



Natural Gas Introduction

Carl R. Peterson, Ph. D.

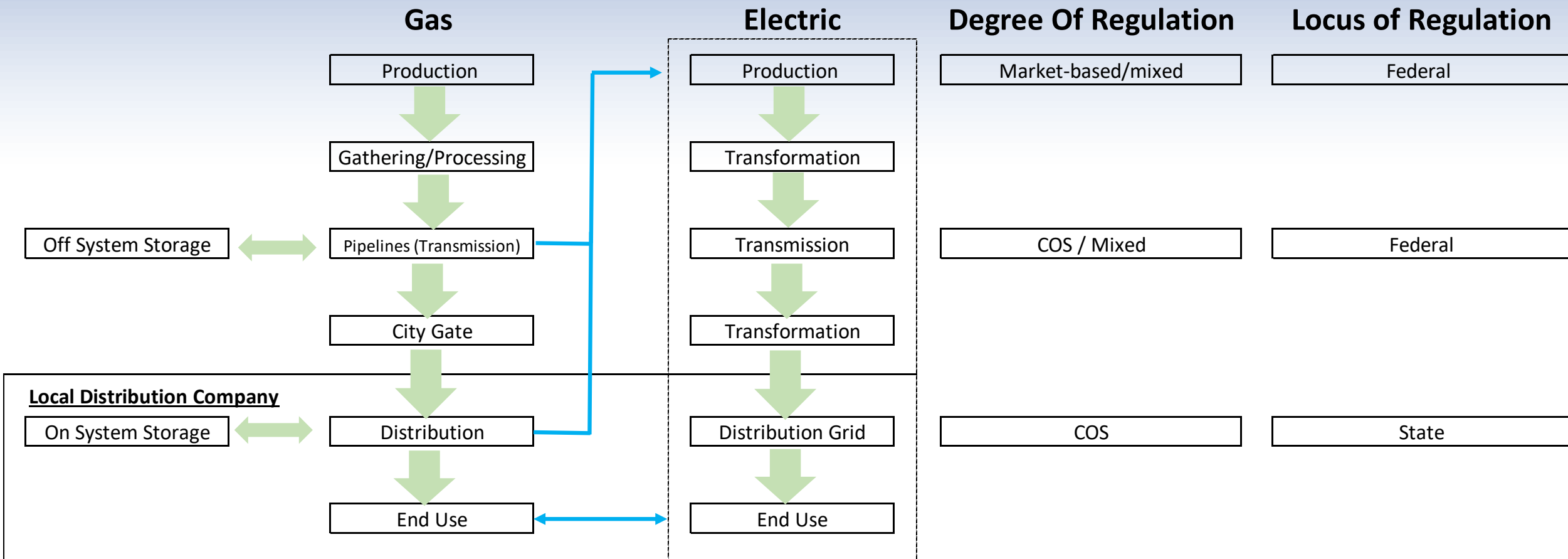
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August 12, 2024

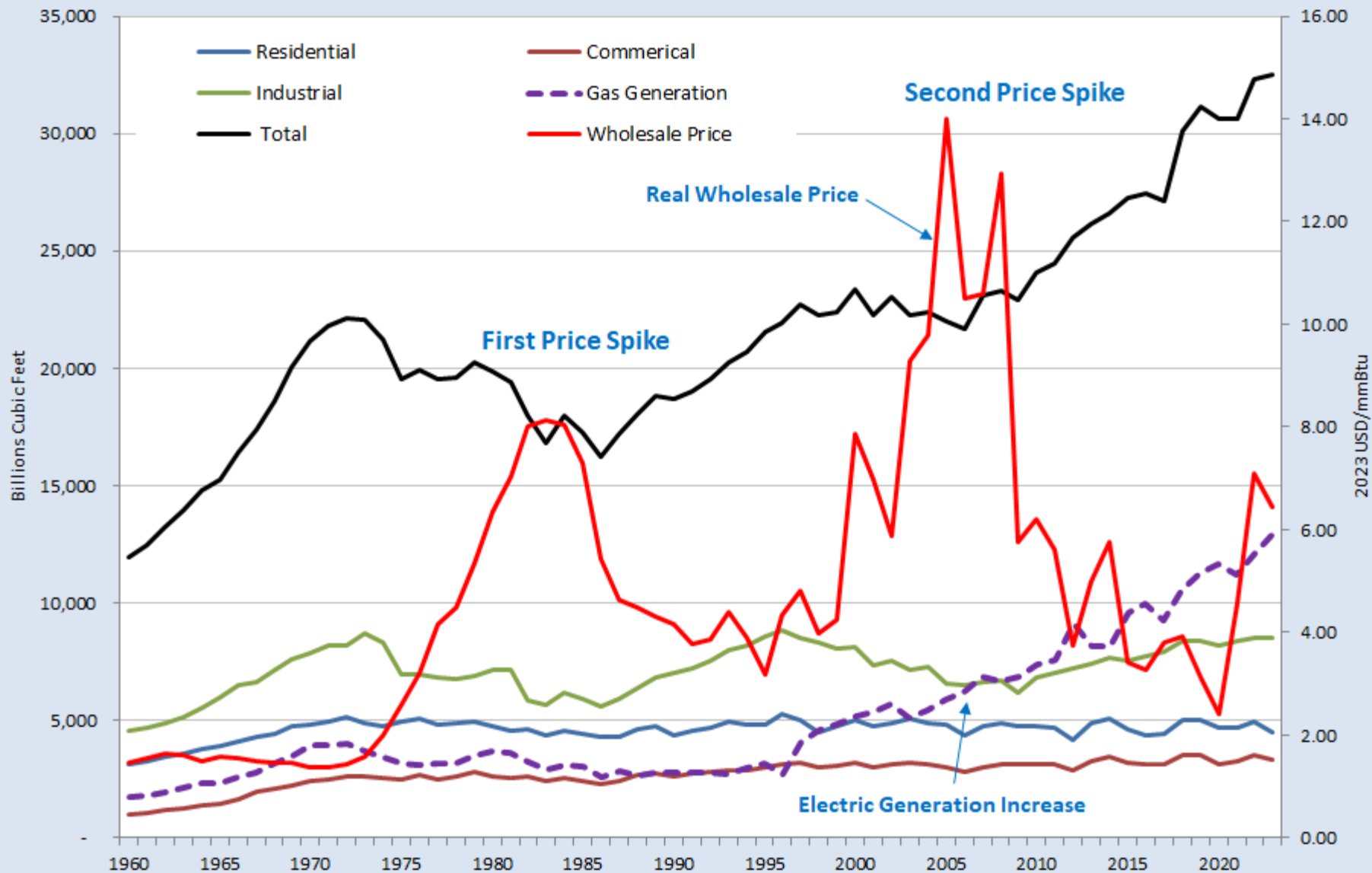
Natural Gas Sector



Economics of Natural Gas

- Production of gas commodity is largely competitive
 - Production from traditional wells has not grown in recent years; most new sources coming from shale formations
- Pipeline capacity additions over past five years are concentrated in the Northeast and Southeast/central (large increase in 2024 for export)
- Storage additions began to fall around 2010 as production (shale) began to substitute for storage
- Local facilities can capture economies of scale due to the high cost of installation of facilities
- Gas utilities spend around \$30B annually in CapEx.

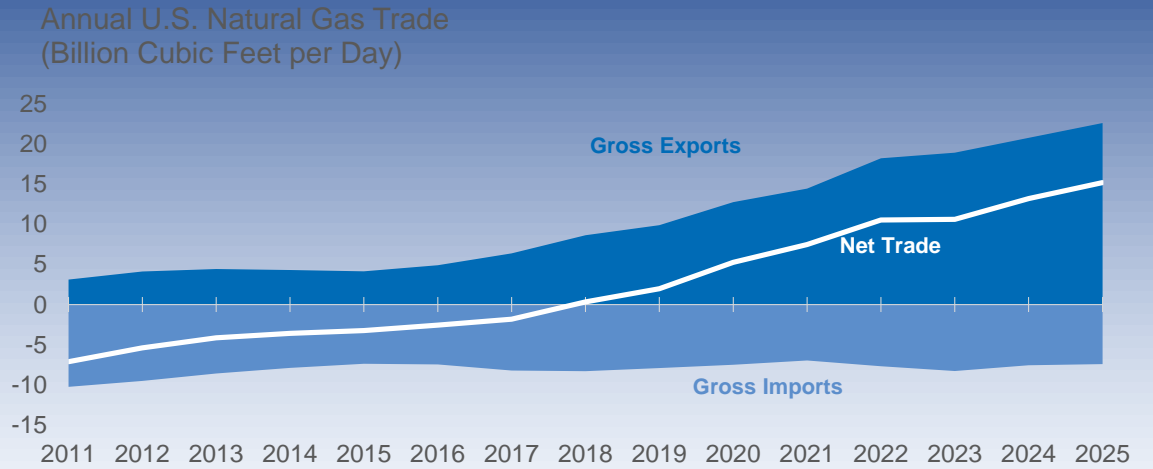
Gas Consumption and Wholesale Prices (1960-2023)



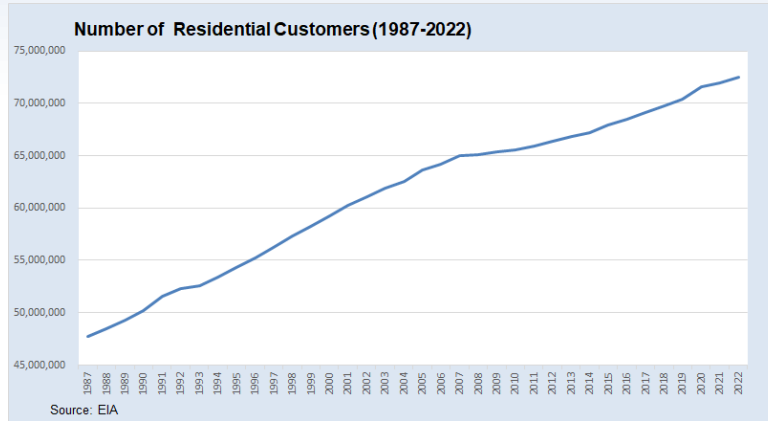
Source: EIA Historical Natural Gas Statistics

Other Trends

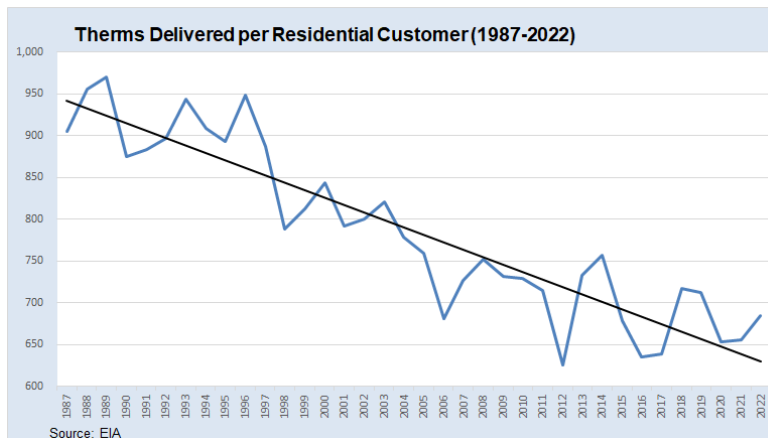
LNG Exports now Exceed Pipeline Exports. Gas was a net export by 2018 and growing



Number of Residential Customers grew by about 2m between 2020 and 2022

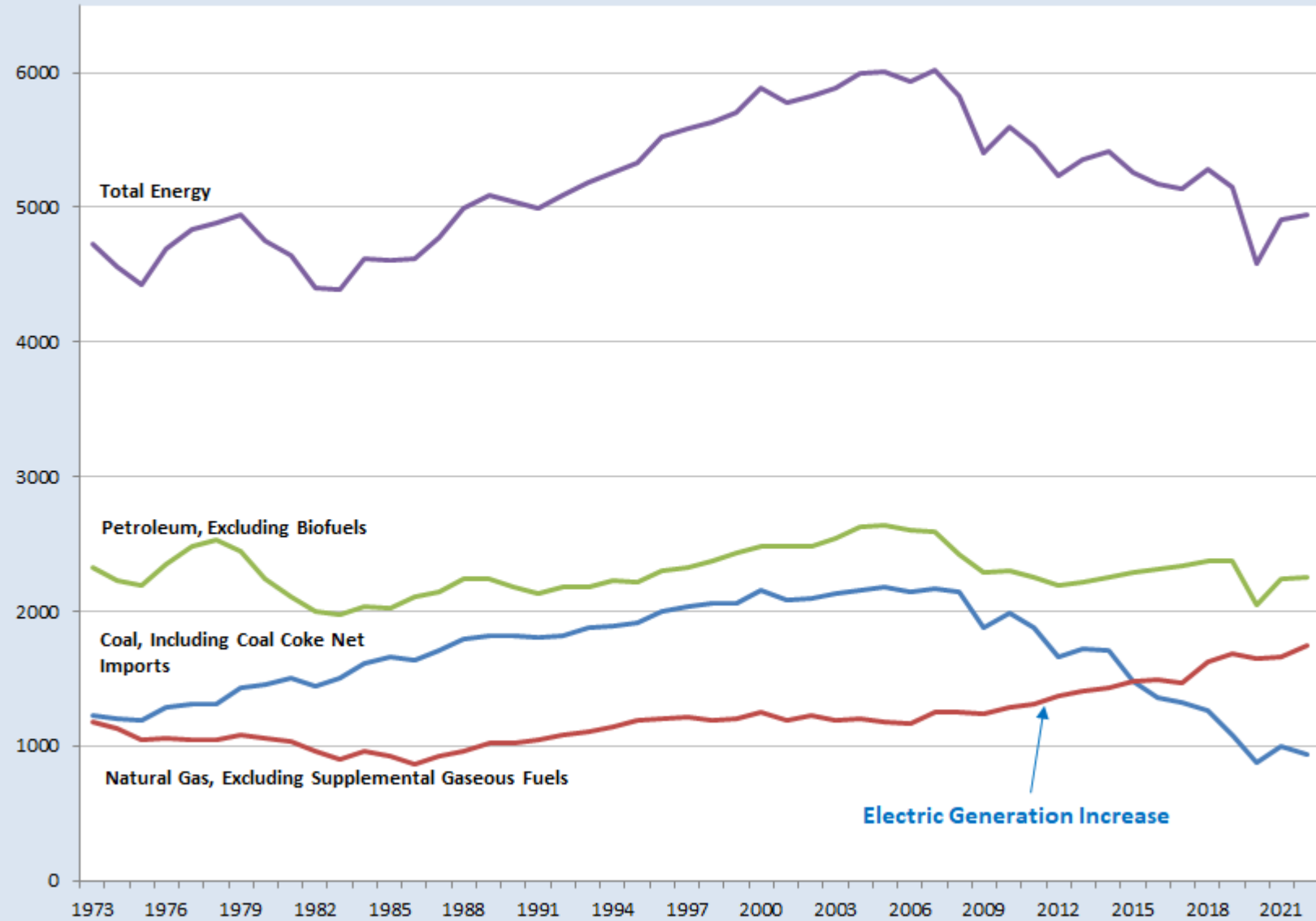


Usage per customer has fallen since 1970s



CO2 Emissions by Major Source (1973-2022)

Million Metric Tons of Carbon Dioxide



Source: EIA Monthly Energy Review

Policy Trends

14 states moving toward banning gas in new buildings

24 states banned the banning of gas

Numerous FOG proceedings (most recent: IL, MD; Most advanced: MA, CO)

Line extensions (lower ROE, Higher pricing, moratoriums)

Why is gas so popular?

Demand highest ever (electricity: EVs, data centers, manufacturing rebound)

Supply increasing even as rig counts fall

Wholesale prices back down to historical (low) levels

Real delivered price of natural gas is about the same as 1980

Challenges and Opportunities

Who pays cost of hooking new customers to system?

Inflation and increased costs of maintaining pipes

Affordability concerns

Is gas still the transition fuel?



Thank You

Carl Peterson

Instructor

Department of Accounting, Economics, and Finance | University of Illinois Springfield

One University Plaza MS UHB 4093 | Springfield, IL 62703 USA

Tel: +1 312.287.0127 | cpeter8@uis.edu

Executive Advisor

Concentric Energy Advisors, Inc.

Chicago, IL USA

Tel: +1 312-287-0127 | cpeterson@ceadvisors.com