An Environmental Challenge

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Energy Security

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Environmental Challenge

I would image that when it comes to the term "environment challenge", most people in this room think about three D's:

- Delay
- Dollars
- Darn environmentalists

Environmental Challenge

This presentation will not address any single environment challenge facing the energy industry in West Virginia, such as climate change, water quality, or mountaintop removal.

Environmental Challenge

This presentation will provide an overview of why “an environment challenge” will always be a part of energy development.

Main Points to make about Environmental Challenges

- Many of today's environmental problems are closely linked to energy production and consumption

- Easier to consume energy that generates negative environment consequences in market economies

Main Points to make about Environmental Challenges

- Environmental protection by government: Lofty goals, but is society committed to their enforcement?
- How can we avoid re-living environmental mistakes of past resource extraction?
- All energy choices come with trade-offs

Environmental Impacts from Energy

- Over 80% of energy consumed in the U.S. comes from fossil fuels – in WV, this percentage is over 100% due to export of electricity from coal.
- Difficult to quantify the extent of energy's impact, but there are a host of environmental issues stemming from fossil fuel use– climate change, water pollution, air pollution, land disturbance

Environmental Impacts from Energy

- Non-fossil fuel energy sources have impacts – waste storage and security for nuclear, loss of free flowing rivers and aquatic habitat alteration with hydro, wildlife habitat and visual impacts with wind, and land conversion for solar

Ease of Energy Consumption

- Market economies allow for more choices of products and opportunities for consumption
- Market economies also allow negative consequences from energy production to be moved away from where the product is consumed, thus creating opportunities to impose negative externalities on others
- Government has taken the primary role of making sure these negative externalities are addressed.

Environmental Protection

Federal laws passed with broad goals of environmental protection:

- Clean Water Act of 1972: “goal of elimination of all pollution discharges”
- Clean Air Act of 1963 and amendments of 1970: “protect air resources to promote public health and welfare”
- Surface Mining Control and Reclamation Act of 1977: “no damage will be done to natural watercourses”

Environmental Protection

- Enforcement tends to vary and be strongest after an impact has occurred.
- Does society want to make the sacrifices necessary for the legislative goals of environmental protection to be achieved? Many times the answer is no due to high resource costs.
- Resulting conflicts often are settled by the court system – not the most “efficient” way to resolve conflict.

Are we destined to re-live the past?

- Technologies and markets change faster than regulations
- Multi-causal mechanisms of environmental issues – examples include climate change and the recent fish kill on Dunkard Creek
- We re-live the past by waiting until environmental consequences occur before utilizing enforcement to prevent them.

All Choices come with Trade-Offs

- Any energy choice involves making a sacrifice of some aspect of environmental quality.
- Who and how should choices to be made? Current mechanisms of environmental protection are not very helpful here in assisting in this decision-making.
- Our society tends to prefer technological fixes over behavioral change.

Conclusions

- The way we have structured our society with a market economy and individual freedoms means that, conversely enough, government plays a vital role in protecting what is important to all of us.
- Environmentalists play an important role of keeping government agencies accountable to their goals of environmental protection.
- Environmentalists can remind us how to be “good neighbors” rather than just focusing on what complies with the law.

Conclusions

- Take home message: Dispersed power in making decisions about energy is preferable to centralized power by any one – industry, government, or environmentalists. However, when power is distributed among multiple parties with differing objectives, environmental challenges will exist.