



COAL:
ENERGY,
THE ENVIRONMENT
and WEST VIRGINIA

Leadership for **WEST VIRGINIA** and Beyond

Policy Recommendations | April 2008

IMAGINE
WEST VIRGINIA
A results-based policy institute

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IMAGINE WEST VIRGINIA

A results-based policy institute

IMAGINE WEST VIRGINIA is a results-based policy institute of West Virginians serving West Virginia. Established in 2006 as an independent, nonpartisan, objective research and development entity, **IMAGINE WEST VIRGINIA** is dedicated to identifying and investigating tough public policy issues and publishing well-reasoned, evidence-based recommendations that have the potential to transform the economy of the state and the lives of West Virginians. A tax-exempt division of Vision Shared Inc., **IMAGINE WEST VIRGINIA** operates through its own Board of Governors and Executive Director. A full list of Board membership is found in the back of this report, along with additional background information regarding the organization and its work. **IMAGINE WEST VIRGINIA** is supported by contributions from individuals, businesses and foundations.

CONTACT INFORMATION
Rick Remish, Executive Director
IMAGINE WEST VIRGINIA
1062 Maple Drive
Suite B
Morgantown, WV 26505

LEADERSHIP FOR WEST VIRGINIA AND BEYOND

Message from the Chairman of IMAGINE WEST VIRGINIA

Today's world faces no greater challenge than meeting the ever-increasing demand for energy while protecting the environment. This crisis is global, economically challenging, technologically complicated and politically highly sensitive. A solution is critically important to the economy, security, and health and well-being of America.

There is universal dependence on energy from fossil fuels, which is a central but often destabilizing element of the world's economy and international relations. In many present forms, its development and use have adverse environmental consequences. Advanced research and development of alternative and renewable fuels is important to meet the growing energy demand; in recent years, progress has been substantial and exciting. But fossil fuels will continue to be a major component of the world's energy supply for the next several decades. Coal, because of its abundance both here and in several of the world's fastest growing countries, will be a major fuel, particularly in the production of electricity. Further, it likely will be used increasingly for other purposes, including feedstock for liquid fuels, gas, and various chemical and combustion by-products.

Coal is West Virginia's most prominent energy resource. It remains a critical part of the state's economy, as it has for nearly two centuries. But as most West Virginians are aware, despite significant advances, the requirement remains for urgent and mandatory efforts to ensure continuing improvements in the safety, cleanliness and efficiency of the mining and use of coal. These improvements are not optional. Coal's share of the energy mix, the preservation of our magnificent natural heritage, and the health and safety of our citizens all depend upon successful mitigation of environmental impacts.

IMAGINE WEST VIRGINIA believes that West Virginia must undertake a more focused and robust effort to become a leader in ensuring the future of coal as an energy resource for the benefit of the state and national economies. By supporting significant research and development today to lead the determination of the future of coal, West Virginia will significantly enhance its capacity to participate across a wide range of innovative, knowledge-based industries of tomorrow - both within and beyond the energy and environmental sectors.

On behalf of the **IMAGINE WEST VIRGINIA** Board of Governors, I gratefully acknowledge the contributions of many people from higher education, industry, the environment, science, law and the local, state and federal governments that freely offered time, observation and guidance to help generate this document. Some participants played a uniquely prominent role, but we specifically thank Professor Richard Lester of the Massachusetts Institute of Technology for his efforts to foster our greater understanding and thinking on energy policy with respect to coal.

I urge all West Virginians to review this report and to support its recommendations. **IMAGINE WEST VIRGINIA** believes that the recommendations within the report should be addressed with strong leadership and a comprehensive approach that simultaneously preserves the unique beauty of West Virginia while securing its economic growth through an industry that will enjoy a bright future with the safe, clean and technologically advanced mining and use of coal.



Admiral T. Joseph Lopez, USN (Ret.)
Chairman, Board of Governors

SETTING THE STAGE

IMAGINE WEST VIRGINIA's policy recommendations around the future of coal are best summarized by the following declaration:

West Virginia should become a globally recognized leader in technologically advanced, environmentally responsible, safe coal production and use – an achievement that would bring significant economic, societal and environmental benefits to the state and the nation.

IMAGINE WEST VIRGINIA believes that accomplishing this goal will result in a broader, sustainable, more innovative West Virginia economy. As a major energy state, West Virginia should take center stage in bringing excellence in leadership to drive the formation of immediate, fundamental and necessary knowledge-based energy and environmental services to address critical economic and environmental challenges.

IMAGINE WEST VIRGINIA's policy recommendations are founded on five premises:

1. During the time it will take the world to develop and fully deploy renewable energy sources, there will be no choice but to use coal; it will continue to be a major source of energy both in the United States and internationally. Advanced research and development aimed at producing environmentally acceptable, safer and more efficient mining and uses of coal must continue to occur.
2. West Virginia's abundant coal supplies can be mined and used to help counter foreign oil dependency, meet increased long-term energy growth demands and improve national energy security.
3. If coal is to fulfill its potential, the adverse environmental impacts of safe coal extraction, utilization and management must be mitigated. The extent of coal's use in the coming decades likely will depend upon the extent to which carbon emissions can be controlled.
4. West Virginia has a natural interest in being, and an opportunity to be, a more prominently recognized leader in research and development regarding the future of coal, which in turn represents a most promising platform on which to build more innovative economic opportunities.
5. The future of coal will be significantly influenced by federal and state actions following debate about what types of greenhouse gas regulation will be imposed.

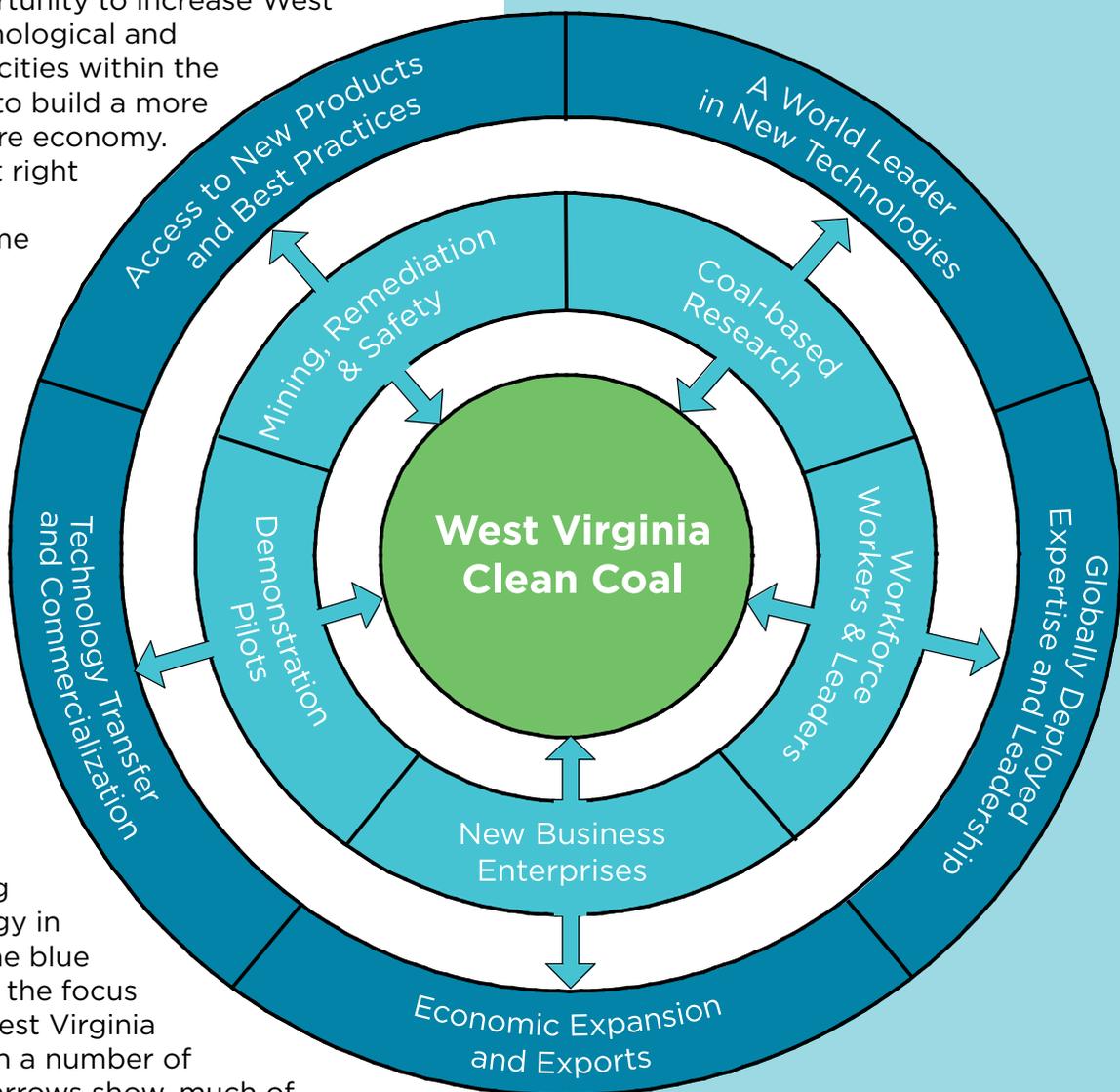
There is wide agreement that energy and environmental policy are not mutually exclusive, nor are they easy to reconcile – particularly around coal. However, the importance of coal to West Virginia, our nation and the world economy is not well understood and is sometimes misrepresented. Some elected officials and others with sincere environmental concerns – and some who also have competing economic interests – have proposed that coal be eliminated. These voices are driving national debates about whether coal truly has a future in America. The reality is that coal will be part of the world's energy portfolio for decades to come, but the volume of use in the United States may be uncertain, especially if cleaner and safer uses of the resource are not developed as soon as possible.

IMAGINE WEST VIRGINIA believes that West Virginia's leadership in demonstrating how safe

coal use and environmental concerns can be reconciled will be critical to influencing the outcomes of these debates. Such action also should create a more progressive image for West Virginia, as it will benefit from the development of a more innovative economy. Conversely, continuing the status quo will forfeit these opportunities. More specifically, our failure to influence portions of the socio-economic, health, technology and environmental debates associated with the future of coal in America most likely will lead to the curtailment of the industry within West Virginia. Given coal's importance to the state's economy, the economic ripple effect from that event could be disastrous; therefore, the risk of inaction actually may be even greater than the loss of a special opportunity to increase West Virginia's technological and industrial capacities within the energy sector to build a more promising future economy.

The diagram at right illustrates the essence of prime opportunities in which West Virginia can achieve this vision by constructing a better future around clean coal research and development. The center core signifies the greatest opportunity to have West Virginia coal both cleaner and the leading source of energy in our country. The blue ring comprises the focus areas where West Virginia can advance on a number of fronts. As the arrows show, much of this work will directly influence our ability to produce clean coal for energy. Likewise, the arrows point to the outer ring to signify areas for West Virginia to demonstrate leadership both nationally and globally.

Diagram 1
West Virginia's Coal-Driven
Energy Leadership



Source: IMAGINE WEST VIRGINIA

STRATEGIC ACTIONS AND POLICY RECOMMENDATIONS: THE FUTURE OF COAL

IMAGINE WEST VIRGINIA urges West Virginia to become a globally recognized leader in technologically advanced, environmentally responsible coal production and use by:

1. **Strengthening coal-related research**
2. **Promoting expertise in mining safety and remediation**
3. **Developing the next generation of coal leadership**
4. **Training tomorrow's coal-related workforce**
5. **Fostering new coal-related business enterprises**
6. **Engaging in more strategic regional collaborative initiatives**
7. **Building greater advanced coal technology capabilities**
8. **Establishing a coalition for global efforts in coal**
9. **Participating in effective organizations that advance coal**
10. **Creating an independent energy advisory body**

West Virginia has significant resources to fulfill this challenge. Assets include the state's higher-education institutions and public and private research facilities like the Morgantown/Pittsburgh-based National Energy Technology Laboratory, which is dedicated to fossil energy research, as well as private entities, including coal operators, utilities, and chemical and polymer companies that West Virginia shares with neighboring states. West Virginia's influential congressional delegation is committed to addressing the nation's environmental and energy issues. Similarly, Governor Manchin and state leaders are actively pursuing a number of coal-related initiatives, some outlined in the 2007 energy plan (West Virginia Energy Opportunities: A Blueprint for the Future). In concert with these activities, however, a more determined, focused, coordinated and sustained effort is needed urgently. Here, in no particular order, is a brief description of each of the aforementioned components:

1 Strengthening Coal-Related Research

With strong financial support from state government and the private sector, West Virginia University, Marshall University and other research agencies each should invest aggressively in strengthening their research capabilities in energy sciences and engineering.

2 Promoting Expertise in Mining Safety and Remediation

West Virginia must ensure that research and development efforts include mining safety and minimization or remediation of the effects of mining. Specifically, research must continue to build upon West Virginia's experience and expertise in mining extraction practices, safety throughout the mining process, and avoidance or remediation of the effects of mining on land and water.

3

Developing the Next Generation of Coal Leadership

West Virginia's universities should develop new, high-quality interdisciplinary graduate degree and mid-career executive programs to prepare the next generation of national and international energy/coal sector leaders. Additionally, more curricula must be offered in public education to create a universal awareness of sustainable and environmentally acceptable coal-based and energy-related policy, research and technology to attract more young people into the industries.

4

Training Tomorrow's Coal-Related Workforce

West Virginia's community and technical colleges and related university programs should continue to strengthen their capacity to train a workforce skilled in information and high-precision technologies to staff coal and coal-related enterprises.

5

Fostering New Coal-Related Business Enterprises

Through industry-driven research and development, West Virginia should strengthen its capacity to foster the development of entrepreneurial businesses that can play a key role in commercializing new and innovative coal-related technologies.

6

Engaging in More Strategic Regional Collaborative Initiatives

Working with neighboring states, West Virginia should play a more aggressive leadership role in assembling a regional collaboration to promote the hosting of major coal and demonstration research projects, including at least one large-scale carbon capture and storage demonstration project at a scale of about 1 million tons per year of carbon injection.

7

Building Greater Advanced Coal Technology Capabilities

West Virginia must work more closely with the congressional delegation and encourage cooperation with other coal-producing states to vigorously encourage the U.S. Department of Energy (DOE) and its National Energy Technology Laboratory (NETL) based in Morgantown and Pittsburgh to support further development and commercialization of advanced coal technology capabilities in local universities and industries.

8

Establishing a Coalition for Global Efforts in Coal

West Virginia government leaders quickly should assemble, announce and vigorously promote a coalition of locally based business and higher-education leaders to continue establishing closer ties to other leading coal-producing regions elsewhere in the United States and around the world, notably in China, India, Australia and Russia.

9

Participating in Effective Organizations that Advance Coal

West Virginia must raise its profile as an energy/coal policy leader through its participation in organizations such as the National Governors Association, the National Conference of State Legislatures, the Southern Growth Policies Board, the Appalachian Regional Commission and the Southern States Energy Board.

10

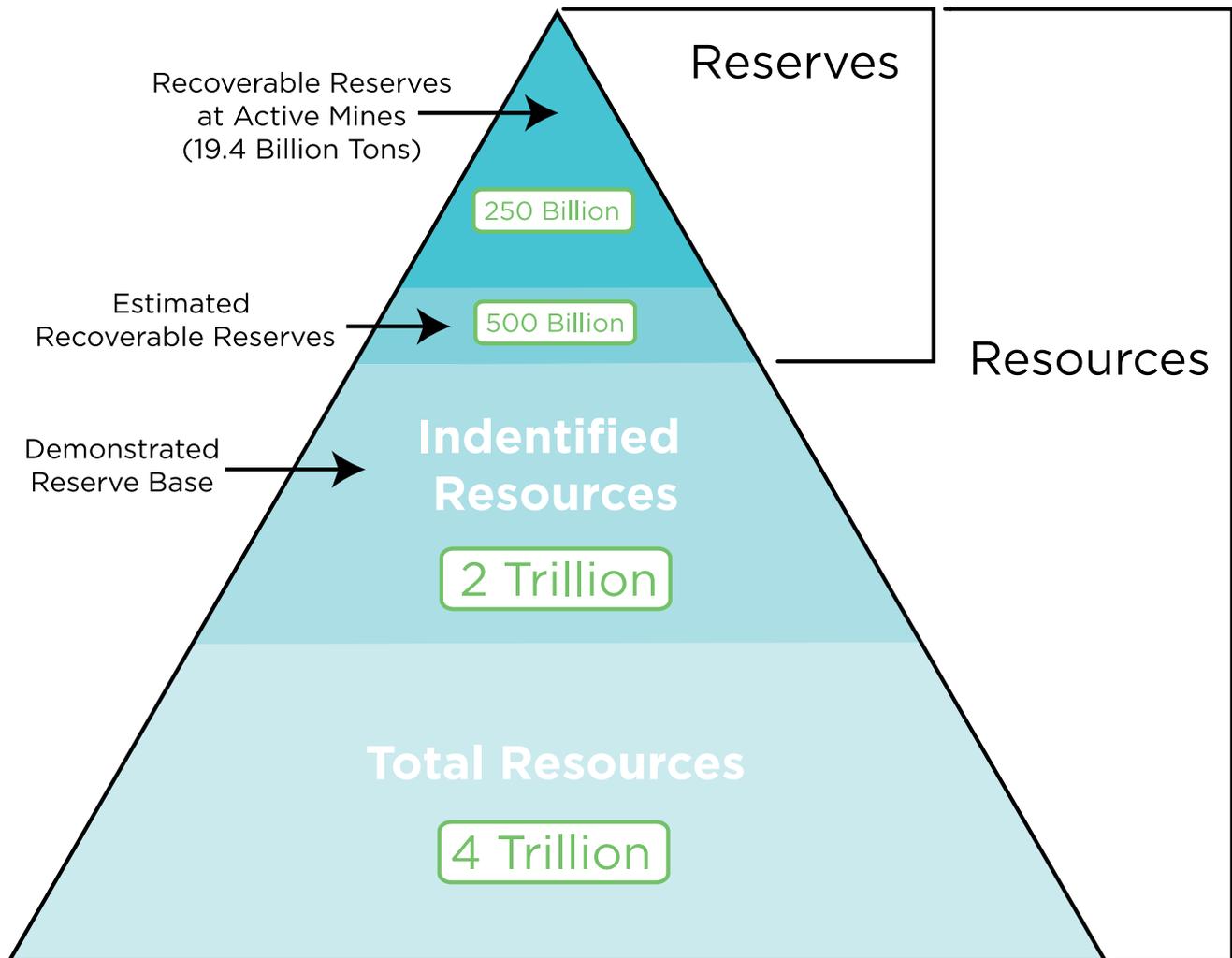
Creating an Independent Energy Advisory Body

West Virginia should create a nonpartisan public-private partnership energy advisory council among the government, academic, science, business and nonprofit sectors to analyze, forecast and openly emphasize the energy-sector challenges and opportunities facing West Virginia, the nation and the world.

Coal is in Our Future

Coal's advantages as a plentiful, ubiquitous and relatively low-cost fuel resource ensure that it will play a growing role in U.S. and world energy markets. In fact, coal is the most abundant of all fossil fuel resources around the globe. In the United States reserve estimates (Table 1) (based on current use and production rates) of mineable and merchantable coal (based on current price and technology) have varied widely because geologic estimates are naturally imprecise, and both prices and technology change. But projections suggest that there is sufficient coal to meet the nation's energy needs for more than 100 years at current rates of consumption.¹

Table 1



¹This is but one reasonable if not conservative estimate as referenced in the National Research Council report Coal: Research and Development to Support National Energy Policy. (The National Academies Press, 2007). Admittedly, it is not possible to confirm the often-quoted assertion that there is a sufficient supply of coal for 250 years. The 250-year estimate was made in the 1970s and was based on the assumption that 25 percent of the coal that had been located at that time was recoverable with current technology and at current prices. Source: National Research Council, Coal: Research and Development to Support National Energy Policy, p. 47 (Fig. 3.2) and p. 50 (Table 3.10), June, 2007.

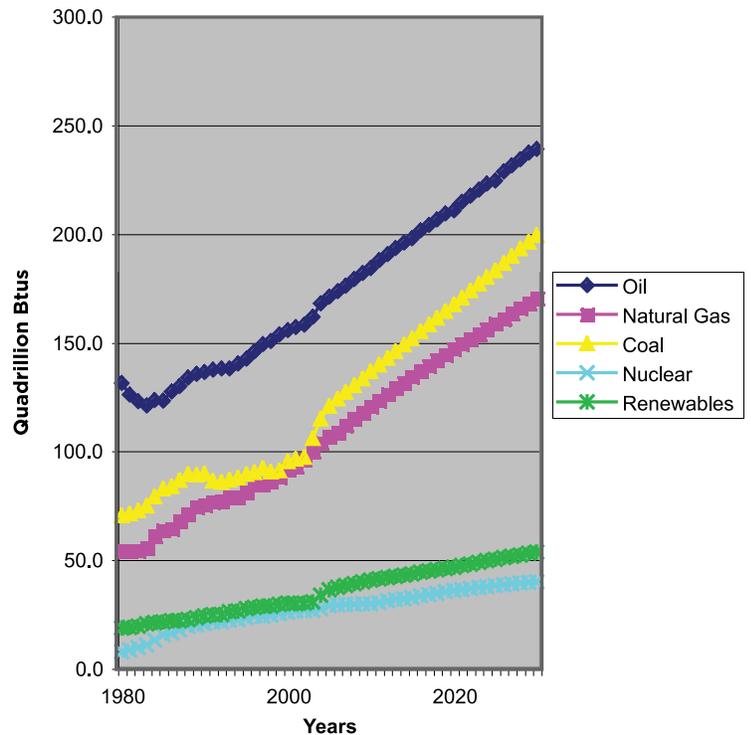
The 2007 International Energy Outlook (IEO) published by the U.S. Energy Information Administration (EIA) projects rapidly increasing world consumption of marketed energy from all fuel sources over the 2004 to 2030 projection period (Diagram 2).

Total energy demand in developing countries increases by 95 percent, compared with an increase of 24 percent by developed nations. Fossil fuels (petroleum and other liquid fuels, coal and natural gas) are expected to continue to supply much of the projected worldwide energy demand. Liquids supply the largest share of world energy consumption over the projection period and remain the dominant energy source given their importance in the transportation and industrial end-use sectors; however, their share of the world energy market is expected to lessen as other fuels replace liquids (where possible) outside those sectors. Yet coal is projected to be the fastest-growing energy source worldwide. World consumption will increase from 114.5 quadrillion British thermal units (Btus) in 2004 to 199.1 quadrillion Btus in 2030 (an average annual growth rate of 2.2 percent or 74 percent total). In particular, the United States, China and India are positioned to displace more expensive fuels with coal; together, the three nations account for 86 percent of the expected increase from 2004 to 2030. World coal consumption increased sharply from 2003 to 2004, largely because of a 17 percent spike in use on a Btu basis in Asia (mainly, China and India). Coal's share of total world energy use is projected to increase from 26 percent in 2004 to 28 percent by 2030.

Today, coal fuels about 25 percent of the world's energy consumption (Diagram 3) to generate about 40 percent of the required energy (Diagram 4) predominantly used for electricity production. It also is used for industrial and commercial purposes to generate products including heat, steel, cement, hydrogen, chemicals, liquid and gas fuels, and varied carbon-based composites.

Diagram 2

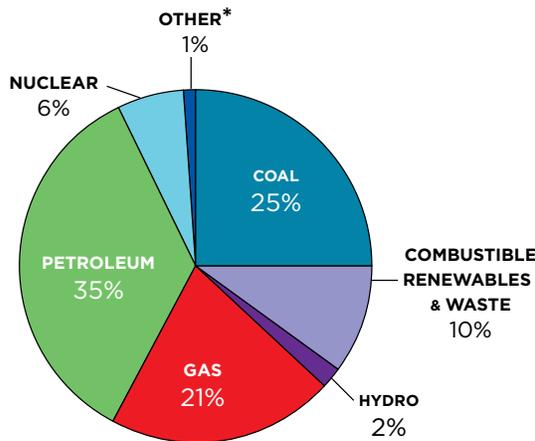
World Marketed Energy Use by Fuel Type, 1980-2030



Sources: History: U.S. Energy Information Administration (EIA), International Energy Annual Review 2004 (May-July 2006). Weblink: www.eia.doe.gov/eia. Projections: EIA, System for the Analysis of Global Energy Markets (2007).

Diagram 3

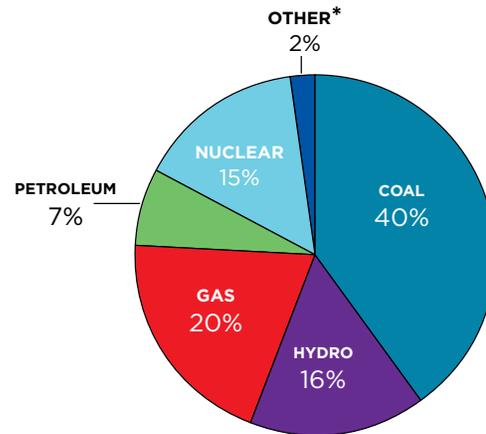
Total World Primary Energy Consumption (% by fuel, 2004)



* "Other" includes solar, wind, geothermal and heat.
Source: U.S. International Energy Administration, 2006
WWW.EIA.DOE.GOV/EIA

Diagram 4

Total World Primary Energy Capacity (% by fuel, 2004)



* "Other" includes solar, wind, combustible renewables, geothermal and waste.
Source: U.S. International Energy Administration, 2006
WWW.EIA.DOE.GOV/EIA

Countries around the world heavily dependent on coal as a low-cost fuel source of electricity differ by wide degrees of growth and development (Table 2).

Electricity from Coal

Table 2

| | | | | | |
|--------------|-----|------------|-----|----------------|-----|
| Poland | 93% | Israel | 71% | Czech Republic | 59% |
| South Africa | 93% | Kazakhstan | 70% | Greece | 59% |
| Australia | 80% | India | 69% | U.S. | 51% |
| China | 78% | Morocco | 69% | Germany | 47% |

Source: World Coal Institute, Coal Facts, 2007 (only 2005 figures available)

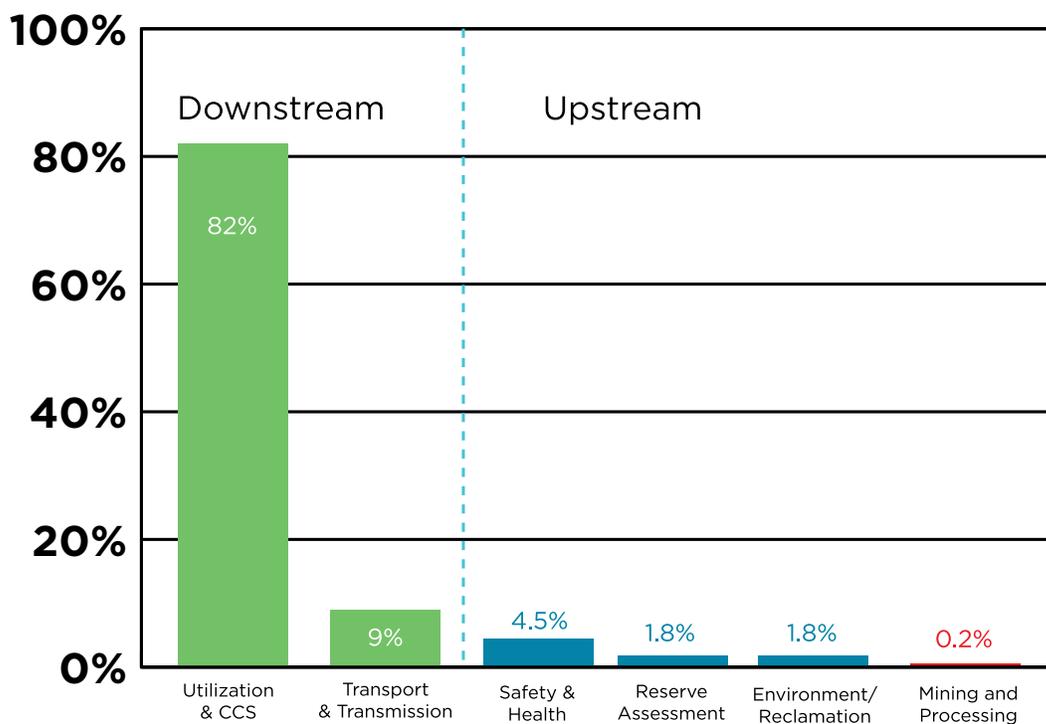
In many locations, coal is the lowest-cost source of electricity. At higher cost, coal can be gasified and liquefied and therefore substituted for oil and natural gas as a high-value fuel. America's vast domestic coal reserves thus could be deployed to reduce our dependence on oil supplies from politically unstable locations. As previously referenced, other nations also are expanding their coal use, notably China, whose coal output already exceeds the next five largest coal producers combined (United States, Russia, India, Australia and South Africa). Thus, while carbon-free energy resources such as nuclear and solar will play an important role in a carbon-constrained world, the extent to which coal is integrated into many national economies suggests it will have to remain an indispensable global energy source for the foreseeable future.

If coal is to fulfill its potential both domestically and internationally, the adverse environmental impacts of coal production and use must be mitigated. Major investments in the development, demonstration and large-scale adoption of advanced coal technologies will be required. Important progress already has been made in reducing the emissions of sulfur dioxide, nitrogen oxides and particulates from coal combustion. However, new technologies and systems will be required to support safer, environmentally responsible coal extraction; clean, safer and efficient coal processing, conversion, transport and combustion; and, especially, the economic and reliable capture

and storage of carbon dioxide. Barriers to development and use of these technologies can be overcome partially by various types of financial incentives and/or performance guarantees. Yet the greatest barriers to overcome, and the highest hurdles to cross, include these facts: (a) Most cost-competitive new technologies are not usually adopted quickly over conventional ones, and (b) Business must be motivated to pursue large-scale adoption, conversion and use of cost-saving, environmentally friendly technologies.

Diagram 5 reinforces some of the prime technological opportunity areas ripe for investments around coal that may not have received sufficient attention. For instance, in recent years, coal-related funding has largely prioritized research on utilization and on carbon capture and storage. More specifically, over the past decade, overall U.S. federal government funding - which accounts for 91 percent of all coal-related research and technology development - for regulatory and downstream components of the coal fuel cycle has continued at a constant level or increased. Meanwhile, support for upstream activities has mostly been minimal or decreased.

Diagram 5



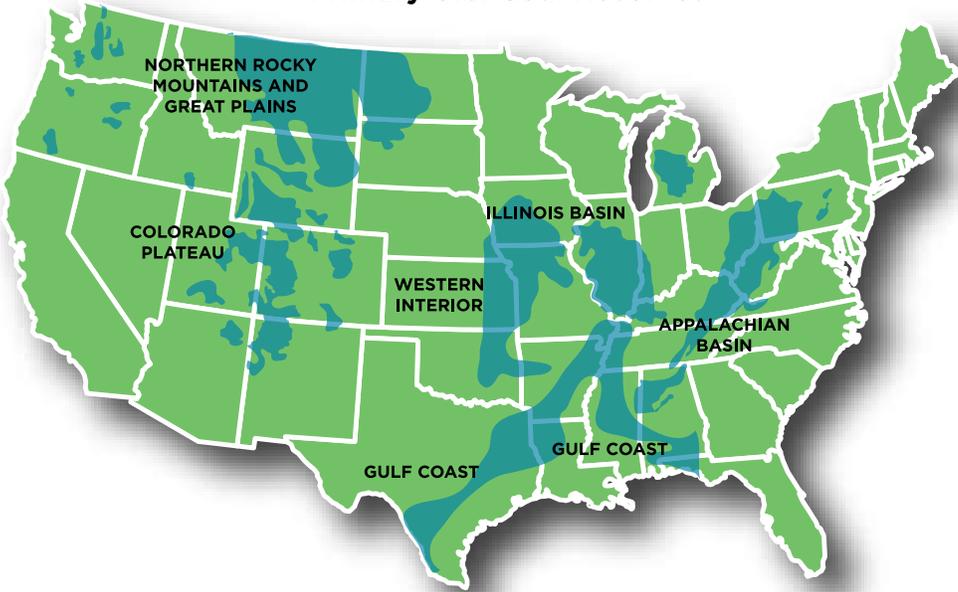
Source: Coal: Research and Development to Support National Energy Policy, The National Research Council Committee on Coal Research, Technology, and Resource Assessments to Inform Energy Policy, p. 114. The National Academy Press, 2007. WWW.NAP.EDU

This reference should not be interpreted as diminishing the important focus on current downstream research and development associated with energy transport and transmission or coal utilization, carbon capture and storage. To the contrary, since the United States has yet to commit itself to quantitative limits on carbon emissions, most informed observers expect governmental emission controls to be adopted in some form in the next few years to address global climate challenges. Even with the introduction of carbon taxes or cap-and-trade schemes, however, modeling studies indicate that coal use is likely to increase significantly over the coming decades provided that carbon capture and storage technology are available when needed.

The Future of West Virginia Coal

In the United States, coal is plentiful throughout many areas (Diagram 6), and West Virginia is blessed with a natural abundance of the resource.

Diagram 6
Primary U.S. Coal Reserves

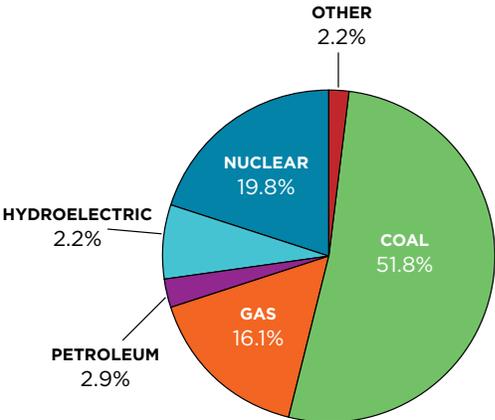


Source: U.S. Geological Survey (USGS), National Coal Resource Assessment (2007)

On average, coal is responsible for nearly 52 percent of all U.S. electrical generation (Diagram 7). In West Virginia, more than 98 percent of electrical power is dependent on coal (Diagram 8). In addition, West Virginia has among the lowest retail electricity prices in the nation due to one unique price advantage – coal is plentiful and in close proximity to most utilities and consumers, so transport fees remain competitively low.

Diagram 7

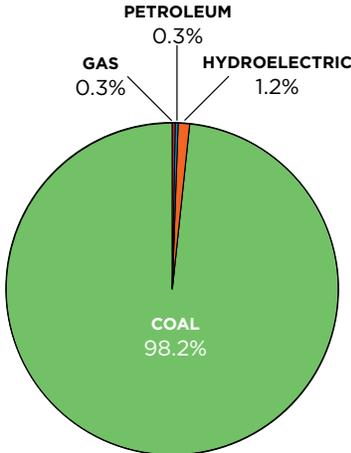
U.S. Electric Energy Mix



Source: Edison Electric Institute, Statistical Yearbook of the Electric Power Industry, December 2006.

Diagram 8

West Virginia Electric Energy Mix



Source: U.S. Energy Information Agency, 2007
WWW.EIA.DOE.GOV/STATE/

But West Virginia coal's importance, competitiveness and availability provide other distinct advantages. For example, West Virginia today leads the nation in coal revenues,² coal that is shipped to 33 states and the District of Columbia and 25 different countries around the globe (which accounts for 50 percent of all American coal exports). The state also is recognized as the national leader in underground mining production. Further, taken together, coal and coal-fueled, electric-generating industries represent almost 60 percent of the business taxes paid to the state (portions of which are specifically designated to each of the 55 counties and some 230 incorporated municipalities), and coal sales generate more than \$3.5 billion (or 13 percent) of West Virginia's gross state product.³

In addition, the coal-generated electricity used in West Virginia has an average cost of five cents/kilowatt hour, whereas more than half of America's electricity generated by the same fuel has an average cost of eight cents per kilowatt hour. Finally, in the 140-year history of West Virginia's coal industry, an estimated 13 billion tons of coal has been mined and an estimated 53 billion tons of recoverable reserves remain.⁴ Thus, West Virginia's extensive coal reserves make it highly likely that the state will continue to be a major coal producer.

Like many other industries across the state and country, a century of coal extraction has left the state with a mixed environmental and socio-economic legacy; however, despite the decades-long decline in direct mining employment and the continuing uncertainties facing the industry, the importance to West Virginia of a long-term strategic focus on upgrading the state's coal industry is clear.

The opportunity is at hand to use West Virginia's greatest natural resource to stimulate a transition from a predominantly extractive industry cluster to a more innovative new one. Correspondingly greater economic benefits can be generated for the state, including:

- an increase in varied, high-wage, technical and specialized employment opportunities across business sectors that are created for current and future generations of West Virginia's workforce;
- a rebranding of the state's image across the nation and around the globe as one that is most progressive, forward-thinking and responsible when managing energy and environmental challenges in tandem; and
- a greater recognition that West Virginia's hard-working, technically competent, socially conscious workforce continues to be one of the best in the nation.

A strong focus on the future of coal and developing greater coal-based research capacity also will strengthen the state's prospects for participating in the development of other energy systems drawing on related technical, environmental and/or market knowledge bases, systems that need to be developed now for the use and benefit of future generations.

These and other strategic actions are required to advance leadership in energy and environmental technology, and to achieve the reality of coal as a principal resource for addressing rapidly increasing energy demands for the foreseeable future. **IMAGINE WEST VIRGINIA** has identified ten critical recommendations that are keys to unlocking West Virginia's potential to seize and act upon that leadership.

²On a tonnage basis, West Virginia ranks second behind Wyoming, with about 154 million tons of output in 2005 compared with the latter's 404 million tons. But the average sales price of West Virginia coal on the open market was about \$42 per ton in 2005, compared with \$7.71 per ton for Wyoming coal. Thus, on a sales basis, the West Virginia coal industry accounted for nearly \$6.5 billion in f.o.b. value that year, more than double that of the Wyoming industry, and far ahead of any other state. (All figures were obtained from the U.S. Energy Information Administration.)

³Coal Facts 2006, pp. 15 and 22, West Virginia Coal Association.

⁴Coal Facts 2006, p. 22, West Virginia Coal Association.

Measuring Progress

IMAGINE WEST VIRGINIA recognizes the importance of identifying, following and reporting sustained progress concerning applicable benchmarks. Therefore, **IMAGINE WEST VIRGINIA** is committed to working with appropriate stakeholders to adopt a set of focused performance metrics, and to report to the public at least annually on the state’s progress. The table below provides examples of different metrics that might be matched to specific policy recommendation areas.

Table 3

| Recommendation Focus Area | Example of Performance Benchmark |
|--|--|
| Build greater research and development capabilities in advanced coal technologies (e.g., carbon capture and sequestration, mining systems and safety, land reclamation, coal conversion, coal combustion). | What is the volume of sponsored research in a specific coal-related field, and what is the quantity and quality of output? How much of the “Bucks For Brains” Research Trust Fund goes to coal-related work? |
| Secure multiple large-scale coal-related technology demonstration projects. | What is the progress toward a West Virginia - hosted carbon capture and storage demonstration project? |
| Increase coal-related workforce and managerial training and non-credit educational programs. | What is the volume of faculty teaching in coal-related fields, and what is the number of students (in-state, national and international) graduating in energy studies and related disciplines from universities, technical schools and community colleges? |
| Increase coal-related network connections (national and international). | What is the number of visits by international researchers to West Virginia research facilities? |
| Increase the National Energy Technology Laboratory’s (NETL) contribution to research, education and industrial capabilities in advanced coal technologies in West Virginia. | What is the volume of NETL scientists engaged in consulting, teaching and conducting research at West Virginia universities? |
| Increase measures of industry performance in technology transfer and knowledge-based service development. | What is the volume of industry representatives currently affiliated with R&D around coal and coal-related technologies versus identification of annual increases in new and recruited affiliates? |

Source: **IMAGINE WEST VIRGINIA**

Origins of Recommendations

IMAGINE WEST VIRGINIA commenced this policy development work in April 2007 based on research compiled by the executive director to map West Virginia's assets. After serious review, the Board of Governors (BOG) considered present affairs and future-suggested trends and agreed that West Virginia was in a strong position to advance work in the arena of coal energy and the environment. The BOG subsequently provided a clear vision for advancing greater West Virginia leadership related to coal.

IMAGINE WEST VIRGINIA spent several months gaining insights from extensive studies and research regarding all aspects of coal, from use as an energy source to environmental impact. Further, it assessed current initiatives and reported plans regarding the future of coal both within the state and across the country. Dr. Richard Lester of the Massachusetts Institute of Technology was engaged to assist in synthesizing existing research and developing specific concepts for **IMAGINE WEST VIRGINIA** to consider. In addition, meetings were held with key stakeholders in coal research and energy planning. These gatherings provided an opportunity to advance **IMAGINE WEST VIRGINIA'S** conceptual framework and garner a better understanding of the debates centered on coal.

From these efforts, a draft concept paper was created and shared in a planning session with the **IMAGINE WEST VIRGINIA** BOG. As a result, a draft policy statement was generated, and individuals who represented aspects of the ten recommendations found in the document were asked for commentary. Their input was taken into consideration to create the final product, *Leadership for West Virginia and Beyond*. The BOG approved the work and subsequently assigned a core group of its members to introduce the report to the public and provide assistance in its implementation.

IMAGINE WEST VIRGINIA'S BOARD OF GOVERNORS

IMAGINE WEST VIRGINIA is guided by a well-respected, esteemed cadre of West Virginians, both current residents and natives, who are successful and/or have achieved success outside the state. All remain deeply committed to the well-being of the state, and they share a common commitment toward advancing meaningful public discourse on impactful issues that will improve the lives of West Virginia residents now and of generations to follow. Members of the Board of Governors are:

- **Curtis H. Barnette**, Chairman Emeritus, Bethlehem Steel Corporation
- **Ralph H. Baxter, Jr.**, Chairman/CEO, Orrick, Herrington & Sutcliffe LLP
- **W. Martson Becker**, Chair/CEO, West Virginia Media Corporation
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- **William P. Getty**, President, Claude Worthington Benedum Foundation
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- **Admiral T. Joseph Lopez**, USN (retired), President, Information Manufacturing Corporation
- **Kenneth Perdue**, President, West Virginia AFL-CIO
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- **L. Newton Thomas**, Former Senior Vice President of ITT Carbon Industries
- **Craig Underwood**, Managing Partner, Underwood Partners
- **Charles M. Vest**, President, National Academy of Engineering

IMAGINE WEST VIRGINIA'S Mission

“**IMAGINE WEST VIRGINIA** is an independent, objective policy research and development entity dedicated to identifying and researching bold policy issues and publishing policy recommendations that have the potential to significantly improve the lives of West Virginians.”

Factionalism, preconceived opinions and political considerations often make it difficult for the normal processes of government to develop policy that is transforming. The mission of **IMAGINE WEST VIRGINIA** is to make data-driven policy recommendations on issues where change can have a substantial impact on the economy of the state and the well-being of its citizens. **IMAGINE WEST VIRGINIA** is intended to serve as a resource to foster honest public discourse and good government by providing hard data, objective analysis and well-reasoned solutions, which should precede and inform all relevant policy deliberations, especially on the truly tough and critical issues facing West Virginia.

Selected Bibliography

Books

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IMAGINE WEST VIRGINIA

1062 Maple Drive
Suite B
Morgantown, WV 26505

<http://www.imaginewestvirginia.com>