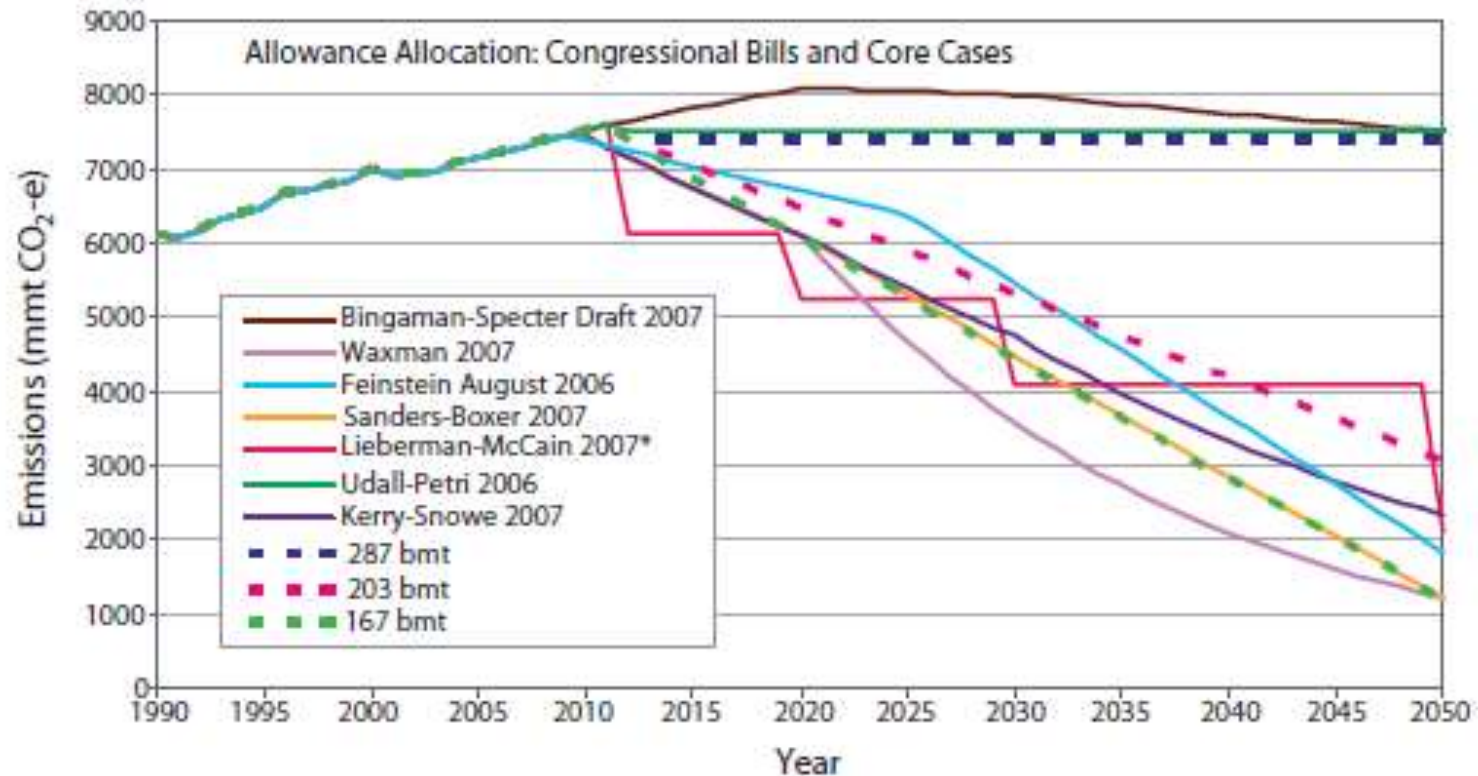


Figure 1. Scenarios of allowance allocation of Congressional bills and core cases over time.
[*For Lieberman-McCain, this is the allowance path for covered sectors only.]

Current Session

- American Clean Energy and Security Act
 - Waxman and Markey developed
 - Cap and trade system:
 - Regulates electric utilities, oil companies, large industrial sources that emit 25,000+ tons of CO₂ equivalent (85% of GHG emissions)
 - 3% below 2005 by 2012, 20% below 2005 by 2020 and 83% below 2005 in 2050
 - Allows banking and one year of borrowing
 - Offsetting allowed(5 tons offset/4 tons credit)

ACESA continued

- Energy Efficiency: incentives, harmonization and rebates
 - Utility energy efficiency: companies must demonstrate customer savings (1% by 2012 to 15% by 2015 for electricity)
 - Clean Energy
 - Renewable Energy: retail energy suppliers must have 6% renewable in 2012- 25% in 2025
 - Carbon Capture: demonstration program, incentives and performance standards for new coal plants 1,100 tons per megawatt limit on GHG, then 800 tons
 - Clean Fuels and Vehicles: low carbon fuel standard
- And more! Adaptation, consumer assistance, green jobs/training, rebates for additional costs over other countries

Boxer Climate Principles

1. Reduce emissions to levels guided by science to avoid dangerous global warming.
2. Set short and long term emissions targets that are certain and enforceable, with periodic review of the climate science and adjustments to targets and policies as necessary to meet emissions reduction targets.
3. Ensure that state and local entities continue pioneering efforts to address global warming.
4. Establish a transparent and accountable market-based system that efficiently reduces carbon emissions.

Boxer Climate Principles (cont'd)

5. Use revenues from the carbon market to:

- Keep consumers whole as our nation transitions to clean energy;
- Invest in clean energy technologies and energy efficiency measures;
- Assist states, localities and tribes in addressing and adapting to global warming impacts;
- Assist workers, businesses and communities, including manufacturing states, in the transition to a clean energy economy;
- Support efforts to conserve wildlife and natural systems threatened by global warming; and
- Work with the international community, including faith leaders, to provide support to developing nations in responding and adapting to global warming. In addition to other benefits, these actions will help avoid the threats to international stability and national security posed by global warming.

Boxer Climate Principles (cont'd)

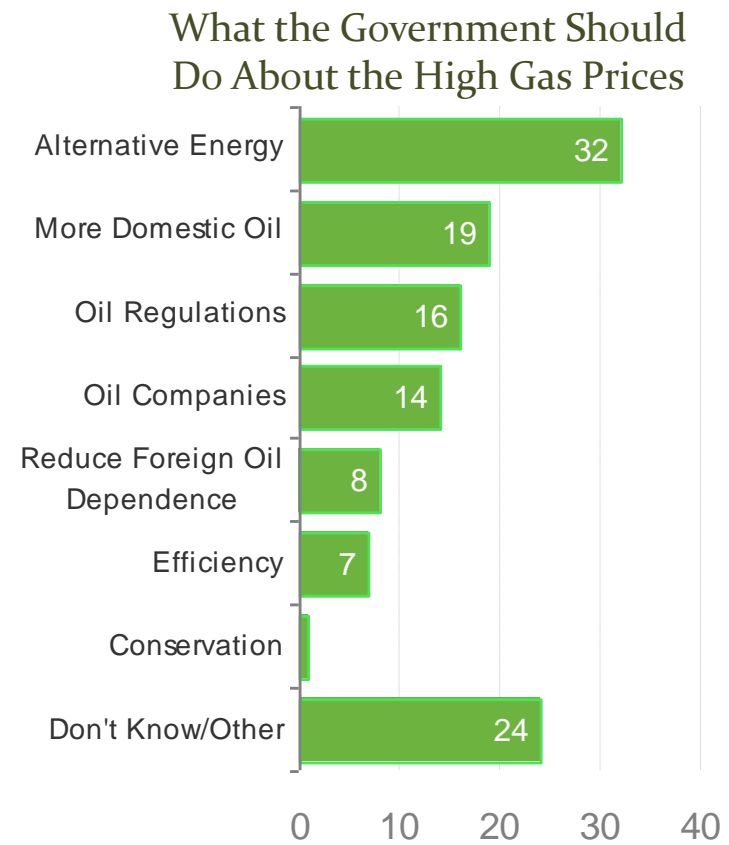
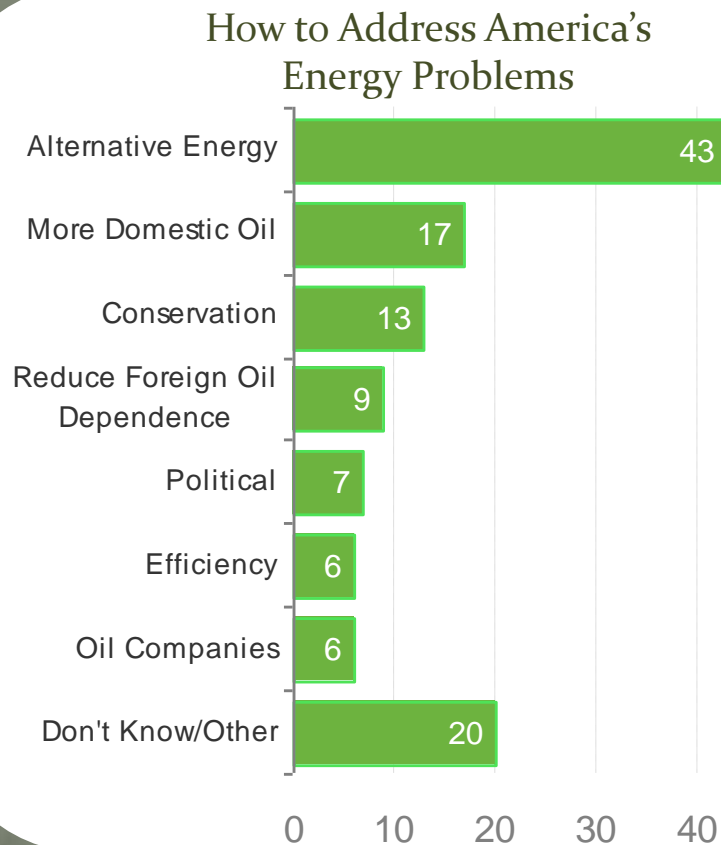
6. Ensure a level global playing field, by providing incentives for emission reductions and effective deterrents so that countries contribute their fair share to the international effort to combat global warming.

Public Attitudes

- Constituent perceptions drive political decisions- need to be re-elected
- Special interest group lobbying does as well, but without public support there is risk to politicians

Voters View Renewable Energy as the Best Solution

What are the ONE or TWO most important things that can be done to solve America's energy problems and high gas prices?



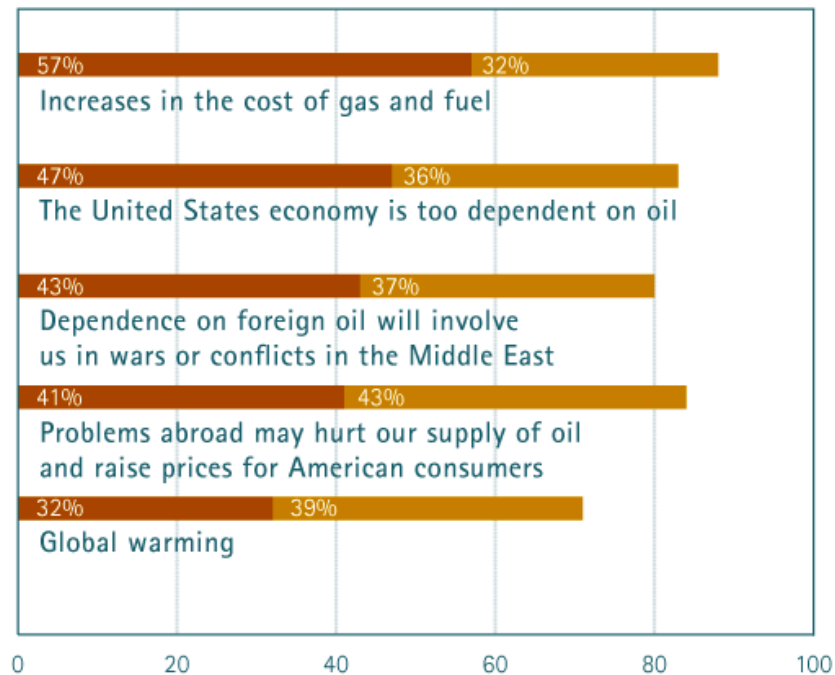
Recent Public Perception

- Has it changed?
- What does it mean for moving solutions forward?

Public Attitudes

Americans worry most about the price of gas and dependence on foreign oil. Significantly fewer worry about global warming

Percent who say they worry about: ■ Worry a lot ■ Worry somewhat

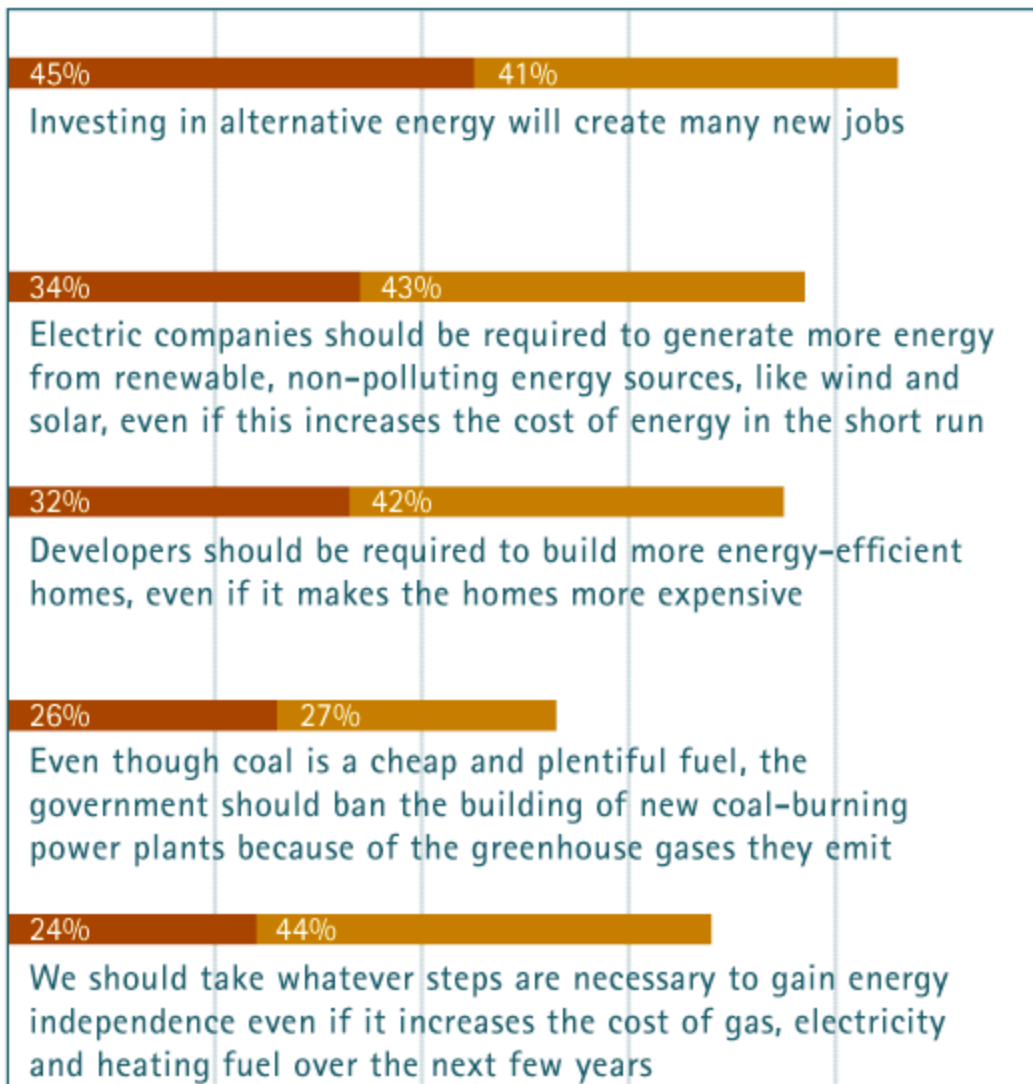


Many proposals receive high support, including ones that involve investing in alternative energy sources

■ Percent who say they agree with the following statements:

■ Strongly agree

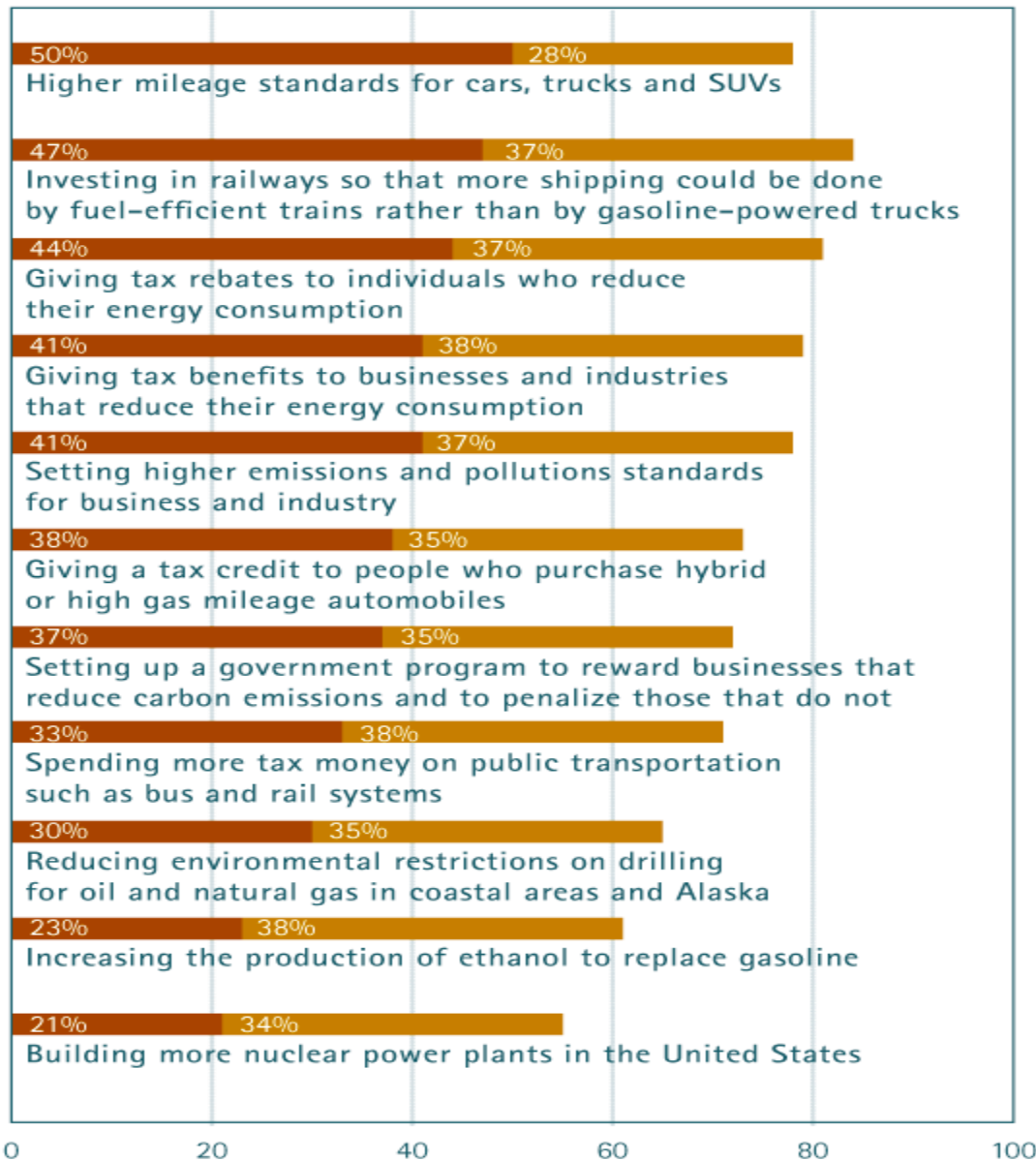
■ Somewhat agree



Many proposals receive high support, including ones that involve investing in alternative energy sources

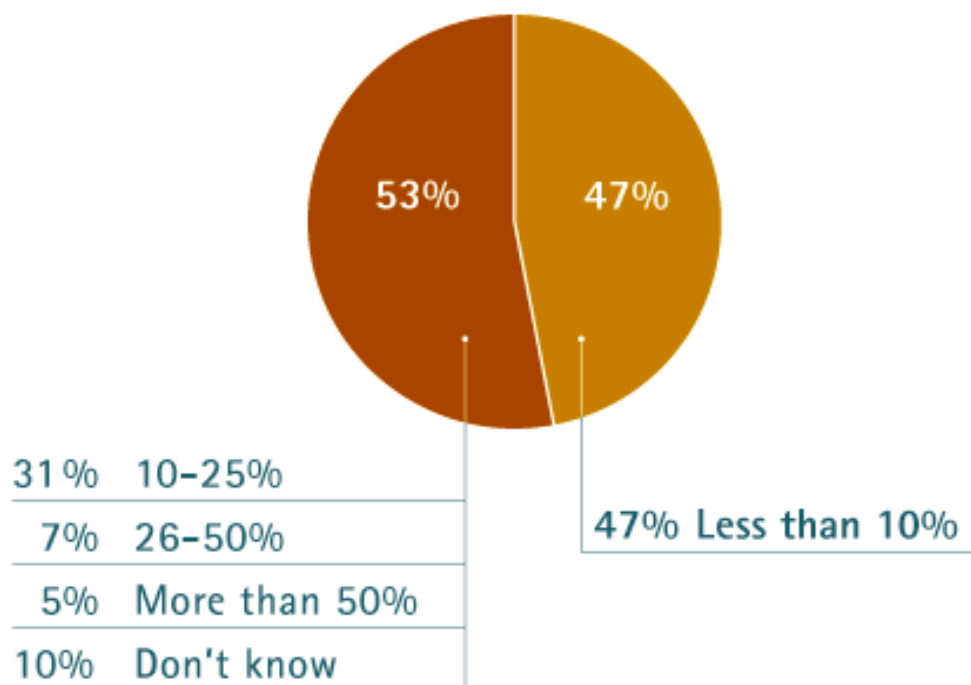
■ Do you favor or oppose the following energy-related proposals:

■ Strongly favor ■ Somewhat favor



More than half don't know that less than 10 percent of the United States' energy comes from renewable sources

Percent who say the percentage of the energy that the United States now uses comes from renewable sources is:



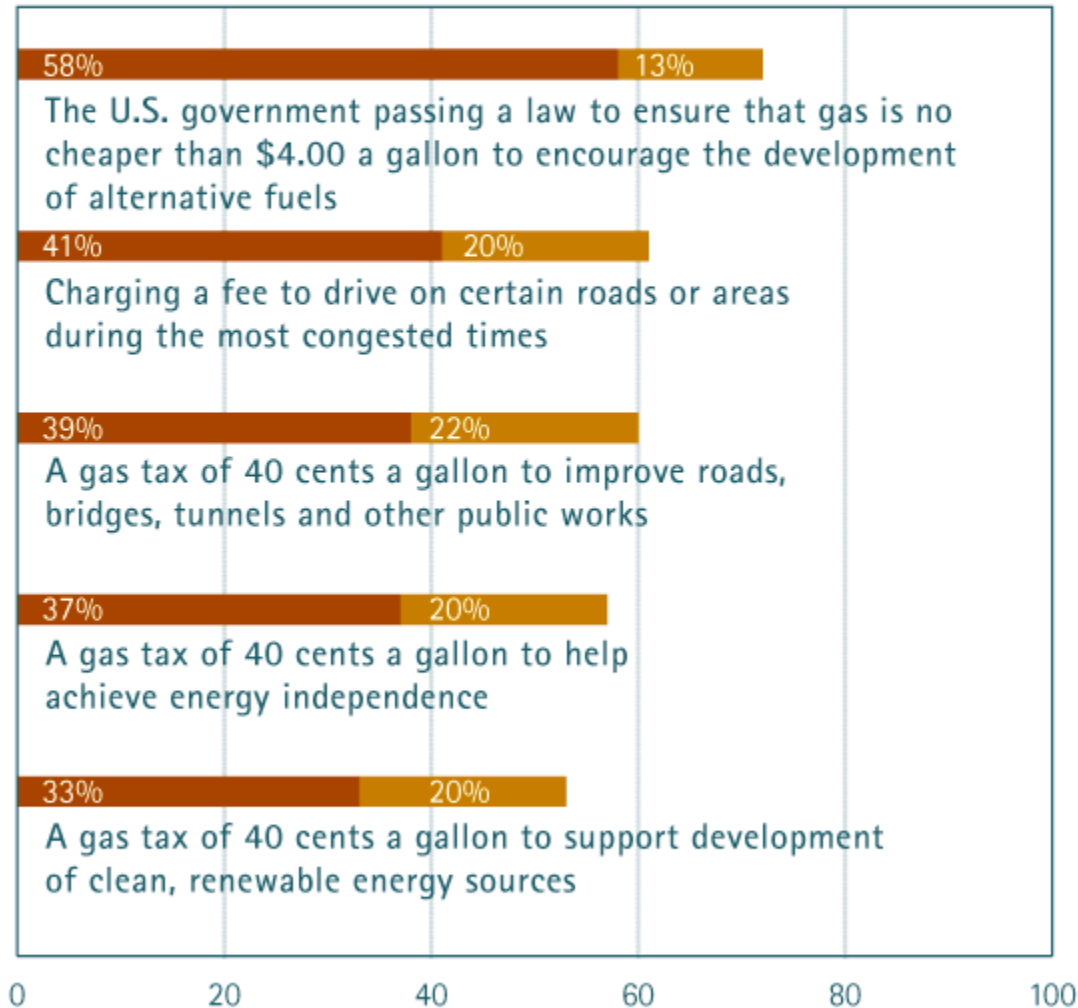
Solutions-Personal (willingness)

- Cut back on leisure driving Very 39% Somewhat 39%
- Have a 55 mph speed limit Very 37% Somewhat 27%
- $>1/2$ the time:
 - Carpool Very 32% Somewhat 23%
 - Use public transit Very 25% Somewhat 19%
 - Bike or walk Very 20% Somewhat 20%

...but they don't want to be forced to do so

Percent who oppose these energy-related proposals:

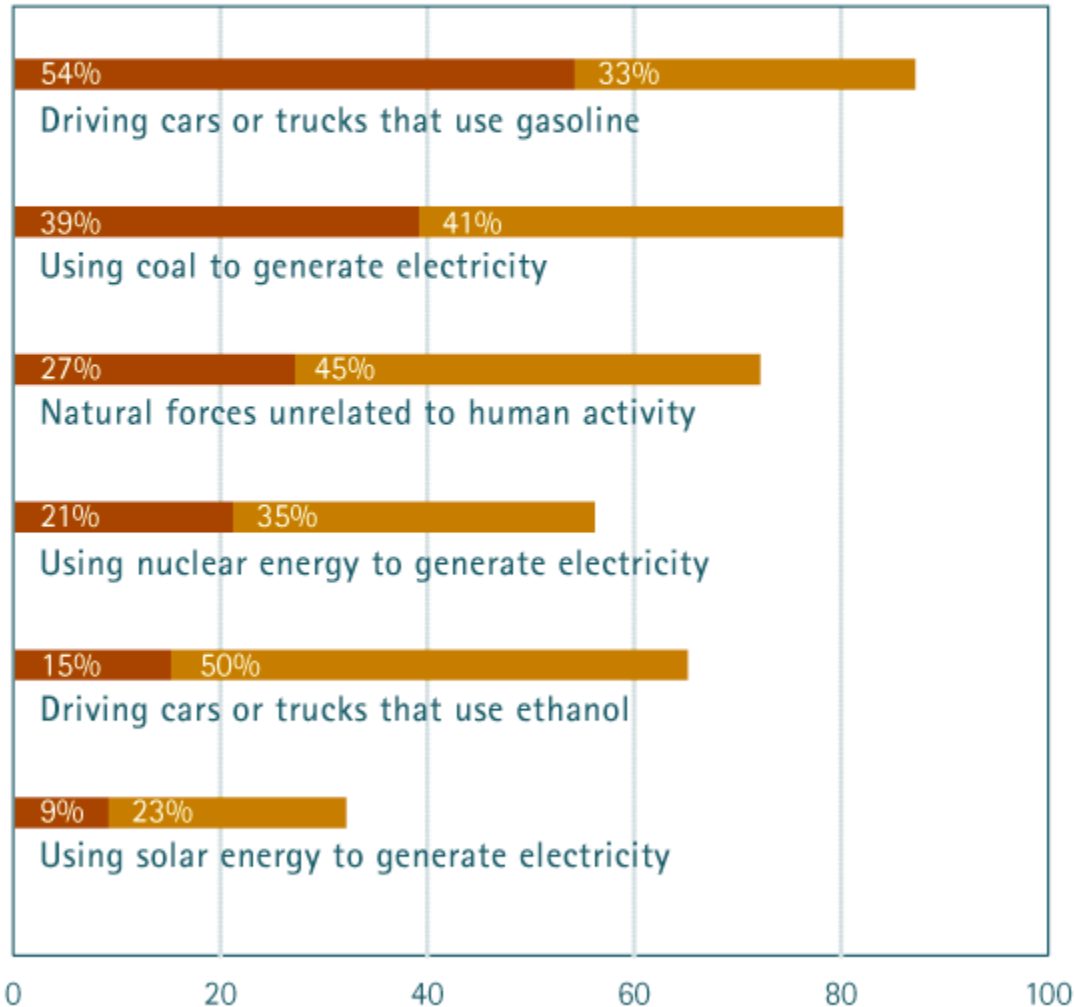
— Strongly oppose — Somewhat oppose



Many are unsure what causes global warming and what doesn't

Percent who say the following contributes to global warming a lot or a little:

■ A lot ■ A little



Major Public Attitude Groups

- Disengaged (19%): not connected to energy issue
- Climate Change Doubters (17%): reject idea
- The Anxious (40%): know enough to be worried (91% worry “a lot” about cost of electricity)
- The Greens (24%): worry about all elements of the energy problem

Common Ground?

- Both the Anxious and the Greens support alternative energy, but for entirely different reasons
- The Anxious believe with heavy investment alternative energy could be a major part of our energy consumption in 10 years or less (85%)
- The Greens believe we need to find alternative energy sources even if gas stays low (>90%, 77% strongly)