



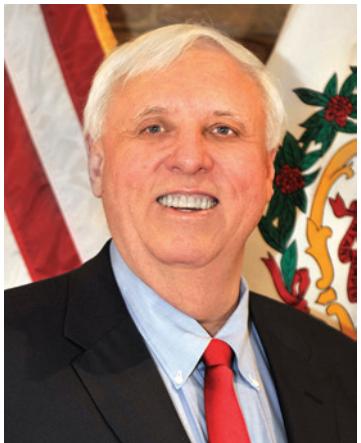
THE GOVERNOR'S
ENERGY
summit



WEST VIRGINIA: Advancing Energy Development

Oct. 18-19, 2017

Stonewall Resort
ROANOKE, WEST VIRGINIA



Dear Friend,

As the Governor of the Great State of West Virginia, it is my pleasure to welcome you to the 11th Annual Governor's Energy Summit.

West Virginia's abundant natural resources have supplied our nation, and the world, with energy for over a century. For years, we have been a national and international leader in energy production. This year's summit will showcase how the Mountain State is advancing energy development not only here at home, but around the country and the world.

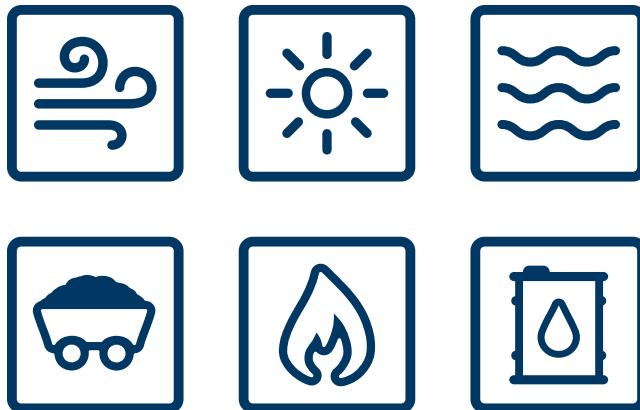
Over the course of the next two days, you will have the opportunity to hear from leaders in the energy industry, higher education and government as well as decision makers from around the state. This summit will continue the dialogue as we discuss new and innovative ways to strengthen West Virginia's energy industry, create jobs and tackle advancing energy development.

Thank you for participating in this year's summit. I am confident that West Virginia will continue to be a leader in the energy industry both nationally and globally.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jim Justice".

Jim Justice
36th Governor of West Virginia



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Hosted by Governor Justice and the West Virginia Office of Energy

DAY ONE**WEDNESDAY, OCTOBER 18**

Noon	Lunch
12:15 p.m.	1 Welcoming Remarks Jim Justice, 36th Governor of West Virginia
12:20 p.m.	2 Luncheon Keynote: Potential Benefits of Expanded Petrochemical and Plastics Manufacturing in Appalachia Martha Moore, Senior Director – policy analysis and economics American Chemistry Council
12:50 p.m.	Congressional Messages
1 p.m.	3 Panel: Advancing Energy Development, Energy Efficiency, Renewable Energy and Fossil Energy Emmett Pepper, Executive Director Energy Efficient WV Evan Hansen, President Downstream Strategies Brian Anderson, Director WVU Energy Institute Moderator: Kelly Bragg, Energy Development Specialist West Virginia Office of Energy
2 p.m.	4 Industrial Energy Rates Derrick Williamson, Counsel West Virginia Energy Users Group
2:30 p.m.	5 Status of Electricity Production Holly Kauffman, President West Virginia Operations for FirstEnergy Chris Beam, President and Chief Operating Officer Appalachian Power Company
3 p.m.	Break
3:15 p.m.	6 Status of Coal in West Virginia Bill Raney, President West Virginia Coal Association
3:40 p.m.	7 Status of Natural Gas in West Virginia Anne Blankenship, Executive Director WVONGA Charlie Burd, Executive Director IOGAWV
4:05 p.m.	8 The Importance of Energy Education Mary Spruill, Executive Director National Energy Education Development Project
4:30 p.m.	9 West Virginia Forward H. Wood Thrasher, Cabinet Secretary West Virginia Department of Commerce Rob Alsop, Senior Vice President for Strategic Initiatives West Virginia University Jerome Gilbert, President Marshall University Moderator: Tiffany Bailey, Energy Development Specialist West Virginia Office of Energy

DAY ONE	WEDNESDAY, OCTOBER 18
	<p>6-8 p.m. Networking Reception</p> <p>8-11 p.m. Hospitality Room Sponsored by Orion Strategies Suite 357</p>
DAY TWO	THURSDAY, OCTOBER 19
	<p>7:30 a.m. Breakfast</p> <p>8:30 a.m. 10 Entrepreneurship and Empowerment in Energy Arria Hines, President/CEO Allegheny Science & Technology</p> <p>8:45 a.m. 11 Panel: Energy and Economic Development in Small Businesses B.J. Evans, Co-founder, CEO and Managing Director Aridea Solutions Mike McKechnie, President Mountain View Solar LLC Greg Paxton, Owner Mr. Handyman of the Kanawha Valley Moderator: Karen Lasure, Energy Development Specialist West Virginia Office of Energy</p> <p>9:45 a.m. 12 Coal as a Feedstock Paul "Mike" Muncy, Chief Technology Officer GEO-QTX Synfuels, Inc.</p> <p>10:10 a.m. 13 Assisting WV Companies with Combined Heat and Power Bill Valentine, Program Manager Mid-Atlantic CHP Program, Penn State</p> <p>10:35 a.m. Break</p> <p>10:50 a.m. 14 Emerging Technologies in the Electric Grid Keith Dodrill, Energy Infrastructure Analyst National Energy Technology Laboratory</p> <p>11:15 a.m. 15 Regional Economic Implications and Opportunities from New Petrochemical Projects in our Region Gideon Gradman, Managing Director Integrated Energy Advisors</p> <p>11:35 a.m. 16 Panel: Storage Hub Acceleration/Development Steve Hedrick, President and CEO MATRIC Jim Crews, V.P. of Northeast Business Development Marathon/MarkWest Energy Partners Kevin DiGregorio, Executive Director Chemical Alliance Zone Moderator: Rebecca McPhail, President West Virginia Manufacturers Association</p> <p>12:35 p.m. Lunch</p> <p>12:50 p.m. 17 West Virginia Jobs Project: Creating Jobs in Industrial Energy Efficiency Hank Love, Executive Director American Jobs Project</p>

1

**WELCOMING
REMARKS****Governor Jim Justice**

James C. Justice, II was born April 27, 1951, to James Conley Justice and Edna Ruth Justice. He attended Raleigh County public schools and graduated from Woodrow Wilson High School in 1969, attended Greenbrier Military Academy as a post graduate. Governor Justice went to Marshall University in Huntington, West Virginia, and was captain of the golf team for two years before earning his undergraduate degree and a Master's in Business Administration.

Gov. Justice is the largest farmer east of the Mississippi River. He is a long-time member of the National Corn Growers Association and a seven-time national corn growing champion. Jim, a passionate sportsman himself, developed Stoney Brook Plantation, a 15,000-acre hunting and fishing preserve in Monroe County, West Virginia. In 2016 Jim and his great bird dog companion, Lilly, bagged 73 grouse in our Mountain State.

Governor Justice spent his career creating thousands of jobs and understands how to put people to work.

In 2009, Justice rescued The Greenbrier resort in White Sulphur Springs, West Virginia, from bankruptcy. The workforce was facing deep cuts in jobs and benefits. Immediately after purchasing The Greenbrier, Jim Justice reversed many of the benefit cuts and invested in renovations and expansions. He brought major events like the PGA Tour, training camps for the NFL and NBA, and countless high-profile acts and conferences to The Greenbrier. As governor, he wants to do everything possible to put West Virginia in a positive light.

Giving back to the community is at the core of who the governor is. He is guided by his commitment to the Good Lord, his family, and helping West Virginia's youth. Every Christmas, Jim puts on his custom-made Santa Claus suit and visits local churches to give away \$1 million in gifts to children in need.

Jim and his wife Cathy have been best friends since high school. Last year, they celebrated their 40th anniversary. The Governor and the First Lady have two children, James (Jay) C. Justice, III and Dr. Jill Justice.

2

POTENTIAL BENEFITS OF EXPANDED PETROCHEMICAL AND PLASTICS MANUFACTURING IN APPALACHIA

Martha Moore

Martha Gilchrist Moore is senior director for policy analysis and economics at the American Chemistry Council. In that role, she analyzes the impact of various policy initiatives and energy trends on the chemical industry, in particular, recent developments in shale gas. She also directs the Council's research on the direct and indirect economic contributions of the business of chemistry and the benefits to consumers.

Ms. Moore has worked on chemical industry issues for more than 20 years and is an authority on the market dynamics for the chemical industry and its end-use customer industries.

Ms. Moore holds a master's degree in economics from Indiana University and is a graduate of the University of North Carolina at Chapel Hill. She is a member of the National Association for Business Economics and the US Association for Energy Economics.

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ADVANCING ENERGY DEVELOPMENT, ENERGY EFFICIENCY, RENEWABLE ENERGY AND FOSSIL ENERGY



Emmett Pepper



Evan Hansen

Emmett Pepper joined as Citizen Action Group's Energy Efficiency WV project as director in 2014.

Emmett graduated with a degree in political science from Virginia Tech. He worked in the Northeast on energy and environmental policy for Citizens Campaign for the Environment from 2002-2009, before attending law school at the American University Washington College of Law, where he specialized in energy and environmental law.

Upon graduation, Emmett returned to his hometown of Charleston, where he clerked for the WV Supreme Court of Appeals as a writ clerk. After connecting to CAG and other organizations during the 2014 water crisis in Charleston, he began as director of Energy Efficient WV in April of 2014.

In addition to spending much of his time working to advance energy efficiency policy and participation, Emmett is interested and active in policies regarding consumer protections, recycling, water infrastructure, and bike-friendliness. Emmett is also very interested in multiculturalism, co-hosting an international music radio show on Charleston's WTSQ, called Beats without Borders, and serving on the board of the WV International Film Festival.

Evan Hansen founded Downstream Strategies in 1997 and serves as president. Downstream Strategies offers consulting services to help build resilient communities, promote economic development, and protect the environment. Mr. Hansen has more than 25 years of experience consulting for government agencies, nonprofit organizations, attorneys, private businesses, and individuals. He has developed and applied computer models; provided testimony and training on issues related to environmental laws, policies, and permits; and led multi-disciplinary research teams that integrate science and policy.

He received a B.S. in Computer Science and Engineering from M.I.T. and an M.S. in Energy and Resources from U.C.-Berkeley. In addition to his work in West Virginia and Appalachia, he has consulted across sub-Saharan Africa and in China, Egypt, and Barbados.



Brian Anderson

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ADVANCING ENERGY DEVELOPMENT, ENERGY EFFICIENCY, RENEWABLE ENERGY AND FOSSIL ENERGY

Brian J. Anderson is the GE Plastics Materials Engineering Professor in chemical engineering at West Virginia University (WVU). He was awarded the 2012 Presidential Early Career Awards for Scientists and Engineers, the highest honor bestowed by the U.S. government on science and engineering professionals in the early stages of their independent research careers. He has been a NETL-RUA Faculty Fellow at the National Energy Technology Laboratory since 2008 where he is the coordinator of the International Methane Hydrate Reservoir Simulator Code Comparison study. Dr. Anderson received his bachelor's degree in chemical engineering in 2000 at WVU and his MS and PhD in chemical engineering from the Massachusetts Institute of Technology in 2004 and 2005 respectively.

After joining the faculty at WVU in January of 2006, he coauthored the MIT report, "The Future of Geothermal Energy: Impact of Enhanced Geothermal Systems (EGS) on the United States in the 21st Century," considered the seminal report on EGS and the future of geothermal energy. He was awarded the College of Engineering and Mineral Resources New Researcher of the Year in 2007.

4

**INDUSTRIAL
ENERGY RATES****Derrick Williamson**

Mr. Williamson is a partner in the law firm of Spilman Thomas & Battle, PLLC; he is Member-in-charge of the firm's Greater Harrisburg office and Co-Chair of its Utility Law Group.

Mr. Williamson represents clients before state public service/utility commissions and appellate courts with respect to electric and natural gas issues and the litigation of rate cases. He regularly counsels manufacturing, institutional, commercial retail, and industrial clients regarding the procurement of energy services, including the analysis and negotiation of natural gas and electricity supply contracts, the evaluation of onsite generation issues, and support for energy efficiency, demand response, and renewable energy initiatives.

Mr. Williamson has substantial experience in legislative development, implementation, and regulation associated with electric industry restructuring and competition in Pennsylvania and West Virginia. Mr. Williamson has served the West Virginia Energy Users' Group for nearly a quarter century.

He is admitted to practice law before state and federal courts in Pennsylvania and before the federal Circuit Court of Appeals for the District of Columbia. He has appeared in multiple jurisdictions throughout the country, including West Virginia, on a pro hac vice basis.

Mr. Williamson is former Chair of the PBA's Public Utility Law Section, and he has been recognized for several years as one of "The Best Lawyers in America" in the Energy law field, including "Lawyer of the Year" in 2016.

Mr. Williamson's publications include *Regaining the Advantage*, West Virginia Executive Magazine, Fall 2011, and recent presentations include "WV Industrial Manufacturing Customers - Under Attack Through Regulated Electric Rates," 2016 WV Energy and Manufacturing Forum (CEA), and "Impacts & Implications of the Trump Administration," 2017 PA Public Utility Law Conference.

Mr. Williamson received his undergraduate degree at the University of Maryland, summa cum laude, Phi Beta Kappa, and he received his Juris Doctorate from Duke University School of Law, where he was Research Editor for the Duke Environmental Law & Policy Forum. Mr. Williamson is a veteran of the U.S. Army.



Holly Kauffman



Chris Beam

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STATUS OF ELECTRICITY PRODUCTION

Holly C. Kauffman is president, West Virginia Operations for FirstEnergy, which includes the Mon Power service territory and oversight of the West Virginia portion of Potomac Edison. Her office is located in Fairmont, W.Va., and she is a resident of Morgantown, W.Va.

She serves on the Board of Directors for several organizations, including the West Virginia Chamber of Commerce, the West Virginia Roundtable, The United Way of Marion County and Board of Governors for Pierpont Community and Technical College. She is a graduate of Leadership West Virginia.

Holly joined Allegheny Energy in 1984. Allegheny Energy merged with FirstEnergy in 2011. She held various management positions through her career including general manager of Operations in Pennsylvania, West Virginia and Virginia and director of Transmission Projects. She was vice president of operations for Jersey Central Power & Light and was named to her current position in October 2012.

Holly earned a master's degree in industrial engineering from the University of Pittsburgh, a master's degree in business administration from Duquesne University (Pa.) and a bachelor's degree in computer science from Penn State.

Chris Beam is president and chief operating officer for Appalachian Power Company, an operating utility of AEP serving approximately one million customers in West Virginia, Virginia and Tennessee.

Beam previously was vice president - Projects, Controls & Construction, responsible for all aspects of project management, project controls, commissioning and construction activities within AEP's Generation organization.

Prior to that, he was managing director - Projects & Construction, from November 2010 to January 2013. In this role, he was responsible for project management of the Western fleet, all new generating projects, and the commissioning and construction activities within the Generation organization.

Beam received a bachelor's degree in Technical Management from DeVry University. He has completed the AEP Management Development Program at The Ohio State University, the AEP Leadership Program at Virginia Polytechnic Institute and State University, and is a member of the Leadership Columbus class of 2014. He is a Certified Project Management Professional.

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**STATUS OF COAL IN
WEST VIRGINIA****Bill Raney**

Bill Raney was born in Bluefield, W.Va., but raised in Princeton, W.Va., (Mercer County) and the coalfields of Wyoming County. Bill was educated in the public schools of Mercer County and graduated from Princeton High School. He received a bachelor's degree in biology from West Virginia University (WVU), followed by a master's degree in public administration, also from WVU.

Employed by the West Virginia Department of Natural Resources' Division of Reclamation from 1970 through 1977, Bill served in various positions including surface mine inspector, supervisor, administrative assistant and assistant chief.

Bill joined the West Virginia Mining and Reclamation Association in 1977 and served as its vice president until April 1992. At that time, he was named president of the West Virginia Coal Association, where he continues.

Mr. Raney has served as or is currently serving as: Chairman of the West Virginia National Guard Foundation, former Chairman and current board member of the West Virginia Business & Industry Council; current board member of the Youth Leadership Association's Youth in Government Program, the West Virginia Kids Count Fund; WV Department of Environmental Protection Advisory Committee; WV Special Reclamation Advisory Council; Coal Resource Road Transportation Committee; the WVU School of Engineering Mining Program Visiting Committee; former Elder at the First Presbyterian Church in Charleston; a retired Colonel in the West Virginia Army National Guard; inductee in the West Virginia Coal Hall of Fame and the First Tee West Virginia Coal Miner's Hall of Fame as well as being recognized as one of the Most Loyal Alumni at WVU and a Distinguished West Virginian.

Bill resides in South Charleston with his wife Pam. They have two children and three grandchildren. Their daughter, Michelle, a medical resident at WVU's Ruby Memorial Hospital in Morgantown, is married to Nathan Angeline, and they have a son, Luca. Pam and Bill's son, Chris, resides in Columbus, Ohio, with grandchildren, Will and Allie.



Anne Blankenship



Charlie Burd

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STATUS OF NATURAL GAS IN WEST VIRGINIA

Since becoming executive director of WVONGA in 2016, Anne has been overwhelmed by the passion of the association's members to grow and succeed in West Virginia.

She shares that passion and is working to help make West Virginia and the oil and gas industry the best it can be by taking advantage of the enormous amount of oil and gas beneath our feet. Anne's goal is to grow and nurture WVONGA's strengths and to take the organization to new heights by educating, advocating, serving and promoting the oil and gas industry. Anne has served the oil and gas industry for over 15 years as an industry lawyer in the environmental, regulatory, and utility sectors. She has undergraduate and graduate degrees in biological sciences from Marshall University and a law degree from Capital University.

She returned to West Virginia after law school and has grown her career and family in Charleston. She enjoys traveling, exploring, eating and playing throughout the great state of West Virginia.

Charlie Burd has been the executive director of the Independent Oil and Gas Association of West Virginia (IOGAWV) since July 2002. His duties include managing the day-to-day operations of the nearly 600-member trade association of oil and natural gas operators and those that serve them. Charlie also oversees IOGA's legislative efforts.

Charlie holds an associate's degree from Mountain State College ('76), a Regents BA from Glenville State College ('82), and is a 1995 graduate of the University Of Oklahoma's "Economic Development Institute." Charlie has also earned the national distinction as a "Certified Economic Developer" and is a 2001 graduate of Leadership West Virginia.

Charlie serves on the Industry Advisory Committee for WVU's College of Petroleum and Natural Gas Engineering, WVU's Advisory Committee for the Energy and Land Management Program and WVU's Advisory Committee for the West Virginia Manufacturing Extension Partnership.

Charlie was recently honored as the "2017 West Virginia Oil and Gas Man of the Year" by the West Virginia Oil & Gas Festival Board of Directors.

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THE IMPORTANCE OF ENERGY EDUCATION



Mary Spruill

Mary E. Spruill was appointed executive director of The NEED Project (National Energy Education Development) in January of 2007. She is the 3rd executive director in NEED's 37-year history and the first to have served in many capacities in the organization since joining the NEED staff in 1991. NEED is the nation's leading energy education program annually providing energy training and programs to over 65,000 classrooms nationwide. As executive director, Mary provides oversight and support for NEED's curriculum, training, student development, and signature program activities. The story of her joining NEED uniquely qualifies her to lead the organization today alongside NEED's board of directors and exceptional staff.

As executive director, she is fortunate to lead a dynamic team of educators and energy professionals who design and deliver high quality energy curriculum, teacher and energy professional training, and turn-key program management for energy agencies, companies, and organizations. With programming in 50 states, the District of Columbia, the U.S. territories, the United Kingdom, Dubai, Kuwait, Taiwan, Australia, Thailand, Japan, and Canada, NEED continues to expand its reach and portfolio to provide the best possible energy education program to teachers and students worldwide.

Mary also works in a variety of capacities with NEED's partners including serving on the board of the IPAA Energy Institute High School, supporting the Society of Petroleum Engineer's Energy4Me program, participating in the National Ocean Industries Association Education and Public Affairs Committee, co-chairing the PECO Energizing Education team, and serving on the team that designs and delivers the Energizing Student Potential program for schools in Illinois and Indiana. Energizing Student Potential is supported by the Exelon Foundation, ComEd, Nicor Gas, BP, and Peoples Gas and North Shore Gas.

Mary holds a B.A. in International Studies and Global Systems, a Master's Degree in Public Administration and Nonprofit Management from George Mason University in Fairfax, Virginia.

On a personal note, Mary resides in Fairfax, Virginia, with four males including "bonus kids" Ethan (14) and Evan (12) Newton, their dad, Adam Newton, and a silver labrador retriever named Fig (Newton).



H. Wood Thrasher

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**WEST VIRGINIA
FORWARD**

H. Wood “Woody” Thrasher was appointed the West Virginia Secretary of Commerce in December 2016 by Governor Jim Justice. In that role, he oversees eight agencies including the Development Office, the Divisions of Forestry, Labor, and Natural Resources, the Office of Miners’ Health, Safety and Training, WorkForce West Virginia, the West Virginia Tourism Office, and the West Virginia Geological and Economic Survey. As Secretary of Commerce, Thrasher’s main goal is creating more jobs in West Virginia by growing existing businesses and attracting new businesses to the state.

Thrasher is the previous president and chief executive officer of The Thrasher Group, Inc., a leading Mid-Atlantic engineering and architectural firm, with the headquarters based in Bridgeport, West Virginia. In 1983, Mr. Thrasher with his father, Henry, started Thrasher Engineering in Harrison County with one employee. The company has grown to employ over 400 professionals in six different states. In addition to his engineering pursuits, Thrasher also held interests in commercial and residential developments in North Central West Virginia through High Tech Development, LLC, the developing company of the White Oaks Business Park.

Mr. Thrasher remains very active with his alma mater. In 2012, he was elected to the West Virginia University Alumni Association’s Board of Directors, and currently serves as its immediate past chairman. He is a distinguished alumnus of the Statler College of Engineering and Mineral Resources, and has been active on various committees within the College. He has served as past president of the West Virginia American Council of Engineering Companies and the West Virginia Society of Professional Engineers. In 2000, Thrasher was named “Entrepreneur of the Year” by the national professional services firm of Ernst and Young. He has also served as an officer on the executive and financial committee for West Virginia University Hospital. Thrasher is very involved in the community and is a member of chambers and local organizations throughout the state. He is past president of the Harrison County Chamber of Commerce, and serves on the board of the West Virginia Chamber of Commerce.

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WEST VIRGINIA
FORWARD

Rob Alsop



Jerome Gilbert

As vice president for strategic initiatives at West Virginia University, Rob Alsop is responsible for identifying, developing and managing sustainable resources and initiatives that support academic, research and service excellence. He was appointed to his current position in August 2017. Rob earned his political science degree from WVU in 1999 and law degree from the WVU College of Law in 2002. From November 2010 through May 2013, he was the chief of staff to West Virginia Governor Earl Ray Tomblin, where he focused on a host of legislative initiatives, including the Marcellus Shale regulatory structure, OPEB reform, primary education reform and other economic development and budgetary matters. From January 2005 through November 2007, Rob served in a number of roles for former Governor Joe Manchin, including deputy general counsel, general counsel for the Department of Revenue and secretary of revenue. During his tenure with former Governor Manchin, he was his designee as chairman of the Workers' Compensation Commission, working on privatizing that system. He also served as chief of staff for Senator Carte Goodwin in Washington, D.C.

Dr. Jerome A. "Jerry" Gilbert was named the 37th president of Marshall University on Oct. 20, 2015. He assumed the presidency in January 2016.

A Mississippi native with a background in biomedical engineering, President Gilbert previously served for nearly six years as provost and executive vice president of Mississippi State University. Before that, he was the university's associate provost and associate vice president for academic affairs for six years. Earlier roles include head of the Department of Agricultural and Biological Engineering and coordinator for the biomedical engineering graduate program in the Bagley College of Engineering.

President Gilbert attained the rank of professor in 1993 after joining the Mississippi State faculty in 1988 as associate professor. From 1989-2005, he also served as adjunct clinical assistant professor of orthopedic surgery (research) for the University of Mississippi Medical Center.

He has a bachelor's degree in biological engineering from Mississippi State and a doctorate in biomedical engineering from Duke.



Arria Hines

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ENTREPRENEURSHIP AND EMPOWERMENT IN ENERGY

As an entrepreneur, successful businesswoman, advisor, and mentor, Arria Hines is a recognized leader in West Virginia and in all the places where Allegheny Science & Technology operates. Arria's passion to mentor and give back to small businesses and the community show why and how she has become a powerful, collaborative leader in today's complex and rapidly evolving business and civic climate. Indeed, Arria's most treasured asset is her ability to spark connections between individuals representing different organizations and interests with the purpose of creating partnerships and alliances and generating forward momentum to "get things done" – and always with the goal of ensuring everyone benefits.

Born and raised in Weston, West Virginia, Arria began her entrepreneurial journey over 30 years ago, earning her undergraduate degree in accounting at West Virginia Wesleyan College and then her Master of Business Administration (MBA) from West Virginia University. It was Arria's enthusiasm and genuine, ever-present pleasant attitude – one that radiates a sincere passion to help people – that in 1989 led to the found her first company in the basement of her home. In the years that followed, she navigated a successful career as a program manager for companies such as SAIC, PRC and Ranger Golf Corporation, where she provided oversight for projects and operations exceeding \$120 million annual revenue. Finally, in 2009, she co-founded Allegheny Science & Technology (AST).

Over the course of the next eight years, Arria turned AST into one of America's fast-growing privately held companies, transforming it from a two-person company with one government contract to one with nearly 240 employees and more than two dozen contracts across multiple federal agencies.

As CEO and president of AST, Arria is an inspiring example for women CEOs in West Virginia and across the United States. In recognition of these achievements, in March 2016, the U.S. Business Administration (SBA) named Arria West Virginia's 2016 Small Business Person of the Year. In March 2017, she was honored as TechConnect West Virginia's 2017 "Spirit of Innovation Awards" Outstanding Woman in Technology.

Today, Arria resides in Lewis County, West Virginia, with her husband. She is a dedicated contributor to her community – giving back with every opportunity and keeping a special focus on support for small businesses in West Virginia. Arria currently serves on the West Virginia University MBA Advisory Council, the I-79 Development Council and the West Virginia Governor's Science, Technology, Engineering and Mathematics (STEM) Council.

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ENERGY AND ECONOMIC DEVELOPMENT IN SMALL BUSINESSES



B.J. Evans



Mike McKechnie

B.J. grew up in Logan, W.Va., the fourth generation of his family to work in the coal industry. And that background instilled Evans with the typical southern West Virginia work ethic, a knowledge of how important mining is and a desire to make things better.

He spent many years in the mines. Part of his responsibility in mining was working underground, studying and upgrading systems.

And as a consultant, he's been everywhere from 3,000 feet underground in a potash mine in northern Canada to a copper mine at an elevation of 15,000 feet in Chile ... and that wasn't even at the top of the mountain! He's been in coal mines in Africa; iron ore mines in Australia.

As he says, he's seen a little bit of everything.

Now, Evans is co-founder, CEO and managing director of Aridea Solutions, a provider of software and hardware systems that monitor environmental conditions.

Evans has an MBA in technology management from the University of Phoenix and a B.S. in electronic engineering technology from WVU Tech.

Mike and his brother Pete discovered the power and benefits of solar energy during their time as green homebuilders with their former company Mountain View Builders. In 2008, they decided to add renewable energy to their company's portfolio, and eventually did a full conversion from building homes to installing solar energy systems with their new company, Mountain View Solar (mtvSolar).

mtvSolar has won several awards for their work throughout the state, including the 2012 SBA Entrepreneurial Success of the Year award.

Mike is passionate about teaching, and Mountain View hosts 5-6 college-level interns each year. In addition, Mountain View Solar has helped local vocational schools and community colleges develop their renewable energy curricula, and has taught courses on solar photovoltaic design and installation.

Mike has served as an industry expert on countless panel discussions, energy forums, and debates. He has also participated in state-level legislation affecting solar in West Virginia, and served as a witness in the Federal Solar ITC case.



Greg Paxton

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ENERGY AND ECONOMIC DEVELOPMENT IN SMALL BUSINESSES

Greg owns and operates a remodeling business, with a focus on retrofitting homes for energy efficiency. Greg's previous career was an IT director, so he is accustomed to gathering data for empirical resolution. He has been certified by the Building Performance Institute (BPI) and is currently a certified HERS rater through RESNET. He is also involved with the National Association of Home Builders (NAHB) both statewide and nationally, and is the president of the Home Builders Association of Greater Charleston, West Virginia.

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**COAL AS A
FEEDSTOCK****Paul "Mike" Muncy**

Mr. Muncy serves as the chief technology officer for GEO-QTX Synfuels, Inc. The company worked closely with West Virginia University in advancing coal to liquids, carbon technology and industrial coke products.

Their plant in Morgantown, W.Va. is a NASA-rated TRL 7 facility, which has developed patents and has tested processes for the Department of Defense to manufacture economically viable synfuels from coal.

Mr. Muncy also serves U.S Precious Metals, Inc., a publicly traded international mining company, as its chief executive officer and chairman of the board.

Mr. Muncy was one of the founders of GeoAsia Group, based in Singapore, which holds more than 2 billion tons of coal reserves as well as copper and nickel mines in Indonesia. For the past five years, he served as chief technology officer for the GeoAsia Group, reviewing new technology for suitability for application in the respective mining companies under the control of the group. His industrial career began in leadership at Olga Coal Company in Coalwood, W.Va., as a state-certified miner and underground mining electrician.

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**ASSISTING
WEST VIRGINIA
COMPANIES WITH
COMBINED HEAT
AND POWER**



Bill Valentine

Bill is in the Architectural Engineering Department at Penn State University and is responsible for managing the Mid Atlantic CHP Technical Assistance Partnership, located at the Philadelphia Navy Yard.

The MA CHP TAP is a U.S. Department of Energy program tasked with promoting the use of combined heat and power, district energy and waste heat recovery throughout the Mid-Atlantic region. He has been with the MA CHP TAP for seven years and previously worked for the Department of the Navy, with experience in research, test and evaluation, and systems engineering of U.S. Navy ship machinery systems, particularly main propulsion and power generation systems. He is a graduate of Drexel University.

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EMERGING TECHNOLOGIES IN THE ELECTRIC GRID



Keith Dodrill

Keith Dodrill serves as a project officer and senior energy infrastructure analyst at the National Energy Technology Laboratory. His primary duties involve the modernization of the nation's electrical infrastructure having over thirty years of experience in energy systems research and development. This experience is in the areas of advanced combustion technologies, advanced visualization, energy security, reliability and restoration, instrumentation and controls, and advanced process simulation of technologies used in electricity generation and delivery.

He has served for over a decade supporting the Grid Modernization and Energy Security Programs in the Office of Electricity Delivery and Energy Reliability as both an analyst and Federal Project Officer regarding energy transmission and distribution systems that includes electricity systems and gas and oil pipelines. He also has experience both using and developing power transmission and distribution simulation tools and methods specializing in Smart Grid deployment. He has authored and/or coauthored one book, various published papers and holds one patent.



Gideon Gradman

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REGIONAL ECONOMIC IMPLICATIONS AND OPPORTUNITIES FROM NEW PETROCHEMICAL PROJECTS IN OUR REGION

Gideon Gradman is an energy executive and advisor on matters of energy, environmental and industrial development. He has over 15 years of experience in business development, government affairs and industrial real estate development in the oil & natural gas, chemicals, electric power, and waste management sectors. Mr. Gradman has served as both a company executive and as an advisor to multinational energy and chemicals companies and to venture capital portfolio managers.

Mr. Gradman is Managing Director of Integrated Energy Advisors where he advises select clients on corporate strategy, energy project development, industrial site selection, and fuel & feedstock supply, with a particular focus on natural gas-related industries. Previously, he was Director of Business Development for Braskem, a worldwide maker of polymers and petrochemicals, where he was responsible for developing new businesses, and new manufacturing and logistics assets, including for Braskem's ethane cracker project - Project Ascent - planned for Parkersburg, West Virginia.

Mr. Gradman is also active in the community. In 2006, he was appointed by Massachusetts Governor Mitt Romney to serve as a Public Member on the Massachusetts Energy Facility Siting Board and he currently serves on the Board of Directors of the Gold Standard Foundation USA and is an Industry Champion for the Greater Philadelphia Chamber of Commerce.

Mr. Gradman holds an MBA and a Masters degree in Public Policy from the University of Chicago as well as a Bachelor of Arts in Economics and a Bachelor of Science in Applied Science from Washington University in St. Louis.

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STORAGE HUB ACCELERATION/ DEVELOPMENT



Steve Hedrick



Jim Crews

Steve Hedrick is President & CEO of Mid-Atlantic Technology, Research & Innovation Center (MATRIC) in South Charleston, W.Va. MATRIC delivers market-driven innovation, research, technical engineering, and technology commercialization for the chemical, energy, environmental, and advanced software sectors.

Mr. Hedrick has nearly three decades of broad-based leadership experience, with more than 20 years of experience in the petrochemical industry, leading businesses, chemical manufacturing and health, safety, environment and quality (HSEQ).

Mr. Hedrick currently serves as the CEO of Appalachia Development Group, LLC, a collaborative platform designed to deliver the Appalachia Storage and Trading Hub, considered to be industry's catalyst for the industrial spread associated with the prolific shale gas developments in the Marcellus, Utica and Rodgersville Shales.

A native of West Virginia, he holds a B.S. in chemical engineering from the United States Military Academy at West Point, N.Y.

Jim Crews, who became vice president of Northeast Development for MarkWest Hydrocarbons in October 2011, held various positions with NiSource Gas Transmission and Storage-NGT&S (and its predecessor Columbia Gas Transmission) from 1995 to 2011. Most recently he was managing director of NGT&S's Supply & Origination group and was responsible for building the NiSource Midstream Services subsidiary to provide unregulated gathering and processing services in the Appalachian Basin. During his tenure at NiSource he was director of commercial operations, manager of gas control, manager of marketing, manager of business development, and engineering supervisor. He has spent his entire professional career in the energy industry. Jim also served as president of WVONGA in 2010-2011.

Crews received a bachelor's degree in petroleum engineering from West Virginia University and is a registered professional mechanical engineer in Virginia and Ohio.



Kevin DiGregorio



Rebecca McPhail

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STORAGE HUB ACCELERATION/ DEVELOPMENT

Kevin DiGregorio is the executive director of The Chemical Alliance Zone, a nonprofit economic development group dedicated to advancing the chemical and related industries in West Virginia. Kevin has a Ph.D. in chemical engineering from West Virginia University and over 16 years of experience with Union Carbide Corporation and The Dow Chemical Company.

Kevin conducted biomedical research for his MS and PhD degrees and earned the Young Investigator Award from the Biomedical Engineering Society for his dissertation work. He was awarded the Corporate Fellows Technology Award at Union Carbide Corporation. He spent his last several years at Dow as the change leader at the South Charleston Technology Park.

Kevin is a director on a number of statewide boards, including MATRIC, the WV Regional Technology Park, and TechConnectWV. He also serves on several advisory boards, chairs the WVU Chemical Engineering Advisory Committee, and is a member of the West Virginia University Academy of Chemical Engineers.

Rebecca R. McPhail joined the WVMA as its president in 2013 having previously served as the President of state economic development organization Vision Shared. Prior to her work at Vision Shared, McPhail was Assistant Vice President of Development at Marshall University. Before returning to West Virginia in 2003, she served as Grant Development and Research Manager and Interim Director of Development for the YMCA of Greater Cleveland in Cleveland, Ohio.

Rebecca is a graduate of the West Virginia Institute of Technology with a B.A. in History and Government. She is a member of the West Virginia Department of Environmental Protection Advisory Council, the W.Va. Early Childhood Development Council, serves as Chair of the Charleston March for Babies through the March of Dimes, and attends St. Mark's United Methodist Church. She is a graduate of Leadership West Virginia and was named a 2017 Young Gun by The West Virginia Executive magazine.

McPhail resides in Charleston, W.Va., with her husband David Yaussy, and two sons, Garrett and Owen.

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WEST VIRGINIA JOBS PROJECT: CREATING JOBS IN INDUSTRIAL ENERGY EFFICIENCY



Hank Love

Hank Love is the executive director of the American Jobs Project. After graduating from Central Michigan University with a degree in entrepreneurial business and finance, Hank provided consulting services to nonprofit organizations and entrepreneurs in the Greater Lansing Area. His work with nonprofits led him to serve as the assistant director of Michigan Energy Options (MEO), a statewide nonprofit energy efficiency and renewable energy organization, where he successfully diversified funding and grew the organization's size by 5X.

Hank moved to the Bay Area in 2011, staying on as an executive consultant to MEO and providing executive consulting services to several California nonprofit organizations in the workforce development and energy space.

In 2014, Hank helped start the American Jobs Project at the Berkeley Energy and Climate Institute, eventually taking the role of executive director. Hank has also worked on leadership research at the Haas School of Business, volunteered and consulted for several downtown development organizations and currently serves on the board of Community Energy Services Corporation, a nonprofit organization that implements energy efficiency and healthy homes programs in the Bay Area.

His work with the American Jobs Project has focused on right-fit economic diversification strategies for states that are at risk from shifts in their energy economy.

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