

# New Mexico Energy Initiatives

2025

Energy Symposium



November 18th-19th New Mexico Tech Socorro, NM

### Code of Conduct



#### **Professional Conduct**

The New Mexico Energy Initiatives Consortium (NMEIC) Symposium and New Mexico Tech (NMT) are committed to providing a safe, respectful, and inclusive environment for all participants. We value collaboration across diverse disciplines, institutions, and communities, and we expect all attendees to conduct themselves with integrity, professionalism, and courtesy.

#### **Expected Behavior**

- Treat all participants, regardless of background, role, or affiliation, with respect and dignity.
- Engage in constructive and considerate dialogue, even when perspectives differ.
- Support an environment of collaboration, learning, and open exchange of ideas.
- Uphold academic and professional integrity in all presentations, discussions, and interactions.
- Respect the time and contributions of others by being punctual and prepared for sessions and talks.
- During open Question & Answer sessions, please keep comments concise and focused on a specific question; remember, this is Q&A, not "My Energy Journey: The Movie."

#### Unacceptable Behavior

- Harassment, intimidation, or discrimination in any form, including verbal or physical.
- Disruptive or disrespectful behavior that interferes with presentations or discussions.
- Unauthorized recording or sharing of presentations, slides, or discussions without the speaker's consent.

#### Reporting and Response

If you experience or witness inappropriate behavior, please contact a member of the NMT staff. Concerns will be handled promptly, confidentially, and respectfully. NMT reserves the right to take appropriate action, including removal from the event, in response to violations of this code of conduct.

#### Commitment

By participating in the NMEIC Symposium, you agree to uphold this standard of professional conduct and contribute to an environment that fosters collaboration, innovation, and respect in support of New Mexico's energy future.

#### AI-Assisted Content Disclosure

Portions of this document were drafted with assistance from ChatGPT (GPT-5), developed by OpenAI, and subsequently reviewed and edited by the NMEIC organizing committee for accuracy, clarity, and alignment with event values.

### Welcome!



On behalf of New Mexico Tech, welcome to our campus for this year's New Mexico Energy Initiatives Consortium (NMEIC) Energy Symposium and Stakeholder Forum. We are delighted to have you join us for two days of collaboration, insight, and stimulating conversation.

This year's gathering reflects the remarkable breadth of New Mexico's energy community. We are honored to host you, representatives from universities across the state, national laboratories, state agencies, private industry, nonprofit organizations, and Tribal Nations. This diverse representation underscores the reality that New Mexico's most pressing energy challenges and greatest opportunities cannot be solved in isolation. They require collective effort, shared expertise, and a commitment to work together across institutional and sector boundaries—and this symposium is an important step toward that goal.



Dr. Michael Jackson Interim President New Mexico Tech

As we work together, inclusivity must remain at the center of our approach. Energy issues are deeply interconnected with the well-being of rural communities, Tribal Nations, and underserved populations. Their perspectives and leadership are essential as we build solutions that are equitable, sustainable, and representative of all New Mexicans.

Thank you for being here, for your commitment, and for your partnership. Please take advantage of engaging in conversation that forges partnerships and establishes collaborations so that New Mexico can lead the way toward a resilient and sustainable energy future.

### Overview



As Interim President Jackson noted, this year's NMEIC Energy Symposium brings together a wide range of stakeholders, and this diversity reflects that New Mexico's energy challenges and opportunities cannot be addressed alone. The international community recognizes the same urgency. Few days ago, the International Energy Agency's 2025 Energy Outlook opened with the line: "As risks multiply in a world thirsty for energy, diversification and cooperation are more urgent than ever." Collaboration and diversity are now global imperatives.

And few places answer that call better than New Mexico. With its rich mix of energy resources, scientific institutions, and community voices, our state is uniquely positioned to become a national and global example of energy diversification and coordinated action.

Therefore, building on the momentum of our first workshop in November 2024, we return to our guiding question: "How can we establish a sustainable and effective statewide collaboration that delivers meaningful results?" Over the next two days, we will explore how to institutionalize collaboration by making it systematic, enduring, and a core part of how we work together. Not temporary. Not individual-dependent. But part of the structure of New Mexico's energy future.

Jean-Lucien Fonquergne Research Engineer, PRRC – New Mexico Tech Founder, New Mexico Energy Initiatives

#### Program at a Glance

#### Day 1 - November 18th

- Energy Generation, Transmission & Storage Workforce Development & Education
- Energy Initiatives on Tribal Nations
- Industry & Utility Perspectives

#### Day 2 - November 19th

- CETS Phase I Overview and Phase II/III
- Critical Minerals & the Energy Transition
- Climate Action Plan Updates
- Carbon, Methane and Water Management

#### **Interactive Forum**

Each afternoon, the Fidel Center will host poster sessions and exhibition booths from research centers, state agencies, industry partners, and energy associations. It's your opportunity to connect, explore new collaborations, and see the innovation happening across New Mexico's energy landscape.

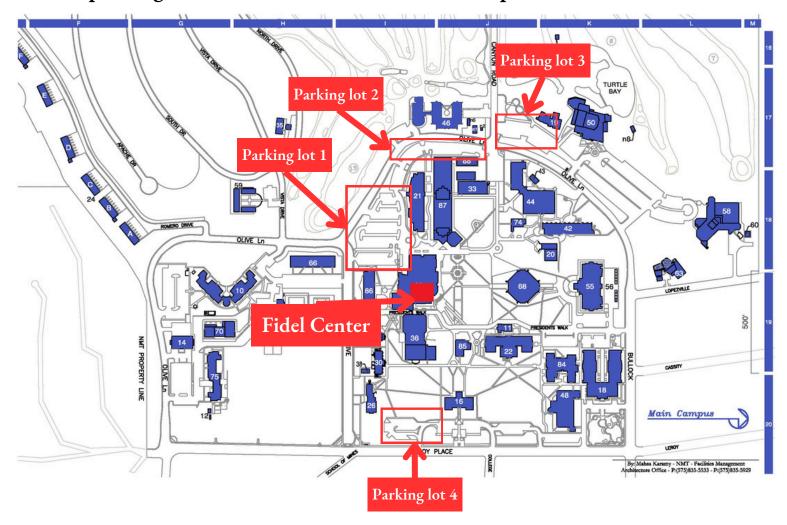


#### **Fidel Center**

The workshop will be held in the third floor of the Fidel Center at NMT.



Several parking areas are available around the campus:





#### **Fidel Center**

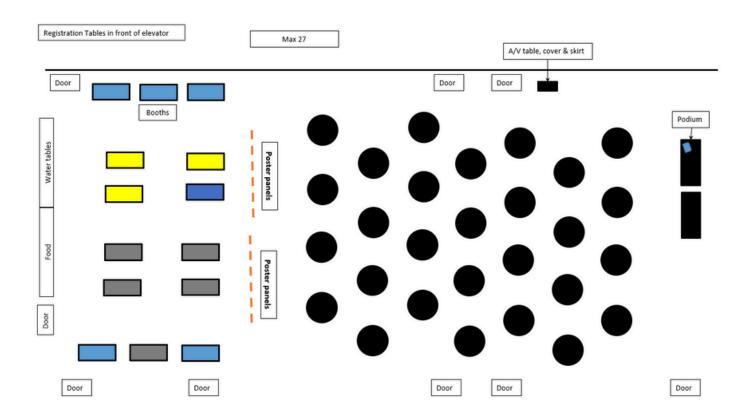
#### Room Organization

Registration tables are set up outside the ballrooms, in front of the elevator.

The Fidel Ballrooms are organized to support exhibitors, posters, and presentations in one integrated space.

Exhibitor booths are located on the left side of the room, with food and water stations along the same wall. This is where lunch and dinner will be served.

Poster panels are arranged in two rows in the center of the room, creating a walkway between the exhibitor area and the seating area.



## Day 1 - Morning Agenda



Time	Speaker	Role	Organization	Duration (minutes)	
8:00 AM	Breakfast - Fidel Center				
8:50 AM	Opening Re	marks - Dr. Jackson - Interim	President NMT	10	
9:00 AM	Eco	Secretary Black nomic Development Depa	rtment	30	
Generation, Transmission and Storage R&D in New Mexico					
	Dr. Sydney Strategic Advisor on Energy, Climate & Natural Lienemann (mod.) Resources				
	Lynn Mostoller	Executive Director	Renewable Energy Transmission Authority		
	Dr. Karthi Ramasamy Acting Program Directo		LANL - Applied Energy Office		
9:30 AM	Rob Black	Secretary	NMEDD	75	
	Rebecca Puck Stair	Director	EMNRD - Energy Conservation and Management		
	Dr Robert Balch	Director	NMT - PRRC		
10:45 AM	Break			30	
New Mexico Utilities Perspectives					
11:15 AM	Kelly A. Tomblin	President and CEO El Paso Electric		20	
11:35 AM	Laurie Williams	Senior Vice President, Integrated Planning and Transmission  Public Service Company of New Mexico		20	
12:00 PM	Lunch			60	

## Day 1 - Afternoon Agenda



Time	Speaker	Role	Organization	Duration (minutes)		
12:00 PM	Lunch					
1:00 PM	Dr. Sundaram Arumugam Navajo Technical University					
	Tribal End	ergy Leadership and Pa	rtnerships			
	Steve Grey (mod.)	CEO	Grey LLC			
1:30 PM	Danielle Executive Director		Four Corners Clean Energy Alliance	60		
1.50 F W	Arvin Trujillo	Navajo Nation Government Affairs Manager	ijo Nation Government Navajo Transitional			
	Terry Dayish, P.E.	Public Affairs Manager	Arizona Public Service			
	Energy Workforce Development					
	Veronica Alonzo (mod.)	WIOA Operations and Program Manager	Department of Workforce Solution			
	Alessandra Barbiero	State Apprenticeship Program Coordinator	Department of Workforce Solution			
2:30 PM	Kathy Steen	Innovation Program Manager	NewSpace Nexus	60		
	Dr. Lique Coolen	Vice President for Research and Academic Affairs	NMT			
	Dr. Julianna Fessenden	Division Leader - Earth and Environmental Science	LANL			
3:30 PM	Forum, Exhibition Booths & Posters			120		
5:30 PM	Dinner - Fidel Center			120		
7:30 PM	Adjourn			0		

## Day 2 - Morning Agenda



Time	Speaker	Role Organization		Duration (minutes)		
8:00 AM	Breakfast - Fidel Center					
8:55 AM	Оре	ening Remarks NMEIC Symposiu	um Day 2	5		
9:00 AM	Secretary Kenderdine Energy, Mineral and Natural Resources Department (EMNRD)					
	Compre	hensive Energy Transitio	n Strategy			
	Anna Aguilera (mod.)	Senior Policy Advisor	EMNRD			
	Jeanette Pablo	CEO	Climate Equity Foundation	60		
9:30 AM	Jean-Lucien Fonquergne	Research Engineer	NMT - PRRC			
	Dr. Kramer Winingham	Director of Economic Analysis	NMSU - Arrowhead Center			
	Dr. Kristin Morehead	Director Community Entrepreneurship	NMSU - Arrowhead Center			
10:30 AM	Break			30		
Buildir	Building the Mine of the Future in New Mexico for the Energy Transition					
	Dr. Jolante Van Wijk (mod.)	Program Manager, Applied Energy Program Office	LANL - Earth and Environmental Sciences			
	Dr. Virginia McLemore	Senior Scientist	NMT - NMBGMR			
	Dr. Jianjia Yu	. Jianjia Yu Research Scientist				
11:00 AM	Dr. Guangping Xu	Principal Member of Technical Staff	SNL	60		
	Laura Phelps	Senior Administration Manager - New Mexico Operations	Freeport-McMoRan			
12:00 PM		Lunch		60		

## Day 2 - Afternoon Agenda



Time	Speaker	er Role Organization		Duration (minutes)	
12:00 PM	Lunch				
1:00 PM	Secretary Kenney  New Mexico Environment Department (NMED)				
	Greenhouse (	Gases Inventory and CAP Pro	cess Overview		
	Becky Smith	Community Engagement and Support Section Manager	NMED - Climate Change Bureau		
	New Mex	cico Climate Action Plan	(CAP) Panel		
	Rachel Finklestein (mod.)	Climate Policy Bureau Chief	EMNRD		
1:30 PM	Becky Smith	Community Engagement and Support Section Manager	NMED - Climate Change Bureau	60	
	Jessica Hejny Control Strategies Manager NMED - Air Quality Bureau				
	Richard Kirschner	Climate Policy and Data Analyst	EMNRD		
	Evan Rogers	Economist	EMNRD		
Carbon, Methane and Water Management					
	Integrated Subsu	rface Strategies for New Mex	kico Energy Future		
	Dr. Robert Balch	Director	NMT - PRRC		
	Dr. Bailian Chen	Senior Scientist	LANL - Earth and Environmental		
2:30 PM	Matt Eales	CEO	CoolSky Energy	60	
	Dr. Tushara Gunda	Principal Member of Technical Staff	SNL		
3:30 PM	Forum, Exhibition Booths & Posters			120	
5:30 PM	Dinner - Fidel Center			120	
7:30 PM		Adjourn		0	

## Day 1 - Keynotes



#### November 18th, 9:00 - 9:30 AM



Rob Black, NMEDD

Born, and raised in New Mexico, Rob Black brings over twenty-five years of experience and leadership in public policy, advocacy and economic development to his role as Cabinet Secretary for the New Mexico Economic Development Department (NMEDD). Prior to taking on his role at NMEDD Black was the President/CEO of the New Mexico Chamber of Commerce where he led the Chamber for over six years. While at the Chamber he launched Be Pro Be Proud, a statewide career technical engagement program in partnership with the New Mexico Department of Workforce solutions. Black also launched the New Mexico Organized Retail Crime Association (NMORCA), to better coordinate between law enforcement and retailers on key public safety issues. Prior to joining The Chamber, Black was Senior Director for Community Relations and managed the corporate foundation at Pacific Gas and Electric of California, one of the largest combined gas and electric utility companies in the country. Black holds a Bachelor of Arts degree in political science from the University of New Mexico and a juris doctorate from the University of California, College of the Law, San Francisco.

#### November 18th, 1:00 - 1:30 PM



Dr. Arumugam Sundaram, NTU

(Electrical and Electronics) at Bharathiyar University, and Master of Engineering in Electrical power systems at Karpagam University in India. Completed PhD in Electrical power systems at St. Peter University, 2013 India. I have about 20 Years of Teaching Experience. I worked as lecturer and Assistant Professor in universities in India, Tanzania, Ethiopia. Currently employed as Associate Professor of Electrical Engineering, Navajo Technical University, NewMexico. I have published research articles in peer reviewed journals. The areas of reach are Motor, Converter, Inverter, Solar Energy, Renewable energy, power electronics, Air Qualty. I am a faculty of NTU to integrate STEM education with culturally relevant and community-based needs, especially energy systems, environment, and infrastructure relevant to the Navajo Nation. I support NTU's goals of providing hands-on experiential learning and promoting research that serves the local communities. Projects under his purview are not just academic, but tied to public health (e.g. air quality), sustainability, and technical workforce development.

Arumugam Sundaram successfully completed his Bachelor of Engineering

## Day 2 - Keynotes



#### November 19th, 9:00 - 9:30 AM



Melanie Kenderdine, EMNRD

Melanie Kenderdine is the Secretary of the Energy, Minerals and Natural Resources Department (EMNRD) and a nationally recognized energy policy leader with decades of experience across federal, nonprofit, and advisory roles. She co-founded and served as Principal and Executive Vice President of the Energy Futures Initiative (EFI), a Washington, D.C.-based nonprofit dedicated to advancing clean energy through technology and policy innovation. Kenderdine has held senior positions at the U.S. Department of Energy under both the Obama and Clinton administrations. Under President Obama, she played a pivotal role in launching Mission Innovation, strengthening North American grid security, modernizing the Strategic Petroleum Reserve, and leading the Quadrennial Energy Review. During the Clinton administration, she contributed to major national initiatives including the 2000 Strategic Petroleum Reserve oil exchange, the establishment of the Northeast Home Heating Oil Reserve, and a landmark land transfer returning acreage to the Ute Tribe in Utah.

#### November 19th, 1:00 - 1:30 PM



James Kenney, NMED

James C. Kenney is the Cabinet Secretary of the New Mexico Environment Department (NMED) and an experienced environmental regulator with more than 21 years of service at the U.S. Environmental Protection Agency. Most recently, he served as Senior Policy Advisor for Oil and Gas, where he worked closely with agency leadership to design strategies that support environmentally responsible oil and natural gas development. In this role, he collaborated extensively with states, Tribal Nations, federal agencies, and industry stakeholders on regulatory and policy matters. Earlier in his EPA career, Kenney served as a Senior Environmental Engineer, leading civil and criminal investigations under major federal environmental laws, including the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act. He also advanced strategic compliance and enforcement initiatives focused on oil and natural gas exploration. Secretary Kenney brings deep expertise in environmental protection, regulatory strategy, and intergovernmental collaboration to New Mexico.



#### Generation, Transmission and Storage R&D in New Mexico

November 18th, 9:30 - 10:45 AM



Dr. Sydney Lienemann

Sydney Lienemann is a clean-energy and environmental policy leader with 15 years of experience turning complex regulatory systems into actionable, technology-driven solutions. Her work spans federal government, state agencies, and climate-tech startups, where she has led efforts to modernize permitting, expand renewable integration, and safeguard natural resources. She served as Deputy Assistant Secretary for Renewable Energy at the U.S. Department of Energy and Deputy Cabinet Secretary at the New Mexico Environment Department, where she strengthened air and water programs, accelerated clean infrastructure development, and advanced data transparency in public agencies. She previously led programs at Camus Energy, a climate-tech SaaS company focused on grid decarbonization and real-time operational intelligence. She is currently an advisor with Apaluma, an environmental AI startup where she helps governments to leverage data to improve compliance, transparency, and decision-making. Sydney holds a Ph.D. in Physics from NIST and the University of Colorado Boulder and a renewable energy policy certificate from the National Renewable Energy Lab.



Lynn E. Mostoller, NMRETA

Lynn E. Mostoller is the Executive Director of the New Mexico Renewable Energy Transmission Authority (RETA) and formerly served as RETA's general counsel from 2016 to 2024. Ms. Mostoller graduated from the UNM School of Law, summa cum laude, holds a Master of Music degree from the San Francisco Conservatory of Music, and a Bachelor of Music degree from the Eastman School of Music. She is the second trombonist of the Santa Fe Symphony.



#### Generation, Transmission and Storage R&D in New Mexico

November 18th, 9:30 - 10:45 AM



Dr. Karthikeyan Ramasamy, LANL

Dr. Karthikeyan Ramasamy is the Acting Program Director for the Applied Energy Office at Los Alamos National Laboratory, where he leads program development spanning areas such as bioenergy, critical materials, waterpower, hydrogen, and geothermal technologies. He has more than 20 years of experience advancing energy innovation, with prior leadership roles at Pacific Northwest National Laboratory in renewable fuels, chemicals, and applied catalysis. Dr. Ramasamy also served as an Adjunct Professor at Washington State University, fostering collaborative research and mentoring future engineers. Earlier in his career, he pioneered hydrogen production and storage systems at the Florida Solar Energy Center. He is the inventor of 13 U.S. patents, the author of more than 40 publications, and has delivered over 100 national and international conference presentations. In recognition of his scientific and professional leadership, he was elected a Fellow of the American Chemical Society in 2023.



Rebecca "Puck" Stair, EMNRD

As the Director of the Energy Conservation and Division, Rebecca "Puck" Stair oversees dozens of grant, loan, and other funds and programs to advance New Mexico's transition to a renewable future. She came to EMNRD after nearly two decades in the New Mexico film industry, where she worked as a producer and location manager on numerous films, television shows, commercials and other media projects, including podcasts and conferences for the Franciscan monk Father Richard Rohr. For two years, Stair served as president of the local film crew union. In 2020, she ran for State Senate, and subsequently served as a policy analyst for our House Consumer & Public Affairs Committee. Stair graduated Cum Laude from Amherst College with a BA in English Literature, and did some graduate study in Linguistics at Georgetown University. On all the projects she has spearheaded, she loves building great teams and championing clean-energy practices. When not working, she rides horses, skis, races triathlons, and other questionable activities that require helmets.



#### Generation, Transmission and Storage R&D in New Mexico

November 18th, 9:30 - 10:30 AM



Dr. Robert Balch, NMT-PRRC

Dr. Robert Balch is the Director of the Petroleum Recovery Research Center located on the campus of New Mexico Tech. At the university, Dr. Balch holds Adjunct Professor positions in Petroleum Engineering and Geophysics, working as a research advisor to more than 40 graduate students. During his 20 years at the PRRC, he has been principal Investigator on a range of projects focused on developing and applying solutions to problems at many scales using geological, geophysical, and engineering data. Dr. Balch was the Principal Investigator of the Southwest Partnerships Phase III demonstration project where 1,000,000 metric tonnes of anthropogenic CO<sub>2</sub> were injected for combined storage and EOR into a mature waterflood in North Texas. In addition, he is the Principal Investigator of the Carbon Utilization and Storage Partnership (CUSP), a U.S. Department of Energy funded regional initiative that regroups 14 states and many institutions to develop Carbon Capture Utilization and Storage in the western US. Dr. Balch has held an appointment as an Oil Conservation Commissioner for the State of New Mexico since June of 2011.

#### **New Mexico Utilities Perspectives**

November 18th, 11:15 - 11:35 AM



Kelly Tomblin, El Paso Electric

As President and CEO of El Paso Electric, Ms. Tomblin brings over 30 years' experience in the global energy industry, working throughout the U.S., Caribbean, United Kingdom, and Latin America. She was formerly recognized as an S&P Platts Global CEO of the Year. During her tenure, Ms. Tomblin has launched multiple key initiatives for the Company including the development of a newly envisioned strategic plan, smart metering and automated system technology, and electric vehicle infrastructure deployment. Under Ms. Tomblin's leadership, EPE has significantly expanded its renewable energy portfolio.



#### **New Mexico Utilities Perspectives**

November 18th, 11:35 - 11:55 AM



Laurie Williams, PNM

#### Senior Vice President, Integrated Planning and Transmission Development

Laurie Williams is the Senior Vice President of Integrated Planning and Transmission Development. Laurie has been with PNM since 1992. She has held various roles, including Vice President of Integrated Planning, Director of Transmission and Substation Engineering and Director of NERC Reliability Governance. Laurie has extensive experience in generation and transmission planning, root cause analysis, and compliance program management. She is also actively involved in professional organizations such as the Western Interconnection Compliance Forum and the North American Transmission Forum. She has a Bachelor of Science in Electrical Engineering from New Mexico State University and an MBA from the University of New Mexico.

#### **Tribal Energy Leadership and Partnerships**

November 18th, 1:30 - 2:30 PM



Steve Grey Grey LLC.

Mr. Steve Grey is originally from Kayenta, Navajo Nation, Arizona. He served as Chairman of the Board for Four Corners Economic Development. Mr. Grey currently owns and manages Grey LLC. Prior to 4CED Mr. Grey was employed with Navajo Transitional Energy Company (NTEC) as the Governmental and External Affairs Director. Mr. Grey also served as NTEC Board of Director for three years prior to transferring into the management position. For 27 years, Mr. Grey was employed with Lawrence Livermore National Laboratory (LLNL) a National Laboratory of the Department of Energy. While at LLNL he worked in the Directors Office within the Science and Technology Directorate. Mr. Grey also served on the Secretary of Energy staff for three years as Department of Energy (DOE) Director for Indian Affairs in Washington, DC. Mr. Grey received his Bachelor of Science degree from Northern Arizona University College of Engineering. He also obtained a Master of Business Administration (MBA) degree.



#### **Tribal Energy Leadership and Partnerships**

November 18th, 1:30 - 2:30 PM



Danielle Todacheene

Executive Director, Four Corners Clean Energy Alliance (4CCEA). Danielle Todacheene is a strategic energy leader advancing clean energy development, broadband equity, and workforce innovation across tribal and rural communities in the Four Corners region. As Executive Director of 4CCEA, she leads collaborative initiatives that integrate legacy energy systems with emerging technologies to deliver inclusive, community-driven infrastructure solutions. With over a decade of experience in energy policy, business development, and stakeholder engagement, Danielle has shaped multimillion-dollar energy strategies and built enduring partnerships across federal, state, and tribal governments. Her prior leadership at Navajo Transitional Energy Company and current role as ESG Energy Consultant for the Alliance for Navajo Broadband reflect her deep commitment to sustainable development and tribal empowerment. Danielle holds an MBA in Finance and a BA in Psychology from New Mexico Highlands University. She is widely recognized for her expertise in regulatory strategy, cross-sector alignment, and culturally grounded advocacy, making her a trusted voice in building resilient, equitable energy ecosystems throughout the Southwest.



Terry Dayish, P.E. Public Arizona Service

Terry is a Public Affairs Manager, Four Corners Division, for Arizona Public Service Company. Previously, Terry served as planning manager at the Four Corners Power Plant in Fruitland, NM. He spent 18 years in Plant engineering, most recently as an engineering supervisor. Prior to his energy industry experience, Terry served in the United States Marine Corps. He is a licensed Professional Engineer in New Mexico. He earned a degree in Electrical Engineering from New Mexico State University.



#### **Tribal Energy Leadership and Partnerships**

November 18th, 1:30 - 2:30 PM



Arvin Trujillo, Navajo Transitional Energy Company

Navajo Nation Government Affairs Manager, Navajo Transitional Energy Company. Arvin Trujillo has served as Manager of Government Relations for the Four Corners Power Plant since 2010. He leads engagement with federal, state, local, and Tribal governments, and oversees extensive community outreach across the Navajo Nation and the Four Corners region. Trujillo began his career as a coal lab technician before earning a graduate degree in Mineral Engineering from Penn State. He worked as a mining engineer in Wyoming and New Mexico before joining the Navajo Nation government, where he twice served as Executive Director of the Division of Natural Resources and also as Interim Chief of Staff under President Kelsey Begaye. Throughout his career, Trujillo has been widely recognized for leadership and service, receiving awards from the Council of Energy Resource Tribes, the Northwest NM Council of Governments, APS, USDA, and commendations from federal and Tribal leaders.

#### **Energy Workforce Development**

November 18th, 2:30 - 3:30 PM



Veronica Alonzo, NMDWS

Veronica Alonzo has been with DWS for 12 years and is currently the State Administrative Entity WIOA Operations and Program Manager.

Ms. Alonzo is a New Mexico resident from the Southeast part of the state and now lives in Albuquerque. She has worked in workforce programs for 22 years assisting youth, adults, and dislocated workers. Her responsibilities include - providing Title I grant administration, technical assistance, policy development, and partner collaborations.



#### **Energy Workforce Development**

November 18th, 2:30 - 3:30 PM



Alessandra Barbiero, NMDWS

Alessandra is currently the State Apprenticeship Program Coordinator in the Employment Services division at NMDWS and has been with the department for almost two years. She has over a decade of varied experience in strategy and operations design, program implementation/management, and training. She has worked domestically and internationally across commercial and social/economic development sectors for nonprofit and for-profit organizations as well as the USG.



Dr. Lique Coolen, NMT

Dr. Coolen joined New Mexico Institute of Mining and Technology (New Mexico Tech) in January 2025. She serves as Vice President for Research overseeing all research activities and funding across New Mexico Tech, including ten Research Centers, sponsored projects, research safety and compliance, and tech transfer and commercialization. Since August 2025 she also serves as Interim Provost and Vice President for Academic affairs at New Mexico, overseeing all academic programs and faculty affairs. Dr. Coolen holds faculty positions in the Biology and Class departments at New Mexico Tech. She has received numerous awards for her research, teaching, and mentoring and has published over 140 original peer-reviewed publications and book chapters describing her neuroscience research Dr. Coolen's research has been widely cited and she is recognized as one of the world's top 2% scientists in her field by Elsevier and Stanford University. Dr. Coolen received Bachelor of Science and Masters degrees in Psychology from the University of Utrecht in the Netherlands, a PhD in Medical Biology/Neuroscience from the Radboud University in Nijmegen in the Netherlands, completed postdoctoral training at Yale University and the University of Maryland, Baltimore, and an Executive Master of Business Administration degree at Kent State University.



#### **Energy Workforce Development**

November 18th, 2:30 - 3:30 PM



Kathy Steen, NewSpace Nexus

Kathy Steen is the Innovation Program Manager for the Pathways to the Stars program at NewSpace Nexus and serves as New Mexico's primary workforce development liaison for high-tech employers. She is responsible for the strategic execution of industry-driven solutions that address the state's skilled labor shortage in the technology sector. With extensive experience in business ownership, startup incubation, and workforce initiatives, Kathy has played a key role in supporting AFRL NM Tech Engagement programs, including the Hyperspace Challenge and AFRL Scholars. Her leadership drives impactful workforce solutions, fostering innovation and talent growth within New Mexico's tech ecosystem.



Dr. Julianna E. Fessenden, LANL

Julianna E. Fessenden is a Division Leader in Earth, Environmental Sciences at Los Alamos National Laboratory. She leads 250 people in areas of environmental management, operational atmospheric radiation monitoring deployment, AI/ML development using physics informed modeling, fossil energy, geothermal site exploration, carbon/hydrogen management, rare earth element extraction, nuclear nonproliferation, treaty verification, target defeat, Arctic climate change, fire modeling, aerosol measurement, and plant physiology and ecology. The total budget of the Division is over \$120M with sponsors from NNSA, DOE, DoD, IC, Chevron, and other small businesses in New Mexico. Fessenden has had a 23 year-career at LANL with expertise in light stable isotope geochemistry.







#### **Comprehensive Energy Transition Strategy**

November 19th, 9:30 - 10:30 AM



Anna Aguilera, EMNRD

Anna Aguilera is the Senior Policy Advisor to the Secretary of the New Mexico Energy, Minerals and Natural Resources Department (EMNRD). Prior to her work at EMNRD, Anna was Deputy Associate General Counsel for Policy at the U.S. International Development Finance Corporation (DFC) – the U.S. government's development finance bank – where she served as its chief climate counsel and subject-matter expert for high-impact energy investments in emerging markets. Prior to DFC, Anna was an Assistant General Counsel specialized in the development and financing of energy projects in Sub-Saharan Africa at the U.S. Trade and Development Agency, as well as Co-Lead of the agency's Climate Team. Anna spent six years in the electric power practices of Norton Rose Fulbright and Van Ness Feldman, and began her legal career at the Federal Energy Regulatory Commission. Before she was a lawyer, Anna was a Junior Professional Associate at the World Bank's Global Environment Facility. Anna holds degrees from Vermont Law School, Harvard University, and Barnard College.



Jean-Lucien Fonquergne, NMT-PRRC

Jean-Lucien Fonquergne is a Research Engineer at the Petroleum Recovery Research Center (PRRC) at New Mexico Tech and the founder of the New Mexico Energy Initiatives. His work focuses on carbon management, subsurface energy, integrated energy systems and decarbonization. Fonquergne leads and supports multiple statewide initiatives. He works closely with state agencies, national laboratories, industry partners, Tribal Nations, and universities to advance research, outreach, workforce development, and policy coordination.

Fonquergne holds more than a decade of international and U.S. experience across mining, energy systems, carbon management, and project development. He holds two master's degrees, one in Geosciences from the University of Montpellier and one in Mining Engineering from the Ales School of Mines, as well as a Sustainable Energy certificate from MIT.



#### **Comprehensive Energy Transition Strategy**

November 19th, 9:30 - 10:30 AM



Jeanette Pablo, Climate Equity Foundation

Jeanette Pablo is the Founder and CEO of the Climate Equity Foundation, a nonprofit dedicated to addressing the intersection of climate change and environmental injustice. She has led influential research efforts on community benefit plans, carbon capture engagement, and climate vulnerability in partnership with Columbia University's Sustainability Management Program. Previously, Pablo served as Director of the Climate Equity Initiative at the Clean Air Task Force, where she advanced environmental justice, industrial decarbonization, and modernization of Scope 2 greenhouse gas accounting. Her work included national surveys of frontline communities, strategic policy analysis, and documentary shorts on environmental justice leaders. Pablo has held senior national energy policy roles, including General Counsel at the Energy Futures Initiative and Acting Deputy Director for Energy Systems at the U.S. Department of Energy. Earlier in her career, she served as Director of Federal Affairs and Senior Climate Advisor for PNM Resources, following advisory roles at the Tennessee Valley Authority and in private-sector energy law. She holds a J.D. and M.A. from Georgetown University and a B.A. from the University of Virginia, and currently serves on the boards and expert groups of the Carbon Markets Foundation, the EFI Foundation, and OECD/IEA climate working groups.



Dr. Kristin Morehead, NMSU

Dr. Kristin Morehead is the Director of the Community Entrepreneurship Division at Arrowhead Center, overseeing programs that support small businesses and rural communities across New Mexico. She leads initiatives including business accelerators, Arrowhead's mentorship network, rural energy assistance programs, and community centered entrepreneurial assistance programs. Kristin also supports grant development and strategic partnerships. She holds a Master's in Anthropology and a Ph.D. in Educational Leadership and Administration from NMSU, combining research and real-world expertise to expand entrepreneurial opportunities statewide.



#### **Comprehensive Energy Transition Strategy**

November 19th, 9:30 - 10:30 AM



Dr. Kramer Winingham, NMSU

Dr. Kramer Winingham is the Director of Economic Analysis at Arrowhead Center at New Mexico State University (NMSU). Dr. Winingham has extensive experience with conducting economic analyses, strategic planning, and leading economic development programs. In 2021, Dr. Winingham served as the lead author of the "Economic Impact of the Santa Teresa Port of Entry and the Santa Teresa Industrial Parks," which estimated the economic benefits of economic activity in Santa Teresa to New Mexico and Texas. In 2022, Dr. Winingham served as the lead author of the binational "Border Task Force Report: Paso del Norte Region," that presented strategic initiatives from the Paso del Norte region (Southern New Mexico, West Texas, and Northern Chihuahua, Mexico) to form an aligned strategy for developing regional capacities and competitive advantages. The report was endorsed by Border Task Force members: U.S. Representative Veronica Escobar, Chihuahua Governor María Eugenia Campos Galván, and New Mexico Governor Michelle Lujan Grisham. Dr. Winingham holds a master's degree in Business Administration with specializations in Finance and Information Systems and a Doctorate of Economic Development from NMSU. His doctoral thesis, "Economic Development through Technology Transfer," developed a novel approach to technology transfer incorporating design thinking. Dr. Winingham is an adjunct faculty member in the College of Business at NMSU and is an IMPLAN Certified Economist.

### EMNRD Comprehensive Energy Transition Strategy Workshop Interest Form

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#### Building the Mine of the Future in New Mexico for the Energy Transition

November 19th, 11:00 AM - 12:00 PM



Dr. Jolante van Wijk, LANL

Jolante van Wijk is Program Manager for carbon management and subsurface energy at Los Alamos National Laboratory. She oversees the Laboratory's program development and execution in these areas that are linked to energy transition and energy security. She is closely involved with communities that are at the center of energy transition in New Mexico. Prior to this role, Dr. van Wijk was professor of geophysics at University of Houston and New Mexico Institute of Mining and Technology. Her research portfolio includes subsurface energy (carbon sequestration, geothermal energy, hydrogen, fossil energy), carbon management, and basin analysis. She is a member of the NASEM board on Earth Sciences and Resources. Jolante holds BS and MS degrees in geophysics from Utrecht University in the Netherlands, and a PhD in geophysics from Vrije University in Amsterdam.



Dr. Virginia Mclemore, NMT

Dr. Virginia McLemore is the Principal Senior Economic Geologist and Minerals Outreach Liaison at the New Mexico Bureau of Geology & Mineral Resources at New Mexico Tech. Holding a Ph.D. in Geoscience from the University of Texas at El Paso, Dr. McLemore has been with NMBGMR since 1980 and is recognized for her extensive work in resource evaluation, environmental impact, and mine hazard assessments in New Mexico. With a focus on New Mexico's mineral resources, she provides critical information on mineral economics, resource distribution, and mining impacts to a wide range of stakeholders. Dr. McLemore's role includes creating mineral resource assessments, managing the New Mexico Mines Database, and researching critical minerals like rare earth elements and uranium. She has contributed to the state's Copper Mining Rules, investigated the effects of the Gold King spill, and serves on the New Mexico Mining Commission. She also teaches graduate courses on economic geology topics at New Mexico Tech and manages the Economic Geology Laboratory and research group.



## **Building the Mine of the Future in New Mexico for the Energy Transition**

#### November 19th, 11:00 AM - 12:00 PM



Dr. Jianja Yu, NMT

Dr. Jianjia Yu is an assistant professor of chemical engineering, a research engineer, and section head at the Petroleum Recovery Research Center (PRRC) of the New Mexico Institute of Mining and Technology. His major research interests are membrane-based separation processes for water desalination, resource recovery, and gas purification. Dr. Yu has been the principal investigator of several grants funded by various agencies, and has published over 60 papers in peer-reviewed journals and conference proceedings.



Laura Phelps, Freeport-McMoRan

Laura Phelps serves as Senior Administration Manager for Freeport-McMoRan's New Mexico Operations, which include the Chino and Tyrone copper mines in Grant County. With over 13 years of experience in mining, she has held leadership roles across Environmental, Global Supply Chain, and Community Development. Laura began her mining career in Bagdad, Arizona, and holds a Juris Doctor from the University of Arizona and a bachelor's degree from Brigham Young University.



Dr. Guangping Xu, SNL

Guangping Xu is a principal member of technical staff at Sandia National Laboratories since 2017. Prior to this position, he worked at Schlumberger – Doll Research in Cambridge, MA and Colorado State University in Fort Collins, CO. He received a BS and ME degrees in geology and mineral exploration, respectively, from Nanjing University in China, and PhD in geochemistry from Massachusetts Institute of Technology. Since joining Sandia Dr. Xu has been worked on critical metals extraction from primary and secondary CM-bearing minerals, such as coal ash, shale, produced water, mine and slag tailings. He led a team won 2021 R&D 100 gold medal award for Green Tech REE extraction. Dr. Xu currently serves as the task lead for DOE HERMES multi-national lab research consortium on critical mineral valorization.



#### **New Mexico Climate Action Plan (CAP)**

November 19th, 1:30 - 2:30 PM



Becky Smith, NMED

Becky serves as the Community Engagement and Support Section Manager in the Climate Change Bureau at the New Mexico Environment Department. In this role, they oversee development of the New Mexico Climate Action Plan and lead engagement efforts across all Bureau initiatives. Previously, Becky worked as a Compliance Inspector in NMED's Air Quality Bureau and as a postdoctoral researcher in NASA's Mars Exploration Program. They hold a PhD in Geology with a specialization in Planetary Geology from Arizona State University and a BA in Geology from the University of California, Berkeley.



Rachael Finklestein, EMNRD

Rachel leads the Climate Policy Bureau at the State Energy Office of the New Mexico Energy, Minerals and Natural Resources Department. As Bureau Chief, Rachel manages interagency coordination to reduce greenhouse gas emissions and adapt the state to the impacts of climate change to support the implementation of Governor Michelle Lujan-Grisham's 2019 Executive Order on Climate Change and Waste Prevention. She was previously a senior policy adviser at the New York City Mayor's Office of Climate and Environmental Justice and has a Master in City Planning from the Massachusetts Institute of Technology.



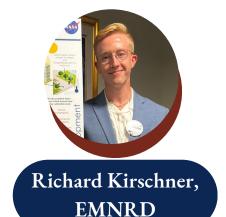
Dr. Jessica Hejny, NMED

Jessica serves as Control Strategies Manager in the Air Quality Bureau at the New Mexico Environment Department. She oversees the development of air quality regulations and serves as co-chair of the interagency Oil and Gas Climate Action Team. She holds a PhD in Political Science with expertise in U.S. Environmental Policy from University of Oregon and a MA in International Affairs from American University.



#### **New Mexico Climate Action Plan**

November 19th, 1:30 - 2:30 PM



Richard serves as a Climate Policy and Data Analyst at the State Energy Office of the New Mexico Energy, Minerals and Natural Resources Department. He leads the Electricity and Building sectors for New Mexico's Climate Action Plan, focusing on strategies to reduce greenhouse gas emissions in these sectors. Prior to joining the state, Richard was a fellow at the International Council on Clean Transportation (ICCT) in Washington, D.C., and holds a Master of Global Environmental Policy from American University.



Evan Rogers, EMNRD

Evan serves as an economist with New Mexico Energy, Minerals and Natural Resources Department. He researches electricity sector issues and contributes policy impact analyses to regulatory dockets and the New Mexico legislature. Previously, Evan worked as an equity research analyst and holds a bachelor's degree in economics from Boston University.



# **Carbon Methane and Water Management Integrated Subsurface Strategies for New Mexico Energy Future**

November 19th, 2:30 - 3:30 PM



Dr. Bailian Chen, LANL

Dr. Bailian Chen is a Senior Scientist in the Earth and Environmental Sciences Division at Los Alamos National Laboratory. His research focuses on low-carbon energy infrastructure solutions. He is the lead developer of the Unified SimCCS Platform, an open-source toolkit designed for decision-making in carbon capture, transport, and storage infrastructure. Dr. Chen has published over 60 journal articles and delivered more than 20 invited talks/lectures in the areas of CCUS and H2.



Matt Eales, CoolSky Energy

Matt has worked 27 years in the energy industry in upstream and midstream environments with most of his career spent in Environmental, Health, Safety and Regulatory leadership roles both domestic and international. Matt has worked closely within the New Mexico regulatory environment by building partnerships with regulatory clients and communities. Matt has been active in carbon sequestration development and successful EPA approval of MRV Plans Class II Acid Gas Injection (AGI) well and is currently assisting NMOCD's Class VI primacy work. Matt has an M.S. in Environmental Engineering from the University of Kansas.



Dr. Tushara Gunda, SNL

Thushara Gunda is a Principal Member of Technical Staff at Sandia National Laboratories. Her research portfolio focuses on data-driven decision making in complex systems, including water resources, energy, and security domains. Leveraging insights from interdisciplinary perspective is a key distinguishing feature of Thushara's work. Her research methods integrate techniques from data sciences, modeling and simulation, stakeholder engagement, open-source software development, and domain-specific practices. Thushara has a BS/BA in Environmental Sciences/Policy from University of Virginia and a MS/PhD in Environmental Engineering from Vanderbilt University.

## Posters



ID	Authors Name	Organisation	Topics	Title
1	Sawssan Boufous	NMSU	Carbon Credits	Carbon Farming: Market Overview and Opportunities
2	Kojo Acheampong Boateng, Dr. Hamid Rahnema	NMT - Petroleum Engineering Department	ccs	Evaluating CO2 Storage Potential in Silurian– Devonian Reservoirs of the Permian Basin Through Geochemical Modeling
3	Emmanuel Agyei, Hamid Rahnema, PhD, William Ampomah, PhD, Najmudeen Sibaweihi	NMT - Petroleum Engineering Department	ccs	Core-Scale Reactive Transport Simulation of CO2–Brine–Rock Interactions in Entrada Sandstone.
4	Mohammadreza Sadeghmoghaddam	NMT - Petroleum Engineering Department	CCS	Core Characterization and CO2 Storage Viability of the Morrow Sandstone Formation
5	Godsway Akpabli	NMT - Petroleum Engineering Department	CCS	Understanding and Mitigating Induced Seismicity in CO2 Storage
6	Audrey Ayensigna, Cain Carmona, Hamid Rahnema	NMT - Petroleum Engineering Department	CCS	Wettability Characterization of Reservoir Core Samples from the Permian and San Juan Basins for CO₂ Storage Applications
7	Elizabeth Appiah, Jason Simmons, Sai Wang	NMT - PRRC	CCS	CO₂ Brine–Basalt Interaction Under Reservoir Conditions: Insights from Flow-Through Experiments
8	Sawssan Boufous, Tullaya Boonsaeng, Brian Hurd	NMSU	Climate Change	Adaptability and Perceptions of Extreme Weather Patterns in New Mexico
9		NMT - PRRC	CO2 Mineralization	Dual Potential of Olivine: Carbon Mineralization and Hydrogen Generation under Reservoir Conditions.
10	Samuel Soto Romero, Anh Duy Huynh	NMT	Geothermal	Repurposing End-of-Life Oil Wells for Low- Temperature Geothermal Power Generation in the Permian Basin
11	Emmanuel Gyimah, Shari Kelley, Adewale Amosu, Dung Bui	New Mexico Bureau of Geology and Mineral Resources	Geothermal	Machine learning for Water Saturation Prediction: Beyond Archie's Model
12	Emmanuel Gyimah, Shari Kelley, Mark Person	New Mexico Bureau of Geology and Mineral Resources	Geothermal	A Novel Way to Predict Heat Generation: A Blend of Machine Learning Data Driven Modelling and Experimental Empirical Correlations

## Posters



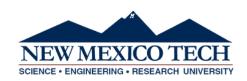
ID	Authors Name	Organisation	Topics	Title
13	Thushara Gunda, Raquel Valdez, and Franek Hasiuk	SNL	Grid	Increasing Electricity Demand: Challenges & Opportunities
14	Olga Lavrova	NMSU	Grid	Design, Testing, and Impedance Modeling of a DC Solid- State Transformer for Grid Resilience
15	Shubhendu Kumar Singh, Nishath Rajiv Ranasinghe, Cristina Garcia Cardona, Susan Behery, Katrina E Bennett, Jon Schwenk	LANL	Hydropower	Multi-action Deep Reinforcement Learning (DRL) Agent for Optimizing Hydropower in Water-stressed Systems
16	Alamgir Hossain, Bulbul Ahmmed, Rose Harris, Brent Goehring	LANL	Mining	Machine Learning for Rapid Critical Minerals Exploration: Achieving ICP-MS Accuracy from pXRF Data
17	Jakob Newcomer, Charles Kershaw	NMT - Mineral Engineering Department	Mining	Understanding the Effects of Metamictization on Leachability/Mobility of Uranium from Ores and Waste is Critical for a Nuclear Energy Transition.
18	McLemore, Zohreh Kazemi Motlagh, Evan Owen, Richard Kelley, Amy Trivitt, Bonnie Frey	New Mexico Bureau of Geology and Mineral Resources	Mining	Mine waste as a resource: Critical minerals in mine wastes in New Mexico U.S.A.
19	McLemore, Nels Iverson, Sarah Mosses, Kyle Stafford	New Mexico Bureau of Geology and Mineral Resources	Mining	Critical Minerals in Laramide Porphyry Copper and Paleogene Molybdenum-Tungsten and Carbonate Replacement Deposits in Southwestern New Mexico, USA
20	Virginia T. McLemore, Rebecca Boakye, and Zohreh Kazemi Motlagh	New Mexico Bureau of Geology and Mineral Resources	Mining	Critical minerals potential of uranium deposits in New Mexico
21	Joshua Hughes, Xiaojing Ge, Sai Wang	NMT - PRRC	Oil	From Invisible to Predictable: Tracking Asphaltene Onset with Refractive Index (RI)
22	John Engen	NMC	Organization	New Mexico Consortium Overview
23	Steven Ball, Cody Severe	NMT - PTRC	Organization	Playas Research and Training Center
24	Catherine Brewer	NMSU	Workforce / Mining	NuChemE Pipeline Project: Workforce Development in Rare Earth Elements and Radioisotopes

## Notes





### Organization involved













































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