

Day 1

Session	Theme	Key Topics
Opening Plenary Session P1	Global Energy Transition in a Fragmented World: Markets, Policies and International Cooperation	Energy security and geopolitical conflicts; Supply chain de-risking and regionalization; Fragmentation of global energy governance; Divergence in energy policies among major economies

Session Descriptions: The opening session sets the tone by examining the geopolitical fault lines that are reshaping global energy markets. Recent supply disruptions and the reconfiguration of energy trade flows—amplified by persistent geopolitical tensions, sanctions, and the realignment of traditional energy partnerships—have exposed the fragility of energy systems and elevated energy security to the top of the policy agenda, alongside decarbonization. This session explores the tension between the imperative of international cooperation and the pursuit of strategic autonomy, and how these competing forces are reconfiguring global trade, investment, and technology flows in the energy sector. It also addresses the fragmentation of energy governance, the emergence of competing standards and policy frameworks, and the implications for developing economies.

Session	Theme	Key Topics
Dual Plenary Sessions P2	Electricity Market Design in the Era of Renewables: Flexibility, Decentralization, and Resilience	Power market design under high renewable penetration; Resource adequacy and scarcity pricing; Distributed energy resources; Regulatory frameworks for grid resilience and investment

Session Descriptions: As variable renewable energy sources become the backbone of power systems, traditional electricity market designs are struggling to deliver adequate investment signals and ensure system reliability. This session addresses the urgent need to reform market architectures to accommodate high renewable penetration. It delves into the economics of flexibility—including storage, demand-side response, and interconnectors—and explores how market design, regulation, and system operation must evolve to maintain resilience, affordability, and efficiency in an increasingly decentralized grid. The discussion also considers the role of capacity mechanisms, scarcity pricing, and the integration of distributed energy resources.

Session	Theme	Key Topics
Dual Plenary Sessions P3	Critical Minerals and Supply Chains: The New Geoeconomics of the Energy Transition	Supply and demand in critical minerals; Supply chain security and diversification; Resource nationalism; International governance for resource recycling and circular economy

Session Descriptions: The energy transition is fundamentally a materials transition. This session focuses on the geoeconomics of critical minerals—lithium, cobalt, copper, and rare earths—that are essential for clean energy technologies. It analyzes the growing imbalance between supply and demand, the strategic risks of supply chain concentration, and the emergence of resource nationalism. The discussion explores pathways to more resilient and diversified supply chains, including investment strategies, trade policy, recycling, circular economy approaches, and international cooperation. It also considers the implications of mineral dependence for developing economies and geopolitical stability.

Session	Theme	Key Topics
Dual Plenary Sessions P4	Carbon Pricing, Border Adjustments, and the Future of International Climate Policy	Carbon border adjustment; Carbon market linkages; Initiatives for global carbon pricing; Impacts on developing countries and the international trade

Session Descriptions: Carbon pricing remains a cornerstone of climate policy, but its effectiveness is increasingly challenged by concerns over competitiveness and carbon leakage. This session examines the rapid global proliferation of carbon markets and the rise of carbon border adjustment mechanisms (CBAMs). It assesses the impact of these instruments on international trade, investment, and competitiveness, with a particular focus on the challenges and opportunities they present for developing and emerging economies. The discussion also considers the prospects for carbon market linkages, a global carbon price floor, and the implications of carbon pricing for industrial decarbonization and innovation.

Session	Theme	Key Topics
Dual Plenary Sessions P5	Energy Access, Justice, and Inclusive Transition: Lessons from the Global South	Energy poverty; Energy justice; Just transition; Off-grid renewable energy; Community-based energy projects; Accessibility of climate finance

Session Descriptions: A just transition must ensure that the benefits of the clean energy revolution are shared equitably. This session tackles the twin challenges of energy poverty and transition justice, focusing on the needs of the Global South, where hundreds of millions still lack access to modern energy services. It explores innovative policy and financing models for expanding energy access while leapfrogging to clean energy, and discusses how to manage the social and distributional consequences of the transition in coal-dependent and fossil-fuel-dependent communities. The session also addresses the role of off-grid renewables, community-based energy projects, and the accessibility of climate finance.

Day 2

Session	Theme	Key Topics
Dual Plenary Sessions P6	Green Finance and the Cost of Capital: De-risking the Energy Transition	Transition finance frameworks; Green bonds and loans; ESG investing; Risk-sharing mechanisms; Sovereign green funds

Session Descriptions: Financing the energy transition remains one of the single largest barriers to achieving global climate goals. This session analyzes the evolving landscape of green and transition finance. It explores innovative instruments to de-risk investments in emerging markets and hard-to-abate sectors, including blended finance, guarantees, and green bonds. The discussion also addresses the future of ESG investing, the critical role of multilateral development banks, and the role of public finance in catalyzing private capital at the scale required. It considers the implications of transition risk for financial stability and the development of sovereign green funds.

Session	Theme	Key Topics
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Dual Plenary Sessions P7	The Future of Fossil Fuels in a Decarbonizing World: Phase-down, Phase-out, or Managed Decline?	Demand outlook for oil, gas, and coal; Fossil fuel subsidy reform; Stranded asset risks; Clean energy substitution
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Session Descriptions: The future of oil, gas, and coal is central to the energy transition debate. This session addresses the contrasting outlooks for fossil fuel demand in a world committed to net-zero emissions. It explores the economic and financial risks of stranded assets, the challenges of managing a managed decline of the fossil fuel industry, and the political economy of phasing out fossil fuel subsidies. The discussion considers what a just and economically rational transition away from fossil fuels looks like, and what it means for producer and consumer nations alike. It also examines the role of natural gas as a bridge fuel and the implications of declining fossil fuel revenues for resource-dependent economies.

Session	Theme	Key Topics
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Dual Plenary Sessions P8	Green Industrial Policy for the Energy Transition: Lessons from the EV and Energy Storage Revolution	Industrial policy for clean energy; EV market growth and policy; Energy storage cost and deployment; Supply chain and industrial competition; Technology spillovers and global diffusion
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Session Descriptions: Industrial policy has re-emerged as a central tool in shaping the clean energy transition, yet its design, implementation, and global implications remain hotly debated. This session examines the role of industrial policy in accelerating the clean energy transition, drawing on the rapid rise of electric vehicles and energy storage as primary case studies. It explores how policy instruments—including subsidies, procurement, technology standards, and trade measures—have shaped industrial trajectories, and what lessons these experiences offer for other sectors and countries. The discussion also addresses the tensions between industrial competitiveness and global cooperation, the implications for supply chain resilience, and the role of technology spillovers and diffusion. The session also considers the implications of green industrial policy for developing economies and the global trade architecture.

Session	Theme	Key Topics
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Dual Plenary Sessions P9	Transport and Industrial Decarbonization: Electrification, Efficiency, and the Hard-to-Abate Sectors	Road transport electrification; Hydrogen-based steel and green cement; Sustainable aviation fuels and maritime decarbonization; CCS for industrial processes
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Session Descriptions: Transportation and heavy industry are among the most challenging sectors to decarbonize. This session explores the technological and policy pathways for electrifying the transport sector, including the implications for power demand and grid management. It also focuses on decarbonization strategies for hard-to-abate industries such as steel, cement, and chemicals, evaluating the role of efficiency, circular economy, and novel production processes. The discussion covers sustainable aviation fuels, maritime decarbonization, carbon capture and storage, and industrial heat decarbonization. It highlights the progress made and the significant hurdles that remain in reducing emissions from these key economic drivers.

Day 3

Session	Theme	Key Topics
Dual Plenary Sessions P10	Digitalization and AI in Energy Systems: Opportunities, Risks, and Governance	AI-powered grid management; Energy forecasting & predictive maintenance; Data privacy & cybersecurity; Labor market impacts; AI governance frameworks

Session Descriptions: Artificial intelligence and digitalization are transforming energy systems, promising unprecedented efficiency and optimization across generation, transmission, and demand. This session explores the opportunities presented by AI in smart grids, predictive maintenance, and energy management. However, it also addresses the significant risks, including cybersecurity, data privacy, algorithmic bias, and the governance frameworks needed to ensure these technologies are deployed safely and equitably. The discussion also considers the implications for labor markets and employment, the role of data in energy systems, and the regulatory challenges posed by AI-driven energy systems.

Session	Theme	Key Topics
Dual Plenary Sessions P11	Energy Cooperation in Asia and Beyond: Regional Integration, Infrastructure, and Trust-building	Regional energy market integration; Cross-border infrastructure investment; Geopolitical trust-building; Global clean energy supply chains

Session Descriptions: Asia is the epicenter of the global energy transition, driving the largest share of demand growth and clean-energy manufacturing. This session focuses on the potential and challenges for regional energy cooperation across the continent. It examines the economics of cross-border electricity grids and pipelines, the role of regional institutions such as APEC and ERIA, and strategies for building trust and aligning policies to facilitate a cohesive and sustainable energy future for Asia and the world. The discussion also addresses the role of Asia in global clean energy supply chains, regulatory harmonization, and the geopolitical dimensions of energy cooperation.

Session	Theme	Key Topics
Closing Plenary Session P12	The Road to 2030 and Beyond: Reflections and Looking Forward	IAEE Presidents' Roundtable; Synthesis of conference debates; Critical research gaps; Post-2030 policy priorities; Future of energy economics community

Session Descriptions: The closing plenary is a forward-looking session reflecting on the conference's key findings and their implications for the next decade. A distinguished panel of IAEE past presidents engages in a dialogue on the future of energy economics and policy. They synthesize the main themes and debates of the conference, highlight critical research gaps, and offer their perspectives on the central challenges and opportunities for achieving a sustainable, secure, and equitable energy future. The session also considers the future of the IAEE and the global energy economics community, and the role of research in informing policy and practice post-2030.