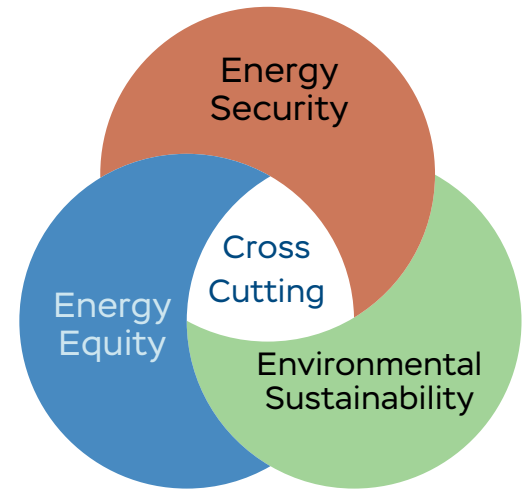


The Future of Natural Gas in a Low-Carbon World

Natural gas plays a significant role in managing the “energy trilemma,” - three difficult, but critical objectives that must be addressed simultaneously: energy security, energy equity, and environmental sustainability.



KEY FINDINGS

- 1 Policy support, emissions reduction technologies, and investments are necessary to support ongoing and increased global demand for natural gas through 2050.
- 2 The critical energy security role of U.S. liquefied natural gas (LNG) became clear after Russia invaded Ukraine, especially in Europe.
- 3 The United States has an opportunity to embrace its new global leadership role as the world's top LNG exporter through 2050.
- 4 The recent energy crisis posed challenges to energy equity worldwide, such as increased natural gas prices and significant market volatility.
- 5 After Russia invaded Ukraine, the increase in U.S. LNG exports to Europe raised availability and price concerns with Asian customers.
- 6 Growing international, national, and industry efforts to cut greenhouse gas (GHG) emissions from natural gas systems have not yet led to large-scale emissions reductions.
- 7 Coal-to-gas switching has great potential to contribute to global GHG emissions reductions, but high cost of natural gas is a barrier in many countries.
- 8 Despite a proliferation of initiatives for methane abatement in oil and gas operation, global consensus on measurement and verification is still lacking.
- 9 Technologies for reducing CO₂ emissions from natural gas combustion exist but are at the early of commercialization.
- 10 Natural gas could play a continued and evolving role in decarbonizing the industrial sector.

The following are some of the recommendation from the report.

CROSS CUTTING

1. Identify an international entity to develop consistent GHG emissions accounting methodologies.
2. Establish and maintain those methodologies across energy systems.
3. Add a scenario to IEA's decarbonization modeling in which emissions targets accommodate economic development metrics.
4. Complete a price-based climate policy economic analysis for UNFCCC.

← CROSS CUTTING →

Energy Equity

- Increase international support for the clean energy transition in developing countries.
- Increase funding for the ALTÉRRRA fund.
- Support developing countries in securing affordable natural gas supplies, emissions mitigation technologies, and infrastructure.
- Expand multilateral development banks' (MDB) financing of methane abatement.
- Re-establish a MDB Carbon Capture Utilization and Storage (CCUS) trust fund.
- Develop an energy security roadmap for the Asia-Pacific region through 2050.

Energy Security

- Establish a collective action mechanism to develop energy security strategies for natural gas consuming/ producing nations.
- Analyze the impacts of natural gas-fired power plants in Europe and Asia.
- Include an "Energy Security Determination" as a key component for U.S. LNG export permits.
- Establish a convening authority to share information for permitting requirements.
- Maintain destination flexibility of U.S. LNG.

Environmental Sustainability

- Assess the potential for additional gas supplies by capturing methane emissions.
- Clarify the assessment criteria for emissions from U.S. LNG projects.
- Quantify methane emissions from LNG shipping.
- Increase collaboration on CCUS deployment.
- Bolster coordination on the Global Methane Pledge.
- Accelerate industrial decarbonization.
- Incentivize low-carbon hydrogen.
- Reduce the cost of electrifying industrial heat.