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1 Nanotechnology-Dependent Energy

THE SITUATION:

India, a growing competitor with American industry, starts building a factory that they claim will make affordable nanotechnology-based solar cells within two years.

QUESTION FOR DISCUSSION:

Nanotechnology could help make solar energy a more efficient and affordable solution to the world's energy needs. But if a non-American company is developing a potentially profitable nanotech energy product that could be sold around the world, would that change your support for American nanotechnology research?

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2 Conservation and Energy Efficiency

THE SITUATION:

A new poll suggests that Americans who do not currently recycle are not likely to recycle in the future.

QUESTION FOR DISCUSSION:

If you learn that getting more people to recycle may be difficult, does this make you want to support energy alternatives that don't depend on individual behavior (like nanotechnology, wind, or nuclear), or should money be spent to change the way people think and act about recycling?

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3 Nanotechnology-Dependent Energy

THE SITUATION:

Researchers find nanoscale particles in the groundwater near a site where nanotechnology-based solar cells are tested.

QUESTION FOR DISCUSSION:

Nanotechnology-enabled solar cells have the potential to fulfill major energy needs, but weighing the environmental risks of a new technology is difficult. How would your support for nanotech research change if its byproducts might contaminate water sources?

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4 Existing Alternative Energies

THE SITUATION:

A nuclear reactor melts down, putting people and the environment at risk.

QUESTION FOR DISCUSSION:

With more than 100 nuclear plants, the US currently gets about 20% of its energy from nuclear power. However, despite a relatively safe operating history, concerns remain about the dangers of radioactive materials. Should we devote more future funding to developing safer nuclear processes or to researching new non-nuclear, nanotechnology-based energy solutions?

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5 Existing Alternative Energies

THE SITUATION:

Researchers develop a method of creating biofuel from wastewater residue.

QUESTION FOR DISCUSSION:

Today's biofuels are often made from crops like corn or soy, but using these crops to make fuel instead of food could lead to global food shortages. If other biological sources—like the sludge left over after treating wastewater—could be used for producing biofuel, should more research dollars be put towards finding non-food biofuel sources, or should we keep funding food-crop-based biofuels?

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6 Conservation and Energy Efficiency

THE SITUATION:

A new law makes public charging stations for electric cars mandatory in the parking lots of federal buildings.

QUESTION FOR DISCUSSION:

Electric vehicles produce little or no harmful emissions, but many people won't drive them due to a lack of places to recharge the cars' batteries. Building more charging stations would lead to more people driving electric cars, making us less dependent on petroleum. Should more funding be devoted to educating the public about alternatives to driving, or should funding focus on designing better nanotech-based batteries to increase the range of electric cars?