

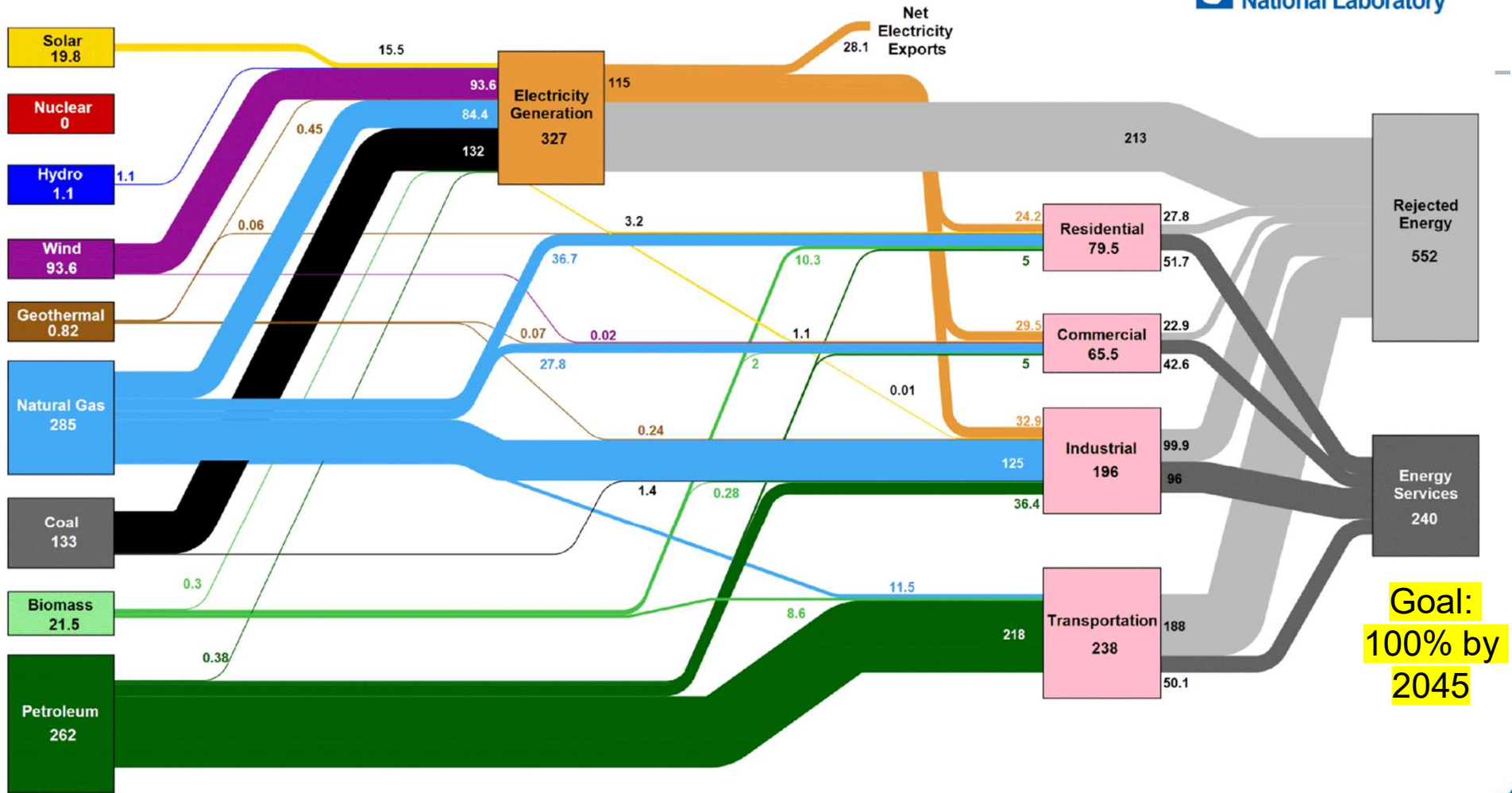
Utility Interconnection Issues: Challenges and Opportunities

Randy Sadewic
October 29, 2024

Interconnection Issues in Context

- The Goal: 100% renewable energy for IOU's by 2045
- Two key themes:
 - - Converting electricity to renewables is 1/3 of goal
 - - Huge efficiency gains achieved with electrification

New Mexico Energy Consumption in 2021: 820 Trillion BTU



Utility Structure Does Not Leverage Innovations

- Virtual Net Metering (Community Solar) allows all ratepayers to participate in savings
- Micro-grids provide emergency resiliency when the grid is down
- Virtual power plants aggregate roof-top solar and storage for grid peaks
- Smart homes offer controls for time-of-use and load management
- Storage shifts excess solar output to mornings and evenings
- Smart solar inverters provide grid support services
- Local roof-top energy creates local wealth and a healthy economy and environment

New Interconnect Rules implemented in 2023 (two-year process)

Challenges with Interconnections (Behind-the-Meter)

- Homeowners, businesses and government organizations can't go solar: identified as a Red Zone on grid
- New rules expanded Red Zones
- Utility screening implementation causing additional costs and delays
- Screening costs homeowners \$1,000, impeding solar
- Zero Back-feed (to grid) Solar and Storage not permitted
- Overreaching into areas not utility responsibility (Electrical Code)

Best Practices for Grid Modernization

Colorado Legislature implemented policy changes to build the local electric grid of the future:

- Dramatically improves distribution planning
- Establishes customer cost cap for distribution system upgrades (\$300)
- Creates a virtual power plant program
- Requires flexible interconnect tariff for near-term system upgrades
- New rule-making for new construction
- Forces investment in areas at or near hosting capacity
- Increases key utility staffing
- Better mapping of distribution systems
- Ties utility performance incentives to interconnect timelines
- Considers load flexibility instead of investment in poles + wires