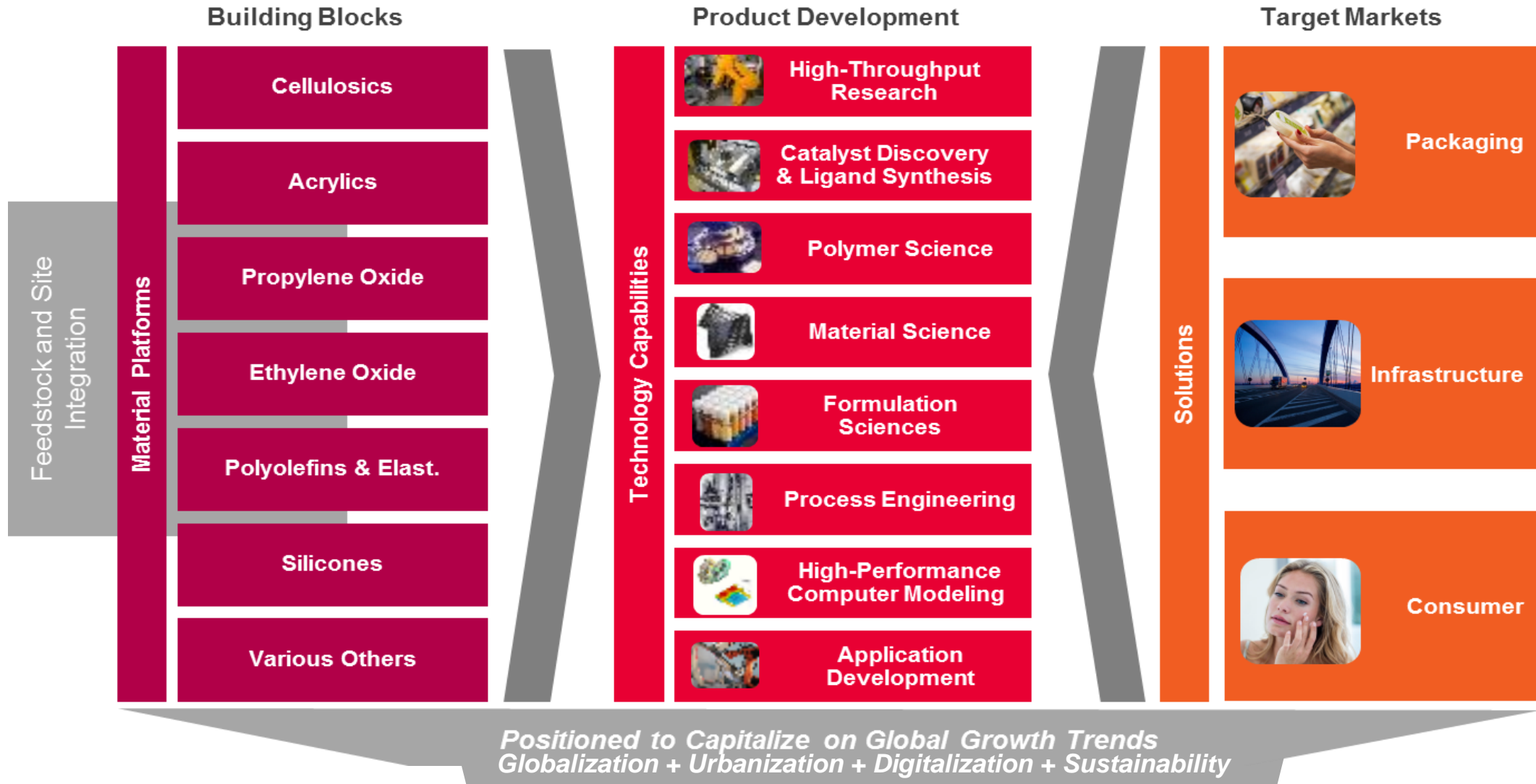




# Dow Energy Business

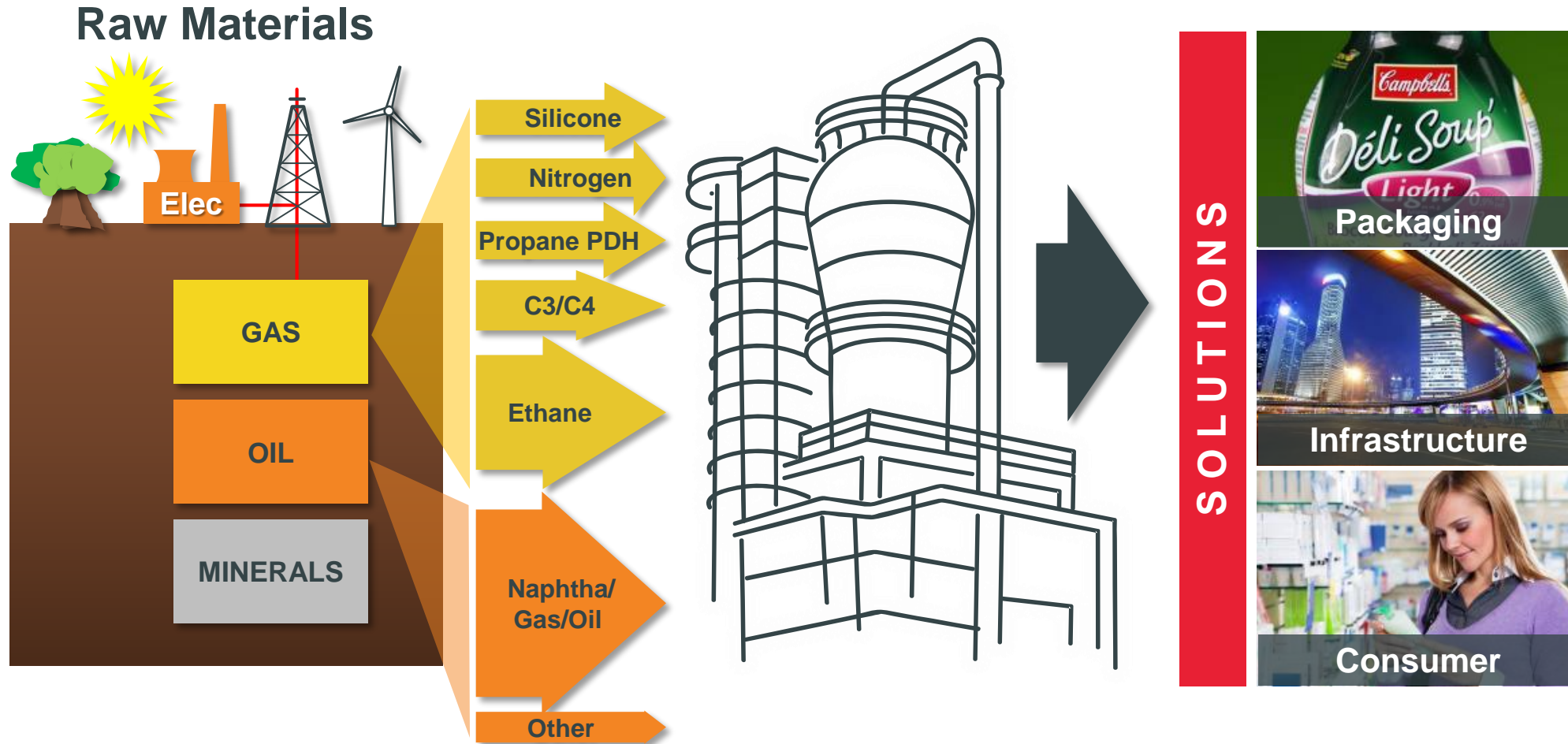
Edward Stones, Global Director Energy & Climate Change  
The Dow Chemical Company

# Low-Cost Integration and Value-Added Innovation



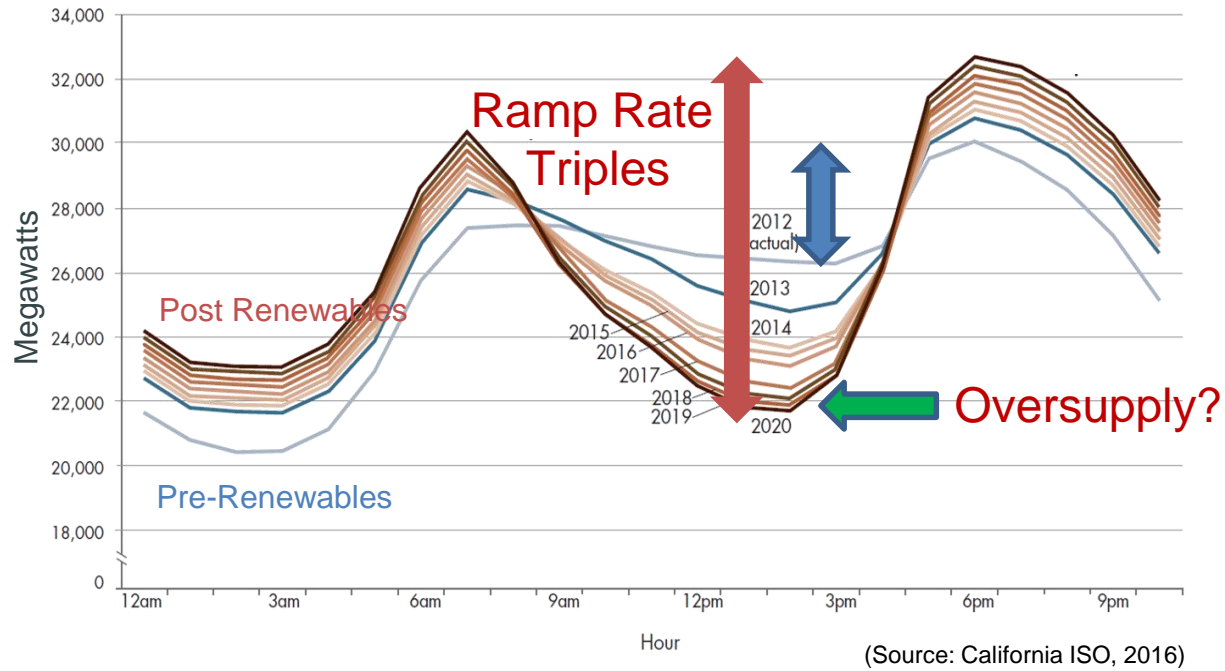
# Hydrocarbons & Energy

*Low-Cost Integration that Fuels Dow's Competitive Advantage*



# Technical Aspects of Grid Design Matter to Industrials

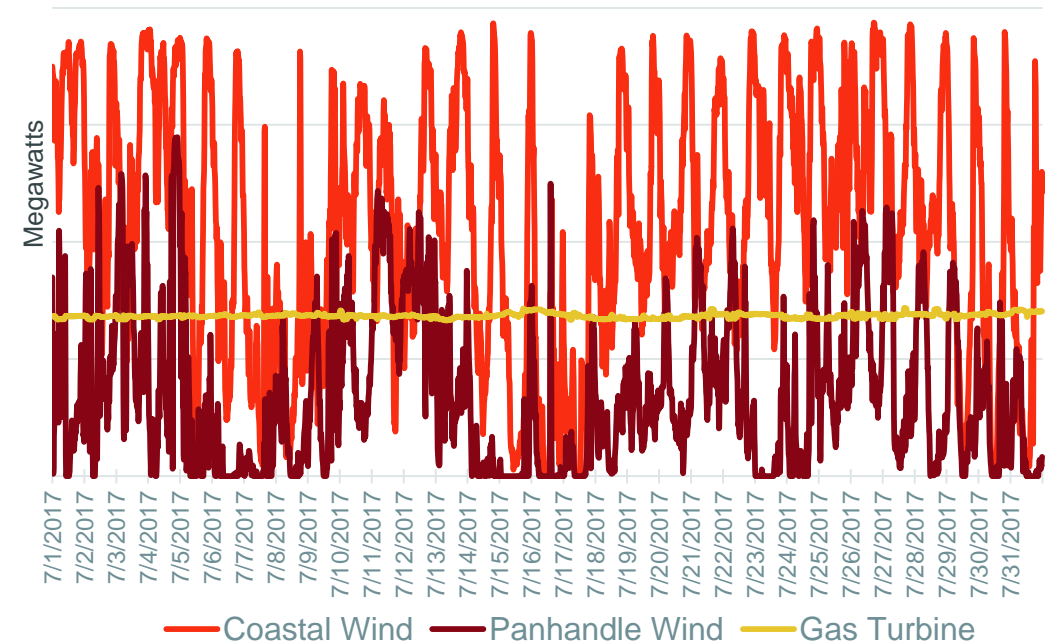
## Case Study of Renewable Build-out in California



### Renewable intermittency and peak load variability

- Mid-day oversupply of renewables leading to low/negative pricing
- Late afternoon rapid generation ramp as renewables taper off

## Actual Power Deliveries to Dow in TX

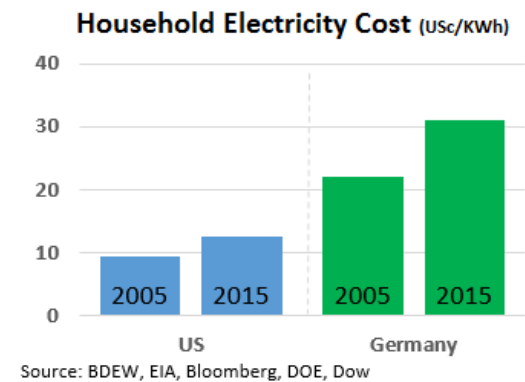
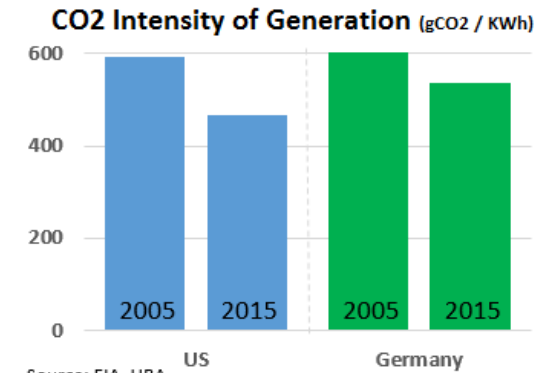
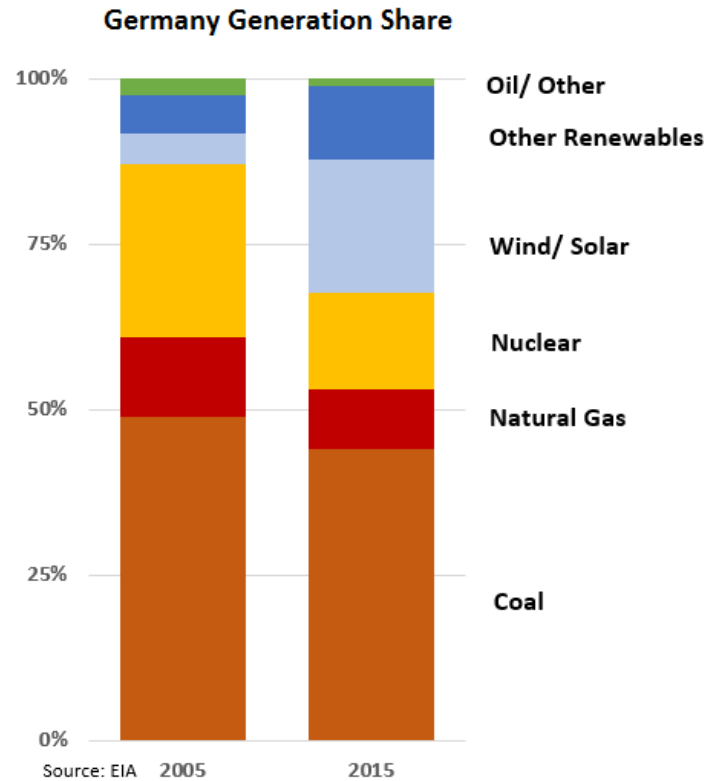
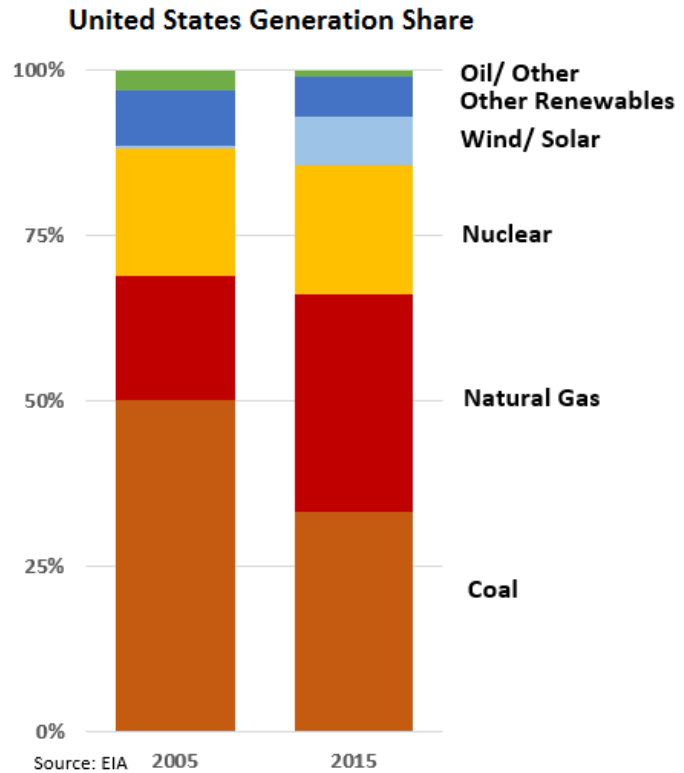


### Industrial Processes Operate Continuously

- Gas turbines deliver continuous power and steam
- Wind based power supply highly variable

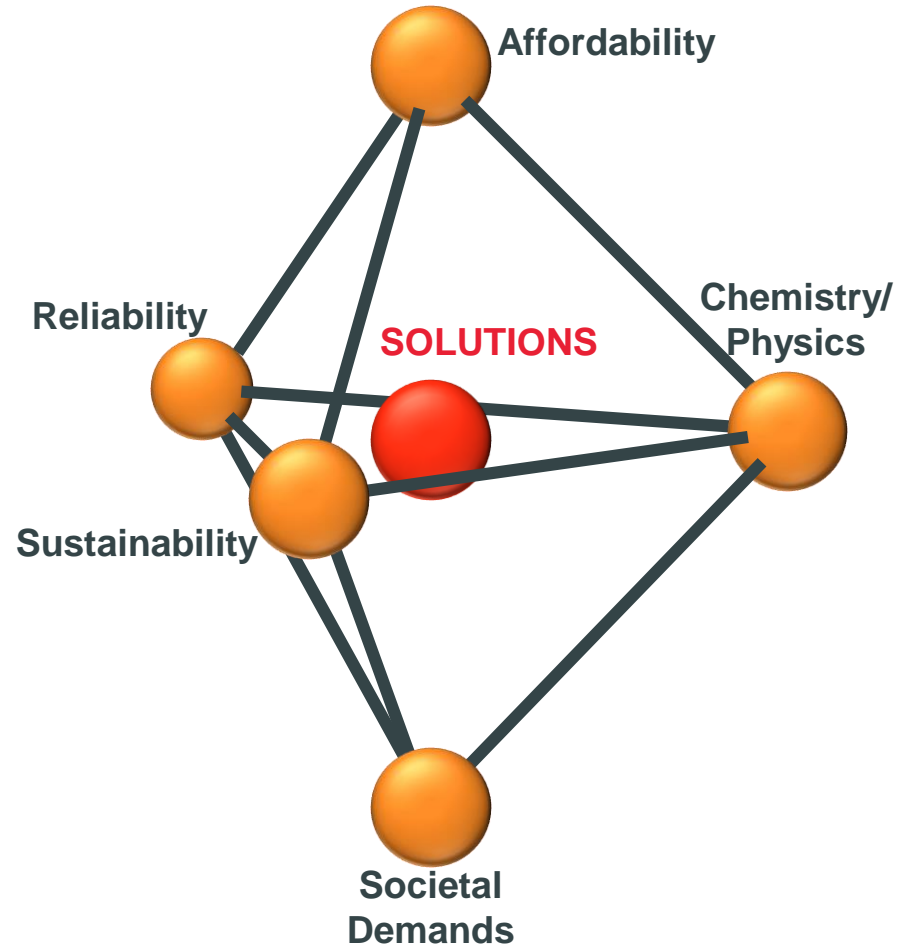
# Generation Mix has Implications for Cost & Emissions

## US Case Study vs. Germany



- Achieved **~80% more reduction in CO<sub>2</sub>** emission intensity than Germany
- While average household electricity **prices remain ~40% of those in Germany**

# Comprehensive Approach to Energy





**— Thank  
You**