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ABSTRACT

This is the student guide in a set of five computer-oriented environmental/energy education units. Contents of this guide present: (1) the three gasoline consumption-reducing options for which attitudes are to be explored; (2) exercises; and (3) appendices including an energy attitudes survey. (MR)

STUDENT GUIDE

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Prospective users of this manual are urged to first run the sample simulation program provided in order to determine any needed or desirable adjustments prior to use.

September 1975

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ORIENTATION TO GAS CONSUMPTION, THE ENERGY CRISIS AND PUBLIC ATTITUDES

Background

In his 1975 State of the Union Address, President Ford outlined his plan for dealing with the energy crisis. In this speech, part of which is printed in Appendix A, the President appears to believe that the energy crisis is a serious problem since "the economic disruption we and others are experiencing stems in part from the fact that the world price of petroleum has quadrupled in the last year." He believes that the cause of this rise in price is our growing dependence on foreign oil, which makes us vulnerable to embargoes and price increases imposed by the Arab oil cartel. The President's goal is to reduce our dependence on foreign oil. In order to achieve his goal, President Ford has developed an energy plan that involves achieving two subgoals. A subgoal is a goal that, when achieved, helps us achieve another goal, e.g., earning money is a subgoal to the goal of buying a car--achieving the goal of earning money helps us achieve the goal of buying a car. The President's subgoals are (1) increasing our production of domestic fuels and (2) reducing our consumption of fuel, especially gasoline. In this unit we will concentrate on the second subgoal: reducing our consumption of fuel (gasoline) in order to reduce our dependence on foreign oil.

Reducing the Consumption of Gasoline

The most controversial part of the President's plan is his approach to reducing the consumption of gasoline. Three main approaches or options for reducing our consumption of gasoline have been suggested.

Option 1

To increase the price of gasoline by tariffs and deregulation.

This option is the approach favored by the President. It involves imposing tariffs or taxes on all crude oil and natural gas and deregulating the price of domestic crude oil and natural gas. The increase in fuel price produced by these measures would first be passed on to the primary consumers of fuel--to the oil companies, electrical utilities, and industry. The price increases would then be passed on to individual citizens in the form of higher prices for the products of the primary consumers--gasoline, fuel oil, natural gas, electricity, and the goods and services produced by industry.

These higher prices would mean a 2% increase in the inflation rate, as estimated by the President's advisors, but higher prices would reduce the consumption of gasoline and other fuels, because higher prices would force people to buy (and thus consume) less. The higher prices would not be deductible from federal income tax.

Another effect of higher prices would be increased profits for oil companies. President Ford believes that this will enable the oil companies to expand their exploration for new oil sources, to expand their fuel production capacity, and to develop alternatives, such as geothermal energy, oil shale and coal gasification.

Option 2

Increase the price of gasoline by direct gasoline taxes.

This option was rejected by President Ford, but is favored by many Democrats in Congress. Rather than imposing a tax on all fuel which is passed on to individual citizens through higher prices for goods and services produced by primary consumers, it involves imposing a tax on gasoline which would be paid directly by the individual citizen as he or she buys gasoline in a service station.

Since the price increase would be restricted to gasoline rather than applying to all of the goods and services produced by primary consumers, the increase in the rate of inflation would be lower than with Option 1. Also, direct gasoline taxes are deductible from federal income tax.

In addition, direct gasoline taxes would not increase oil company profits, since the taxes would be paid to the federal government. Because of this, there would presumably be no incentive for oil companies to produce more fuel by increased exploration, expanding production capacity, or developing new energy sources. Of course, the federal government could support these activities, but this would mean new taxes or a drastic revision of federal spending priorities.

Option 3

Reduce the supply of gasoline by rationing or allocation.

This option, which is favored by some members of the Congress, reduces the consumption of gasoline by reducing the supply (you obviously can't consume what you don't have). There are two ways to reduce the supply of gasoline: by rationing and by allocation. With rationing, individual citizens are allowed to purchase a limited amount of gasoline, say 10 gallons per week. The rationing would be administered by the federal government and, according to the President's advisors, would require a bureaucracy of 17,000 persons and $40 billion a year. With allocation, the service stations in each geographical area of the country would be supplied with a certain number of gallons of gasoline each month. When a station sells its supply, it can sell no more until the next month. This leads to reducing the number of hours gasoline is sold each day and the number of days gasoline is sold each week.* This in

* During the Arab oil embargo of the winter of 1973-1974, the most common method for restricting gasoline sales was "odd-even rationing." With this method, people could buy gasoline only on odd-numbered or even-numbered days depending on whether the last number on their license plates was odd or even.

turn leads to long lines at gasoline stations and an inconvenience for individual citizens.

Rationing or allocation would not cause an increase in the profits of oil companies. Like Option 2, then, Option 3 would produce no incentive for the production of more fuel.

Attitudes of the Public

When our Government makes decisions on solutions to the energy crisis, those decisions must depend, to a large extent, on the attitudes of the American public. The government is acting for the people and must, in general, carry out the wishes of the people.

This unit deals with public attitudes toward President Ford's energy goals and options. As a basis for your study of these attitudes, we have gathered questions asked of the public by two of America's foremost public opinion researchers, George Gallup and Louis Harris, and categorized them according to their relevance to the various assumptions, goals, and options. The questions and categories are shown in Table 1 on the next page.

Through the exercises in the next section of this Guide, you will have the opportunity to examine and express your own attitudes toward various possible solutions to our energy problems, to propose your own solutions, and to examine the attitudes of your classmates, teachers, parents, neighbors, and friends toward the energy crises and possible solutions to that crises.

TABLE 1

QUESTIONS ON ENERGY ASSUMPTIONS, GOALS AND OPTIONS

(BASIC ASSUMPTION: The energy crisis is a serious problem.)

QUESTIONS ON GOAL: REDUCE DEPENDENCE ON IMPORTED OIL

Poll	Question
Harris	Question on the basic assumption--The energy crisis is a serious problem.
Harris	In the dispute between Israel and the Arabs, which side do you sympathize with more--Israel or the Arabs?
Harris	We need Arab oil for our gasoline here at home, so we had better find ways to get along with the Arabs even if that means supporting Israel less.
Harris	If we yield to Arab restrictions over oil now, we will soon find the Arabs dictating much of U.S. foreign policy, and that is wrong.
Harris	Do you favor a takeover and internationalization of the Arab oil fields by the oil-consuming nations?
Harris	Do you favor a cutback in oil imports from abroad, even if it means going to an odd-even day rationing of gasoline?

QUESTIONS ON SUBGOAL: REDUCE THE CONSUMPTION OF GASOLINE

Poll	Question
Gallup	If you travel to work, what means do you use to get to work--car, train, bus, walk, other?
Gallup	Suppose you had no automobile, how would you then get to work--by train, bus, walk, or how?
Gallup	Suppose you had to reduce the number of miles you drive by 1/4. How difficult would it be for you to meet this requirement--very difficult, fairly difficult, or not at all difficult?

QUESTIONS ON OPTION 1: INCREASE THE PRICE OF GASOLINE BY TARIFFS

Poll	Question
Gallup	If the price of gasoline goes up 10¢ a gallon, do you believe you will cut down your driving?
Gallup	If yes, will you cut down your driving a great deal, some or only a little?
Harris	One way to cut oil imports into this country is to increase the tariff, or tax, on all oil brought into the U.S. from foreign sources. This would raise gasoline prices and discourage people from using as much gasoline. Would you favor or oppose such an increase in the tariff, or tax, on oil imported from abroad?

QUESTIONS ON OPTION 2: INCREASE THE PRICE OF GASOLINE BY A DIRECT (AT-THE-PUMP) GASOLINE TAX

Poll	Question
Harris	In order to conserve oil, would you favor or oppose a 10¢ tax on gasoline, which would be deductible from your Federal Income Tax, if this would help us become less dependent on Arab oil?
Harris	In order to conserve oil, would you prefer a 10¢-a-gallon increase in the gasoline tax, which would be deductible from your Federal Income Tax, or an 11¢-a-gallon rise in the cost of gasoline and fuel oil as a result of the tariff on imported oil from abroad?
Harris	In order to conserve oil, would you prefer a 20¢-a-gallon increase in the gasoline tax, which would be deductible from your Federal Income Tax, or an 11¢-a-gallon rise in the cost of gasoline and fuel oil as a result of the tariff on imported oil from abroad?

QUESTIONS ON OPTION 3: REDUCE THE SUPPLY OF GASOLINE BY RATIONING OR ALLOCATION

Poll	Question
Harris	In order to conserve oil, would you have mandatory gasoline rationing on an odd-even basis with no increase in the price of gasoline, or no rationing but an 11¢-a-gallon rise in the price of gasoline and fuel oil as a result of the tariff on imported oil from abroad?
Gallup	President Ford says America must reduce its use of gasoline. In order to accomplish this, which would you prefer--the President's plan to impose taxes that would result in higher gas prices, or a nationwide rationing program?

EXERCISES

1. a. In Appendix A there is an "Energy Attitudes Data" sheet that includes the same items as are in Table 1. Use this "Data Sheet" to record your attitude toward each item by marking one of the responses to each item.

   There are some questions about driving a car and transportation to work. For those questions either imagine that you have a car and a full-time job or answer as you think your parents would.

   b. You can now use a computer program to enter your answers into the memory of the computer. The name of the program is ATITUD. At the beginning the ATITUD program will ask you if you want to answer questions or retrieve answers--like this:

```
DO YOU WANT TO ANSWER QUESTIONS OR SEE RESULTS?
        1 = ANSWER QUESTIONS
        2 = SEE RESULTS
?
```

   Respond by entering a 1. Then, ATITUD will print out all the same questions as are on the "Data Sheet." Enter the answers you marked on the "Data Sheet." The computer will save all your answers and those of your classmates.

2. a. At this point, the computer has stored your responses and those of your classmate to the attitude questions. The computer also has stored responses to those same questions by a sample of the American public. Those responses were gathered by the Gallup and Harris polls. You or your teacher can now retrieve the responses of your class as well as the responses of the public gathered by the Gallup and Harris polls. To do that, run program ATITUD again. This time enter a 2 when you are asked if you want to answer questions or see the results. The computer will then print a list of the questions along with the responses gathered through the Gallup and Harris polls and a summary of your class responses.

   b. On the printout showing the poll responses and the responses of your class, mark you own responses as shown in the example below where the "X" respresents your response.

THE ENERGY CRISIS IS A SERIOUS PROBLEM.

	HARRIS JAN 1975	HARRIS JULY 1974	FILE DATA	
AGREE	84	67	73	X
DISAGREE OR NOT SURE	16	34	27	

30 PEOPLE HAVE RESPONDED

Now, look at your responses and compare them to the poll responses and the responses of your classmates (labeled "file data"). Pick out the items where your response is different than the majority of the respondents to the polls and/or your class as a whole. For those items where your response does not agree with the majority, write a statement telling why you feel as you do.

3. a. In this exercise you are going to take a poll of your own. Choose at least 10 people--teachers, friends not taking this class with you, parents, relatives, neighbors, etc.--to participate in your poll. Ask those people the same questions that you, your classmates, and the people who participated in the Harris and Gallup polls responded to. Record their responses. When you finish gathering their responses compute the percentage of people that chose each response to each question (computer programmers see Exercise 4). Record those percents on the computer printout from Exercise 2b.

   b. Compare the responses to your poll with the responses to the Harris and Gallup polls and the responses of your classmates. On what items do the people you polled disagree with your classmates and/or the Harris and Gallup people? Why do you suppose they disagree on those items?

4. (Optional for Programmers)

   Write a computer program which will enable you to enter the responses to your poll and which will then calculate and print the percentage of persons choosing each response.

5. In the "Background" section of this Guide, three options for reducing the consumption of gasoline were listed:

   Option 1: Increase the price of gasoline by tariffs and deregulation.

   Option 2: Increase the price of gasoline by direct gasoline taxes

   Option 3: Reduce the supply of gasoline by rationing or allocation.

   List the advantages and disadvantages of each of those three options.

6. The three options proposed for reducing gasoline consumption involve major measures which should have immediate effect on the consumption of gasoline. There are also a number of other things that could be done to reduce gasoline consumption, either immediately or in the long run. One example is the establishment of the nationwide automobile speed limit of 55 miles per hour.

List other things that the government could do to reduce the consumption of gasoline. Do not limit the list to things you think the government should do--that is, the things you are in favor of the government's doing. Instead, list all the things you can think of that it could do--that is, all the possible things that could reduce gasoline consumption.

7. In Appendix B is a list of "Actions the Government Could Take In Order to Reduce the Gasoline Consumption." Compare the list you made for Exercise 6 with the list in Appendix B. Check the items in the Appendix B list that you have also listed. At the end of the Appendix B list, under "other," list items that you included in your list for Exercise 6 but which are not included in the Appendix B list.

8. In Appendix C is a "Questionnaire on Attitudes Toward Methods of Reducing Gasoline Consumption." Use this Questionnaire form to record your attitude by marking the response you chose in the first column beside each item. At the end of the list, add your "other" methods of conserving gasoline from Exercises 6 and 7.

9. Different people will have different attitudes toward methods of conserving gasoline. For example, a poor person would probably favor rationing gas rather than raising prices while a wealthy person might favor raising prices rather than rationing. Four of the columns to the right of the statements in Appendix C are headed Wealthy, Poor, Auto Manufacturers, Gasoline Companies. Now, for each item listed on the questionnaire mark (in the correct column) the attitude you think each of those groups would have.

10. For this exercise pretend that you are a member of Congress and must vote for or against various proposals to conserve gasoline. The methods of reducing gasoline consumption listed in the questionnaire in Appendix C are being proposed in Congress.

a. Before you vote you want to know the attitudes of the people you represent toward the various gasoline saving methods. Pretend that your friends, relatives and neighbors are the people you represent. Poll at least 10 of those people by having them respond to the items on the questionnaire in Appendix C. Convert their responses to percents and record those percents in the column headed "Poll" on the Appendix C questionnaire.

b. Now, as a member of Congress you must vote on each method. Record your vote in the last column of the Appendix C questionnaire. In casting your vote consider your own personal feelings, the feelings of the people you represent as determined by your poll, and, if you wish, the feelings of the wealthy, poor, etc., as recorded in the other columns.

APPENDIX A

ENERGY ATTITUDES DATA SHEET

ENERGY ATTITUDES DATA SHEET

A. The Energy Crisis is a serious problem?

_____(1) Agree

_____(2) Disagree

_____(3) Not Sure

B. In the dispute between Israel and the Arabs, which side do you sympathize with more?

_____(1) Israel

_____(2) Arabs

_____(3) Neither

_____(4) Both

_____(5) Not Sure

C. We need Arab oil for our gasoline here at home, so we had better find ways to get along with the Arabs even if that means supporting Israel less.

_____(1) Agree

_____(2) Disagree

_____(3) Not Sure

D. If we yield to Arab restrictions over oil now, we will soon find the Arabs dictating much of U.S. foreign policy, and that is wrong.

_____(1) Agree

_____(2) Disagree

_____(3) Not Sure

E. Do you favor a takeover and internationalization of the Arab oil fields by the oil-consuming nations?

_____(1) Yes

_____(2) No

F. Do you favor a cutback in oil imports from abroad, even if it means going to an odd-even day rationing of gasoline?

_____(1) Yes

_____(2) No

_____(3) Not Sure

G. If you travel to work, what means do you use to get to work?

_____(1) Car

_____(2) Bus

_____(3) Walk

_____(4) Train

_____(5) Other

H. Suppose you had no automobile, how would you then get to work?

_____(1) Bus

_____(2) Walk

_____(3) Bike

_____(4) Train

_____(5) Other

_____(6) Nothing

I. Suppose you had to reduce the number of miles you drive by one-fourth. How difficult would it be for you to meet this requirement?

_____(1) Very Difficult

_____(2) Fairly Difficult

_____(3) Not at all Difficult

_____(4) Not Sure

J. If the price of gasoline goes up 10¢ a gallon, do you believe you will cut down your driving?

_____(1) Yes

_____(2) No

K. If the price of gasoline goes up 10¢ a gallon, and you do believe you will cut down your driving, will you cut your driving down:

_____(1) A great deal

_____(2) Some

_____(3) A little

L. One way to cut oil imports into this country is to increase the tariff, or tax, on all oil brought into the U.S. from foreign sources. This would raise gasoline prices and discourage people from using as much gasoline. Would you favor or oppose such an increase in the tariff, or tax, on oil imported from abroad?

_____(1) Favor

_____(2) Oppose

M. In order to conserve oil, would you favor or oppose a 10¢ tax on gasoline, which would be deductible from your Federal Income Tax, if this would help us become less dependent on Arab oil?

_____(1) Favor

_____(2) Oppose

_____(3) Not Sure

N. In order to conserve oil, would you prefer a 10¢-a-gallon increase in the gasoline tax, which would be deductible from your Federal Income Tax, or an 11¢-a-gallon rise in the cost of gasoline and fuel oil as a result of the tariff on imported oil from abroad?

_____(1) Prefer 10¢ Tax

_____(2) Prefer Import Tax

_____(3) Not Sure

O. In order to conserve oil, would you prefer a 20¢-a-gallon increase in the gasoline tax, which would be deductible from your Federal Income Tax, or an 11¢-a-gallon rise in the cost of gasoline and fuel oil as a result of the tariff on imported oil from abroad?

_____(1) Prefer 20¢ Tax

_____(2) Prefer Import Tax

_____(3) Not Sure

P. In order to conserve oil, would you have mandatory gasoline rationing on an odd-even basis with no increase in the price of gasoline, or no rationing but an 11¢-a-gallon rise in the price of gasoline and fuel oil as a result of the tariff on imported oil from abroad?

_____(1) Rationing

_____(2) Prefer Import Tax

_____(3) Not Sure

Q. President Ford says America must reduce its use of gasoline. In order to accomplish this, which would you prefer--the President's plan to impose taxes that would result in higher gas prices, or a nationwide rationing program?

_____(1) Taxes

_____(2) Rationing

APPENDIX B

ACTIONS THE GOVERNMENT COULD TAKE IN ORDER TO REDUCE GASOLINE CONSUMPTION

ACTIONS THE GOVERNMENT COULD TAKE IN ORDER TO REDUCE GASOLINE CONSUMPTION

1. Increase the price of gasoline by tariffs and deregulation.
2. Increase the price of gasoline by direct gasoline taxes.
3. Ration the amount of gasoline customers can purchase.
4. Limit the amount of gasoline stations can sell.
5. Put a speed limit on motor vehicles.
6. Lift the automobile pollution standards so that they can operate more efficiently.
7. Provide government support for mass transit so that more people will ride buses and trains rather than automobiles.
8. Require automobile manufacturers to manufacture and sell only automobiles that will get a certain number of miles per gallon.
9. Limit the size of cars that can be manufactured and sold.
10. Reduce the military use of gasoline.
11. Place a high tax on large automobiles.
12. Limit the number of cars each family can own.
13. Control the use of automobiles by making driving for pleasure, driving to work with only one person in the car, etc., illegal.
14. Outlaw automobiles completely.
15. Stop building new highways.
16. Support the development, manufacture and sale of automobiles that run on electricity or some fuel other than gasoline.

17. Conduct an intensive advertising campaign urging people to conserve gasoline by purchasing smaller cars and driving less.

18. Limit the amount of gasoline that can be used in motor boats and private airplanes.

19. Prohibit the use of power lawnmowers, chain saws, and other similar tools that run on gasoline.

20. Prohibit transportation of goods by truck.

21. Reduce the amount of gasoline available to run tractors and other farm machinery.

Others:

22.

23.

24.

25.

26.

27.

28.

29.

30.

APPENDIX C

QUESTIONNAIRE ON ATTITUDES TOWARD METHODS OF REDUCING GASOLINE CONSUMPTION

QUESTIONNAIRE ON ATTITUDES TOWARD
METHODS OF REDUCING GASOLINE CONSUMPTION

In order to reduce the consumption of gasoline the government should:	You	Wealthy	Poor	Auto Manufacturer	Gasoline Company	Poll	Your Vote As Congressman
1. Increase the price of gasoline by tariffs and deregulation.							
Agree							
Disagree							
2. Increase the price of gasoline by direct gasoline taxes.							
Agree							
Disagree							
3. Ration the amount of gasoline customers can purchase.							
Agree							
Disagree							
4. Limit the amount of gasoline stations can sell							
Agree							
Disagree							

In order to reduce the consumption of gasoline the government should:	You	Wealthy	Poor	Auto Manufacturer	Gasoline Company	Poll	Your Vote As Congressman
5. Limit the speed at which vehicles can travel. Agree Disagree							
6. If you agree that speed should be limited, what speed limit would you choose? 35 mph 45 mph 55 mph 65 mph 75 mph							
6. Remove the automobile pollution standards. Agree Disagree							
7. Provide government support for mass transit. Agree Disagree							

In order to reduce the consumption of gasoline the government should:	You	Wealthy	Poor	Auto Manufacturer	Gasoline Company	Poll	Your Vote As Congressman
8. Require automobile manufacturers to manufacture and sell only automobiles that will get a certain number of miles per gallon. Agree Disagree If you agree, what would be your choice for the minimum miles per gallon? 15 20 25 30 35							
9. Limit the size of cars that can be manufactured and sold. Agree Disagree							

In order to reduce the consumption of gasoline the government should:	You	Wealthy	Poor	Auto Manufacturer	Gasoline Company	Poll	Your Vote As Congressman
10. Reduce the military use of gasoline							
Agree							
Disagree							
If you agree, what percent reduction would you favor?							
5%							
10%							
25%							
50%							
100%							
11. Place a high tax on automobiles.							
Agree							
Disagree							
12. Limit the number of cars each family can own							
Agree							
Disagree							

In order to reduce the consumption of gasoline the government should:	You	Wealthy	Poor	Auto Manufacturer	Gasoline Company	Poll	Your Vote As Congressman
12. continued If you agree, what would the limit be? One Two							
13. Control the use of automobiles by making driving for pleasure, driving to work with only one person in the car, etc., illegal. Agree Disagree							
14. Outlaw automobiles completely. Agree Disagree							
15. Stop building new highways. Agree Disagree							

In order to reduce the consumption of gasoline the government should:	You	Wealthy	Poor	Auto Manufacturer	Gasoline Company	Poll	Your Vote As Congressman
16. Support the development, manufacture, and sale of automobiles that run on electricity. Agree Disagree							
17. Conduct an intensive advertising campaign urging people to conserve gasoline by buying smaller cars and driving less. Agree Disagree							
18. Limit the amount of gasoline that can be used in motor boats and private planes. Agree Disagree							
19. Prohibit the use of gasoline motor driven lawnmowers, chains saws, etc. Agree Disagree							

In order to reduce the consumption of gasoline the government should:	You	Wealthy	Poor	Auto Manufacturer	Gasoline Company	Poll	Your Vote As Congressman
20. Prohibit transportation of goods by truck. Agree Disagree							
21. Other:							