

When is Electricity the Best Energy Choice?

**NASEO Annual Meeting
New Orleans, Louisiana
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**Tom Reddoch
Sr. Technical Executive**



Three Dimensions of EPRI's Value



Thought Leadership



Industry Expertise

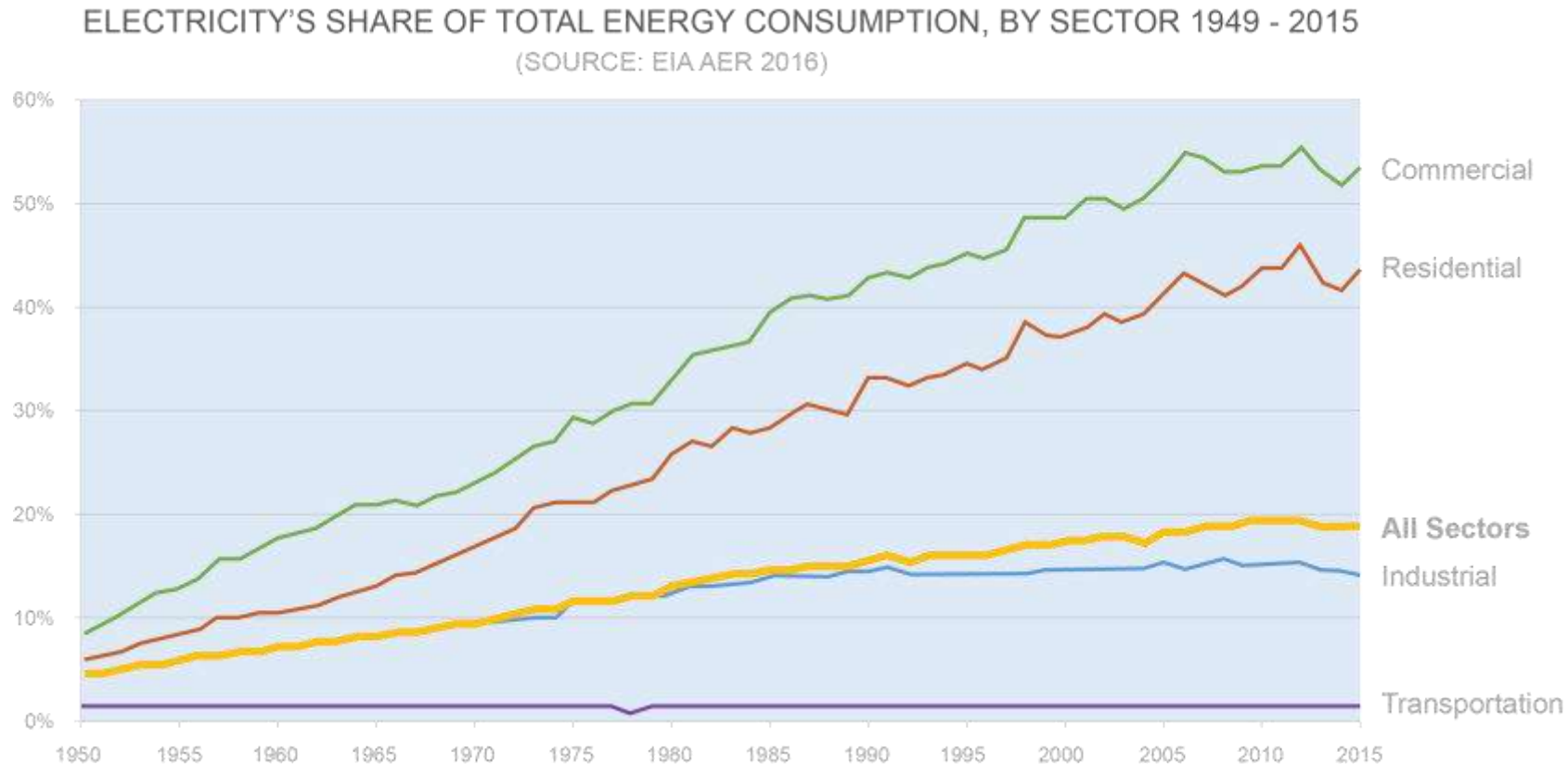


Collaborative Model



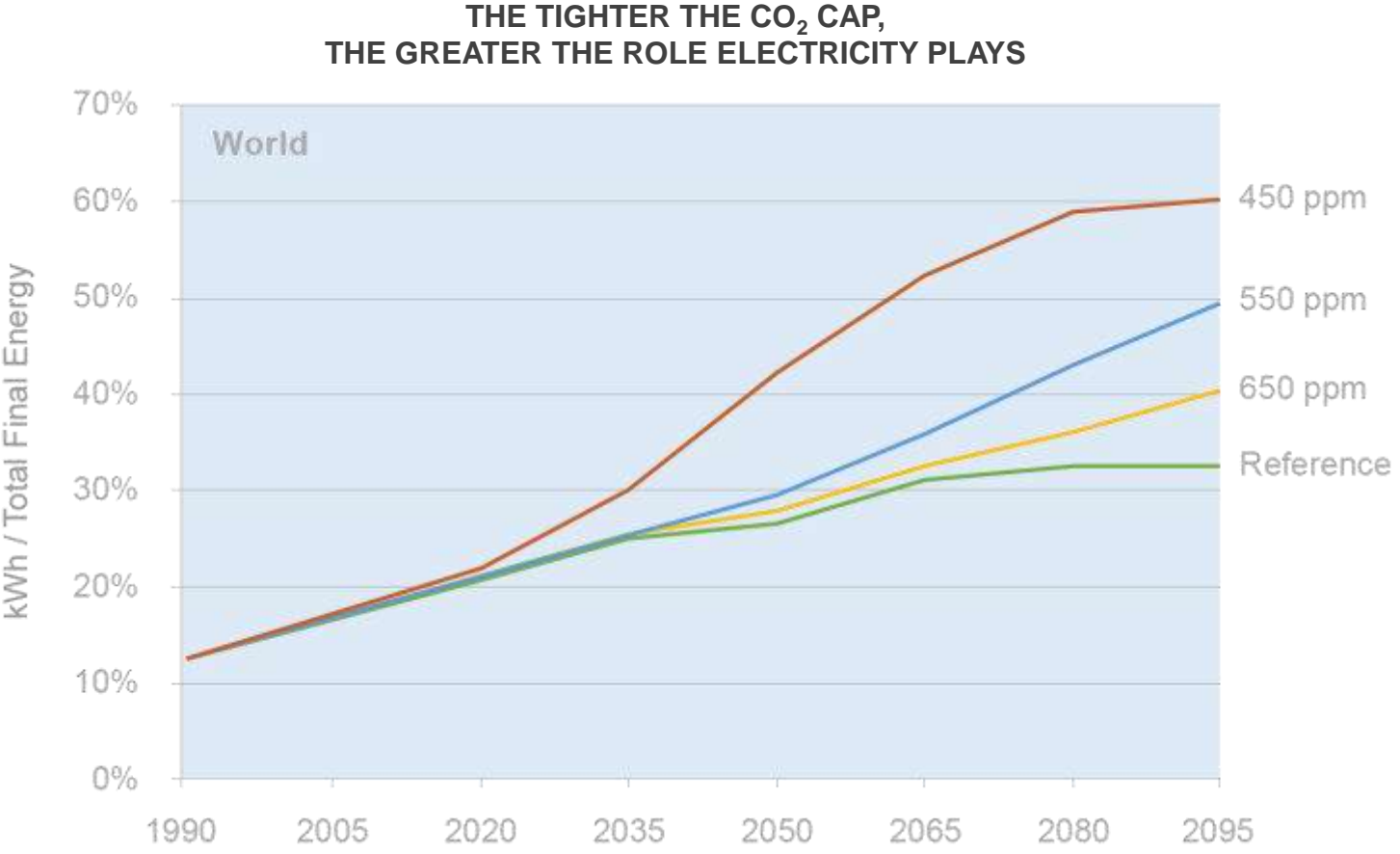
To provide value to the public, our members,
and the electricity sector

Electricity Use Has Grown Faster than Total Energy for More than a Century...What Will or Could Happen Next?



GROWTH DRIVEN BY EFFICIENCY, CONVENIENCE, SAFETY, AND LOW COST

Relationship Between CO₂ & Electricity



Edmonds, Wilson, Wise, & Weyant. 2006 *Environmental Economics and Policy*.

What is Electrification?

Replacing alternative fueled energy end-use applications with efficient electric technology options while increasing consumer and societal benefit with the optimum energy choice.



**Electricity
Efficiency**

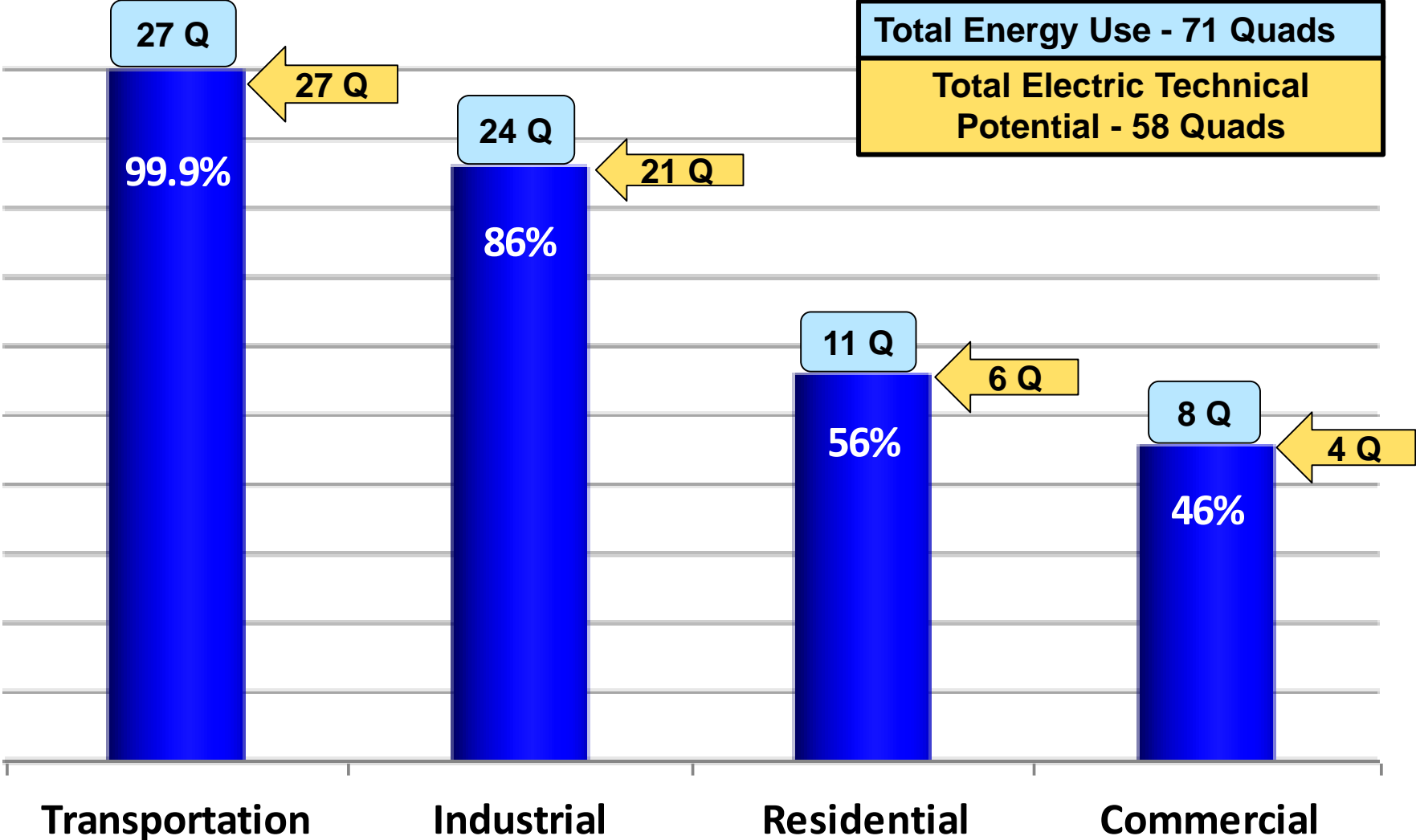
(Best Electric)

**Conservation
(Avoiding Use)**

**Demand
Response**

(Interrupting Supply)

National Technical Potential for Electrification



Source: DOE/EIA Annual Energy Outlook, Electricity use is about 13 Q (or about 19%) of Total Energy Use of 71 Q.

EPRI's Approach to Efficient Electric Opportunities



ANALYTICS

Establish Industry Stakeholder Group

Conduct National, Regional, and Service Territory Assessments



TECHNOLOGY PIPELINE

Identify Early Stage Efficient Electrification Technologies

Accelerate Adoption Through Expanded EPRI Lab Capabilities and Field Demonstrations



R&D COLLABORATION

Develop Electrification Roadmap

Convene Efficient Electrification National Conference

Lead Development of Virtual Centers of Excellence



INFORM INDUSTRY STAKEHOLDERS, POLICYMAKERS, REGULATORS AND CONSUMERS

Major Efficient Electric Technology Opportunities



HEATING AND COOLING

- Advanced Heat Pumps**
- Heating/Drying Technologies**
- Thermal Storage**
- Waste Heat Recovery**



TRANSPORTATION

- Advanced Energy Storage**
- High Power DC Charging**
- Heavy Duty, C&I Applications**
- Low Cost Hydrogen Fueling**
- Autonomous and Other**
- Advanced Mobility Technologies**

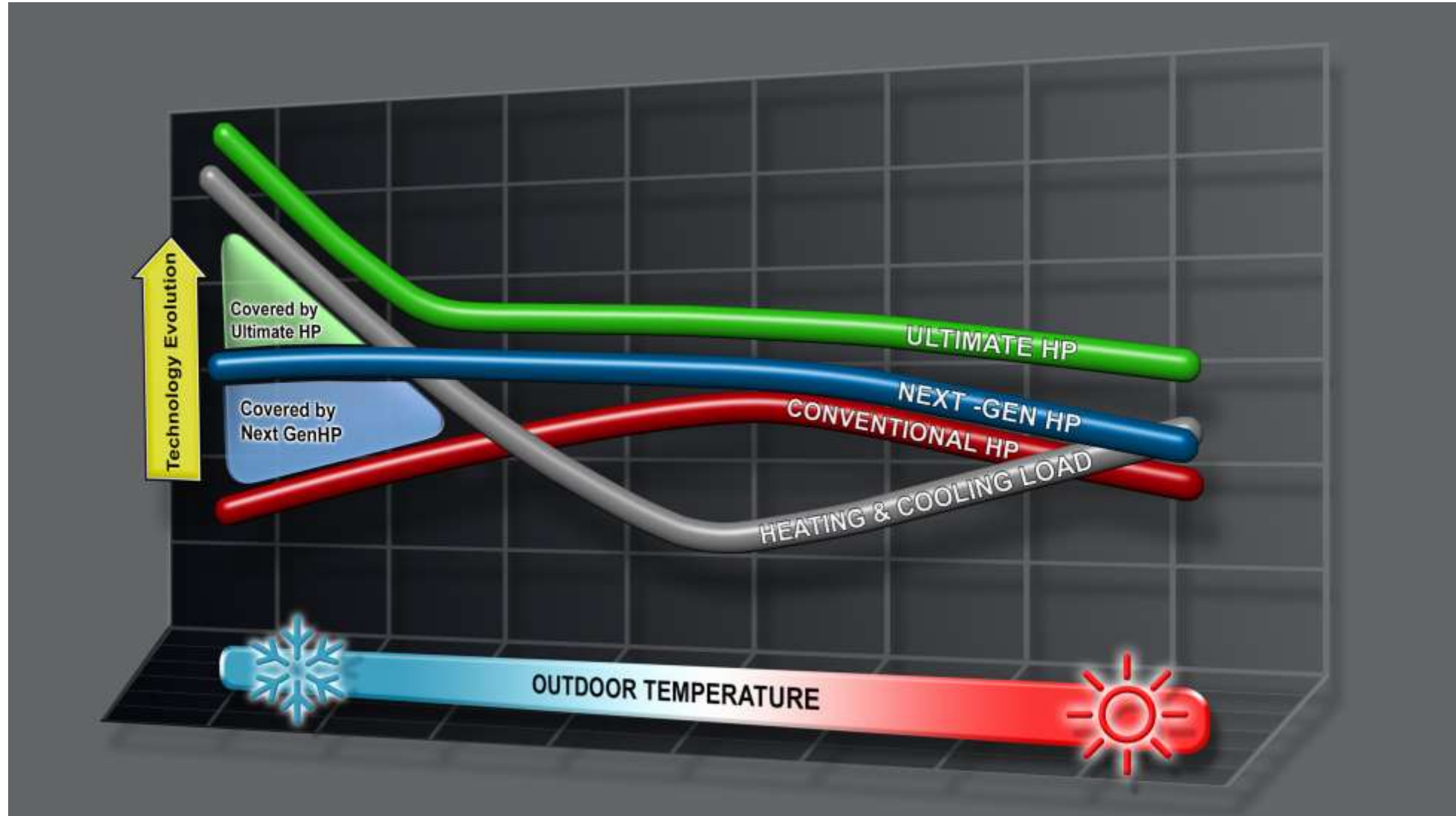


ALTERNATIVE PROCESSES

- Agriculture**
- Additive and Advanced Manufacturing Techniques**
- Chemical Refining**
- Material Production**

Next-gen Heat Pump Technology

Provides Increased Efficiency and Higher Performance



Join EPRI for a Global Forum on Electrification



ELECTRIFICATION 2018 INTERNATIONAL CONFERENCE & EXPOSITION

SAVE THE DATE

AUGUST 20-23, 2018 LONG BEACH, CALIFORNIA

- To gain an understanding of the quantifiable customer and environmental benefits of efficient electrification
- To learn about best practices for implementing efficient electrification programs to maximize customer benefit
- To experience the latest electrification-related technologies in action
- To collaborate with industry, government, and academic leaders

For more information, contact Info@Electrification2018.com

Scan here for the
latest EPRI Efficient
Electrification newsletter





Together...Shaping the Future of Electricity