Energy Plan Choices Handout

Directions

You must meet the energy demands of the U.S. economy while at the same time keeping in mind the priorities you identified using the *Visual Ranking Tool*. To meet this demand, you must increase the energy supply by 13 quads of energy over the next 10 years. (A quad is a unit for measuring energy and is equal to a quadrillion BTUs.) You must choose a combination of the following proposals to reach this amount. This can be done by saving energy or producing additional BTUs.

For each of the following proposals, there are listed pros and cons that accompany the decision. Weigh them carefully, and then make your energy decision. If your group agrees to accept a proposal, write the appropriate number of quads produced in the space before the proposal number. Keep a running total of the quads you have produced. Remember, your final total must be at least 13. You may not alter the number of quads produced by each option. Remember, you are part of a team and your group must reach a consensus.

Energy Proposal Options Cards

1. Open up the Arctic National Wildlife Refuge (ANWR) for oil exploration and production. This will produce 1 quad of energy.

PROS	CONS
- ANWR can potentially increase American oil production. Survey estimates between 1.9 to 9.4 billion barrels* (BBO) of economically recoverable oil. - ANWR production could replace more than 70% of the oil imported from unstable regions. - Between 250,000 and 735,000 ANWR jobs are estimated to be created across the U.S. - Not as susceptible to natural disasters, such as hurricanes - Government revenues would be enhanced by billions of dollars: $4.7 billion in new state revenues and $4.1 in new federal revenues per year - More than 75% of Alaskans favor exploration and production in ANWR. Sources: http://arctic.fws.gov/issues1.htm	- Risk of environmental damage (such as Exxon Valdez incident) - Study concluded that oil exploration would have major effects on the Porcupine Caribou herd and muskoxen. Moderate effects were expected for wolves, wolverine, polar bears, snow geese, seabirds and shorebirds, arctic grayling and coastal fish - Result in continued American dependence on oil and oil products - 90% of Alaskan territories are already open for oil exploration. This area should be left untouched. - It is estimated that ANWR contains approx. a 9-month supply of oil for the entire U.S. Source: http://arctic.fws.gov/issues1.htm

2. Provide tax incentives to producers of American oil and natural gas. This is worth 1 ½ quads of energy.

PROS	CONS
- Will increase Americans use of own resources by helping with the high cost of oil extraction in our country (U.S. has already used its cheapest reserves, so the remainder of the oil must be pumped from deeper within the earth which costs more money) - Will keep the oil industry (one America's most powerful lobbies) satisfied -Will provide economic relief to depressed oil-producing states (LA, OK, TX, CA, AK)	- Will increase our nation's budget deficit by reducing taxes collected from oil companies. - Government may raise personal taxes to help pay for the subsidy - Will artificially tilt the market away from alternative energy resources (conservation and renewables) by artificially lowering the cost of oil

3. Continue aid and military protection to Middle Eastern and other oil-rich countries to ensure access to their cheap oil. This will produce 6 quads of energy.	
PROS	**CONS**
- Oil prices will be kept low - Inflation will be kept low (if energy is cheap, other goods remain cheap) - Will keep U.S. military interests happy - Will help the economy recover from recession more quickly http://www.imf.org/external/pubs/ft/med/2003/eng/okogu/okogu.htm	- Continued dependence on Middle East and other politically unstable nations - Keeps defense spending high (money that could aid the domestic economy) - Discourages energy efficiency because oil is cheap - Oil prices could still rise for other reasons http://www.fueleconomy.gov/feg/oildep.shtml

4. Provide technical assistance to the oil and gas industries of the former Soviet Union. This will produce 2 quads of energy.	
PROS	**CONS**
- Keep world oil prices low (The former Soviet Union was once the world's largest single producer of oil, but production has declined more than 30% since 1988. Currently still one of the major producers of oil—ranked #2 behind Saudi Arabia in 2004.) - Will help stabilize the economies of Russia and other new nations - Will provide new opportunities for American oil companies - Provides an alternative to oil from the Middle East www.gravmag.com/oil.html	- Billions of dollars in aid would be necessary - High risk of failure because of possible political instability - In the long run, Russia and other new countries will benefit the most from our tax dollars - There are other countries that have more potential for reserves. - Private oil companies should make their own deals, rather than use U.S. tax dollars

5. Change government regulations to increase imports of Canadian natural gas. This will produce 1 quad of energy and less pollution.	
PROS	**CONS**
- Natural gas is cleaner and cheaper than other fuels (this means lower gas bills for American consumers) - Natural gas is a very safe and stable supply - A new source of natural gas in coal bed seams could double Canada's production—and their export to the U.S. http://www.engineering.ualberta.ca/nav02.cfm?nav02=30452&nav01=18430 http://www.energybulletin.net/358.html http://www.energy.gov.ab.ca/222.asp	- Creates competition for American gas and oil companies (this will cost jobs) - Canada's export of natural gas to the United States grew steadily between 1986 and 2002, reflecting an average annual growth rate of 10.7 percent. U.S. imports of Canadian gas declined from 2002 to 2003 because of declining Canadian production and increased Canadian end-use demand.

6. Remove regulations on the natural gas industry to stimulate competition among natural gas producers. This will produce 1 quad of energy.	
PROS	**CONS**

- If competition works, gas prices will be cheaper - Lower prices will encourage people to switch to clean-burning natural gas http://www.citizenpower.com/GasChoice/ http://www.liheap.ncat.org/dereg/gasoview.htm	- Removing regulations on natural gas could lead to a monopoly situation which would raise prices

7. Provide additional support for clean coal technologies and encourage production and use of coal. This will produce 4 quads of energy.	
PROS	**CONS**
- Coal is America's most abundant fuel (America has enough coal to last 200 years) - Will create thousands of jobs in the Appalachia region (KY, WV, TN, OH, PA) and, at an average salary of $50,000 per year, coal miners are among the highest paid industrial workers in America. - Coal is cheap (On average, coal energy is about one-quarter the cost of natural gas-fired generation) - scientists have developed new filters that can remove 99% of the smoke particles and 95% of the carbon dioxide released from the burning of coal - $1 billion dollar project is intended to create the world's first zero-emissions fossil fuel plant. When operational, the prototype will be the cleanest fossil fuel fired power plant in the world. http://www.eia.doe.gov/kids/energyfacts/sources/non-renewable/coal.html http://www.careenergy.com/powering_life/coal-energy.asp http://www.fossil.energy.gov/programs/powersystems/futuregen/	- Government spending to develop this technology would be large. Costs are estimated in tens of millions of dollars. - Current clean coal methods still pollute (this will increase acid rain, global warming, and smog) - Traditional mining is very damaging to the environment - Coal is a non-renewable resource so we shouldn't spend a lot of time and money on developing a resource that is going to run out. http://www.darvill.clara.net/altenerg/fossil.htm

8. Simplify the process for nuclear power plant approval and construction as well as fund research for safe reactors. This will produce 2 quads of energy.	
PROS	**CONS**
- Will increase our energy security by decreasing our dependence on foreign oil - There will be very low pollution levels (help reduce acid rain, smog, and global warming) - nuclear power plants in the U.S. prevent about as much greenhouse gas emissions as taking 5 billion cars off our streets and highways - Creates jobs and utilizes American expertise - Vast amounts of energy are produced from small amounts of fuel [the fission of 1 pound of uranium releases more energy than the burning of 3 million pounds (1,500 tons) of coal.] - Nuclear energy is America's second largest source of electric power after coal - Cheaper source of energy - Since 1973, they have saved American consumers approximately $44 billion, compared to the other fuels that would have been used to make electricity http://www.eia.doe.gov/kids/energyfacts/sources/non-renewable/nuclear.html	- Danger of nuclear accidents - There is no accepted method for permanently storing radioactive waste - The public does not support nuclear energy http://en.wikipedia.org/wiki/Nuclear_power

9. Raise building code standards for energy efficiency in buildings, appliances, machines, etc. This will produce 4 quads of energy.	
PROS	**CONS**
- Reduces energy waste - Cheapest way to produce energy (remember, saving a unit of energy is as good as producing a unit of energy) - Reduces our need for foreign supplies of energy - Better for the environment because less fuel is burned http://www.wapa.gov/es/pubs/esb/2003/03Feb/esb021.htm	- Raises the prices American pay for energy-using products (for example, ex: refrigerator prices may go up by 25 percent) - May cause some inflation - May hurt established industries such as oil, coal, etc., as well as small businesses

10. Give aid to producers of renewable or alternative energy (wind, solar, hydro, geothermal) to encourage use by consumer. This will produce 2 quads of energy.	
PROS	**CONS**
- Renewable energy is unlimited - Environmentally safe in comparison with other energy resources - Many technologies are pollution-free - Makes America less dependent on foreign oil - Stimulating a new industry creates more jobs http://www.ecoworld.org/energy/EcoWorld_Energy_Overview1.cfm http://en.wikipedia.org/wiki/Alternative_energy#Renewable_energy	- Costly for consumers, would raise electricity bills in foreseeable future - high levels of capital investment needed to develop renewable energy - May slow America's economic growth - Some environmental concerns (dams used to produce hydropower power can cause damage to the surrounding ecosystems; windmills can impact bird, bat and other wildlife populations; CO2 and H2S emissions are released from geothermal plants.) - Not currently realistic for large-scale production (e.g., windmills not yet very practical since they require strong and constant winds; solar collectors very expensive)

11. Provide incentives to meet the goal that 10 percent of all cars sold by 2015 are electric or hybrid cars. This will produce ½ quad of energy.	
PROS	**CONS**
- Reduce urban smog and certain other pollutants - More energy efficient http://www.hybridcars.com/sales-numbers.html http://www.hybridcars.com/faq.html	- Higher initial costs, as well as possible higher maintenance - Limited performance (for example, ex: limited traveling range) - Battery disposal may become a solid waste issue - Perceived by many as not attractive models http://www.cnet.com/4520-6033_1-6224487-1.html

12. Implement a mandatory recycling program for businesses and homes. This will produce 1 quad of energy.	
PROS	**CONS**

- Would reduce waste of resources - Would reduce energy consumption since making recycled products uses less energy than making an original product - Would help preserve the environment http://www.recyclingtoday.com/categories/detail.asp?SubCatID=42&CatID=11	- Enforcement and administrative costs could be high - This represents government interference in people's lives - Adds cost to products.

13. Push standards for auto mileage from 26 miles per gallon (mpg) to 31 mpg. This will produce 1 quad of energy.	
PROS	**CONS**
- Would reduce America's fuel use (this would decrease our dependence on foreign oil) - Would help make our air cleaner, especially in cities - Might make American cars more attractive to consumers in other countries where gasoline prices are very high http://www.nap.edu/openbook.php?isbn=0309076013	- Almost all cars and trucks would become slightly more expensive - Would be strongly opposed by the auto industry - Would require new investments in production by car manufacturers - Lighter cars would result in higher rates of fatalities.

14. Gradually implement a gas tax of 25¢ per gallon. This will produce ½ quad of energy.	
PROS	**CONS**
- Would encourage production of cars with higher mileage per gallon - Would be a major source of revenue for the government (help decrease the budget deficit) - Would encourage conservation and public transportation	- Would increase gas prices for consumers - Would increase costs of products because of increased transportation costs - Would hurt oil companies by reducing sales - Would encourage businesses to move to countries with lower-priced fuel - Would discriminate against people in rural areas and those without access to public transportation - Would slow the economy http://www.heritage.org/Research/Taxes/wm451.cfm

15. Implement transport planning for urban areas. This would include funding for economic and technical research for various public transportation: mass transit systems (buses and subways), development of infrastructures for mass transit, promoting carpooling, bicycling, etc. This will produce 2 quads of energy.	
PROS	**CONS**
- Would reduce fuel use and pollution from cars - Would relieve traffic congestion in urban areas - Provide better access to cities for those unable to afford cars - Most likely would cost less than upkeep and fuel for personal cars	- Would increase government spending - Would require Americans to change their lifestyles, so it's possible that it would not be used (waste of money) - Current public transportation is not efficiently used www.rppi.org/transitwaste.html http://www.swedetrack.com/eflwa03.htm