

MEETING FUTURE ENERGY NEEDS

NAME _____



Part 1: ENERGY MOSAIC CARDS

By 2050, the world population could reach 9 billion people. That's like adding another China or another India to the world between now and then!	By 2050, the number of cars around the world could triple and the number of trucks could double.	The standard of living for millions of people in places like China and India is improving and their new infrastructures and economic growth will require much more energy.
We are depleting the planet's finite stores of fossil fuels millions of times faster than they are formed, a situation that cannot continue indefinitely.	Demand for energy will rise at a rapid rate. By 2050, three out of every four people will live in cities. Cities are responsible for 80% of all CO ₂ emissions.	Many uses of fossil fuels, as well as their extraction from the earth, contribute to air pollution and can cause damage to our health and the environment.
The world will need to produce more than 40 million barrels of oil a day by 2020 from fields that haven't even been developed yet.	In today's cities, more than half of primary energy ends up as waste. And the biggest areas of waste are in transport and power generation.	We are currently highly dependent on nonrenewable fossil fuels for most of our energy supply.
The combustion of fossil fuels releases carbon dioxide into the atmosphere. Many climate scientists believe that the buildup of those gases is the primary cause of global warming.	Biofuels, like ethanol and biodiesel, are considered the most realistic commercial solution to reduce carbon emissions from the road transport sector over the next twenty years. By 2030 biofuels combined with conventional fuels could account for as much as 9% of the world's transport fuel mix.	The United States, with less than 5% of the world's population, is home to one-third of the world's auto-mobiles. Over the next 20 years, the total number of miles driven by Americans is forecasted to grow by 40%.
Worldwide, CO ₂ emissions are projected to increase substantially, primarily as a result of increased development like in China and India.	The U.S. is dependent on foreign sources for fifty percent of our petroleum supplies. As a result, access to some critical current energy sources is beyond our control.	Natural gas is plentiful and accessible in North America. Because it is cleaner burning than other fossil fuels, it represents a step forward from an environmental perspective.
Global energy demand could double by the middle of the century.	It is estimated that the United States has enough natural gas resources to meet our demand for the next 100 years.	Road transport accounts for 17% of global energy use and energy-related CO ₂ emissions.

Part 2: **ENERGY MOSAIC CARDS****RESEARCH**

Using latest figures provided at your state's local energy profile at www.eia.gov/state/ and your local energy provider's website, answer the following questions:

1. What types of energy does your state generate? _____

2. What energy sources are located inside your state? _____

3. What is your state's most important source of energy? _____
Why? _____
4. How much total energy does your state consume? _____

5. What end-use sector consumed the most energy? _____

6. Which sources of energy are used to generate electricity in your state? _____

7. What is your state's potential for producing renewable energy? _____

8. What plans are in place to develop alternative energy sources? _____

DISCUSSION QUESTIONS

1. What concerns do you have about the local and global energy picture? _____

2. What opportunities are there to diversify sources or create efficiencies? _____

3. How do local energy choices impact the global energy situation? _____

4. How does the global energy situation impact local energy choices? _____
