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U.S. Produced Water Legislation & Regulation Impacts the Energy Transition, Emissions Reductions, and Human Wellbeing

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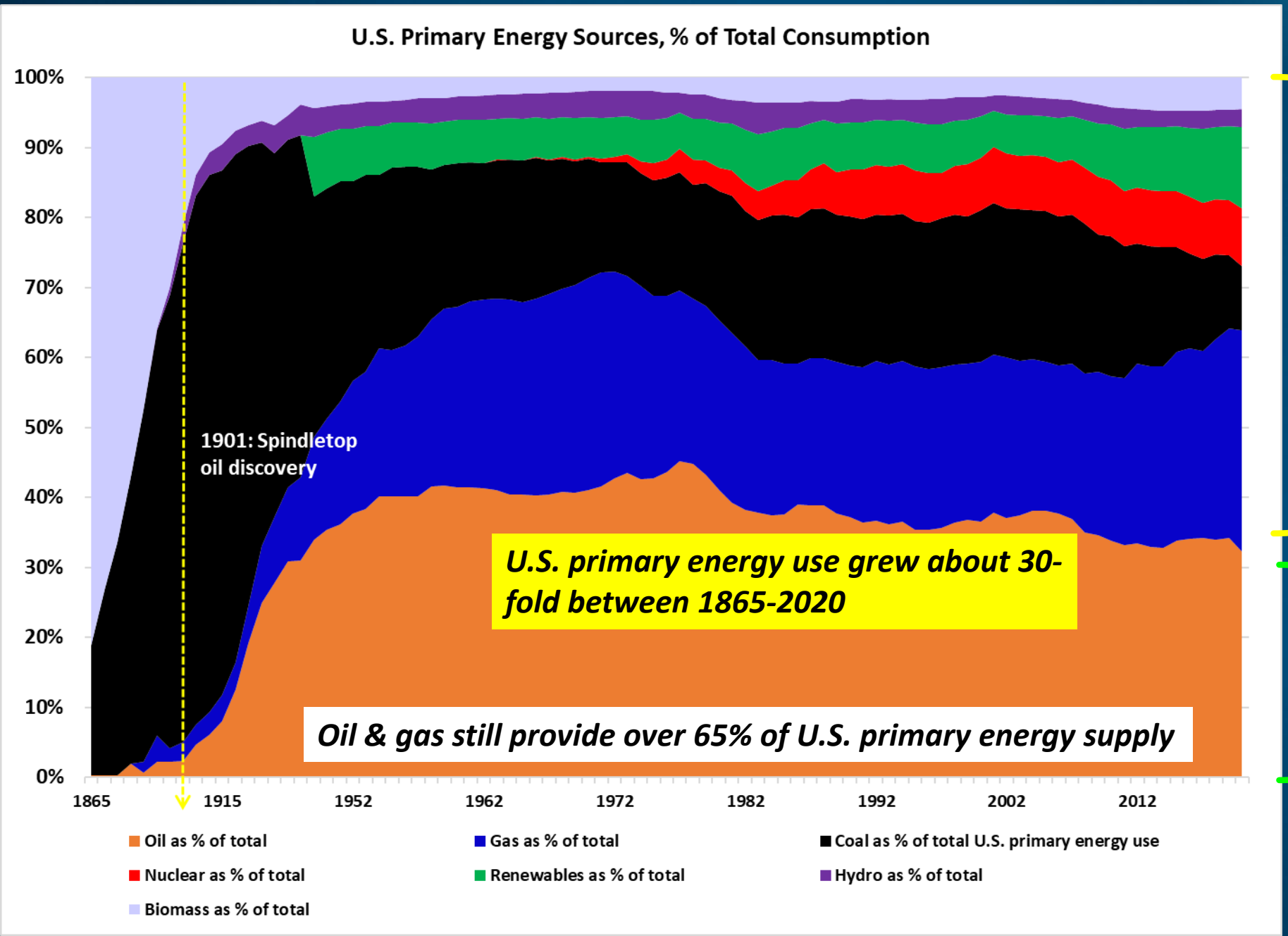
Mr. Collins holds a membership interest in Cactus Water Services, LLC. This relationship is covered by a Rice University conflict of interest management and monitoring plan.

The Energy Transition is Constant—And Oil & Gas Are Critical Facilitator Minerals

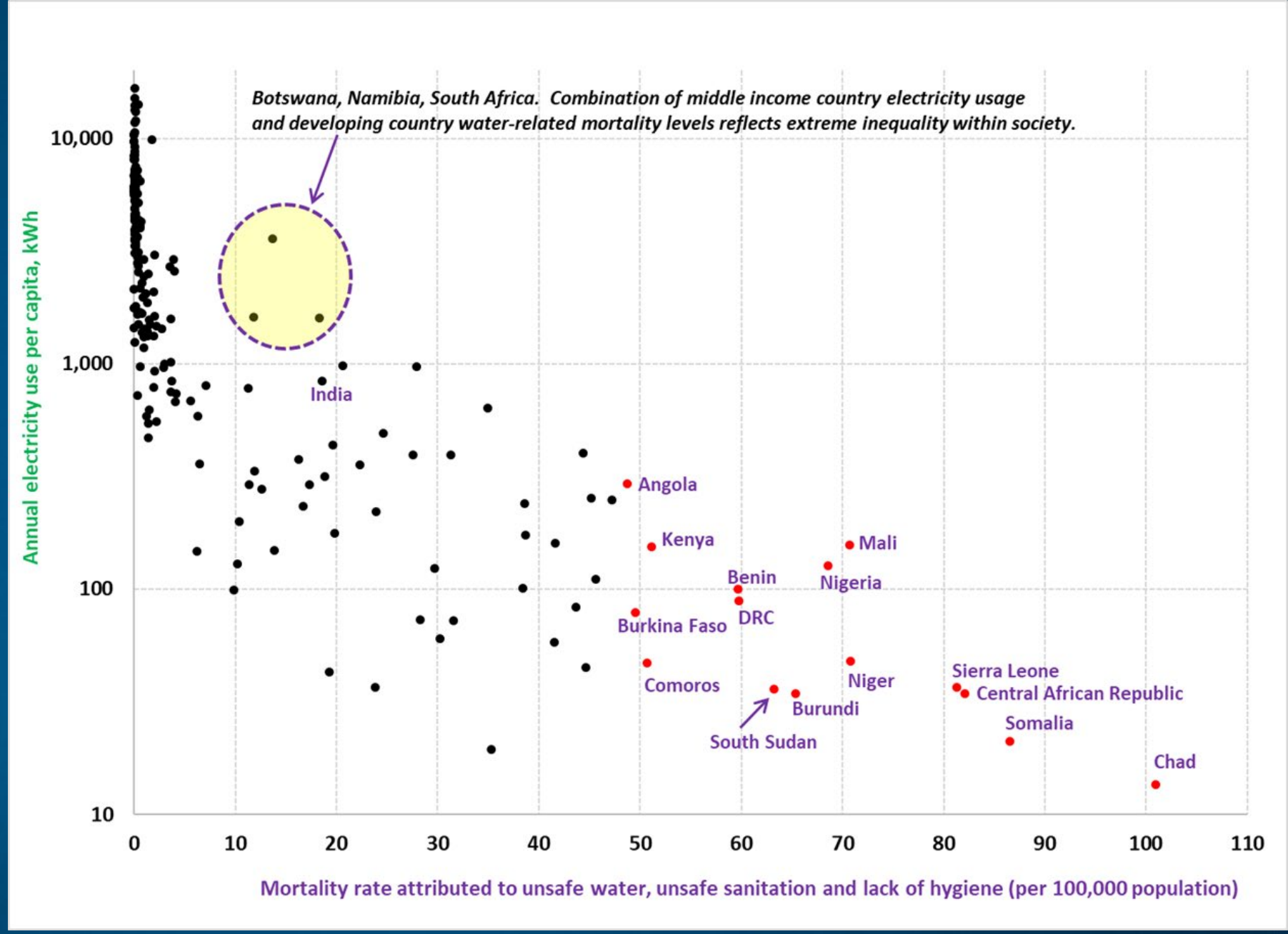


Electricity/ Industrial Heat/Chemicals

Transportation (and some Chemicals)

Energy Abundance Can Save Lives

- A sample of more than 200 countries and territories analyzed by the author reveals a strong negative relationship between access to electricity and mortality from waterborne illnesses.
- Sub-Saharan Africa—the world's most broadly energy-poor region—also has the countries with the highest rates anywhere globally of death per capita from unsafe water.
- Water for human consumption (as well as other uses) embeds an often underappreciated quantity of energy.
- As an example, every 1,000 gallons of groundwater supplies used in the City of San Antonio embeds an estimated 12 kWh, nearly the energy storage capacity of a Tesla Powerwall (14 kWh).



Source: CIA World Factbook, Author's Analysis

Gabe Collins, "The Texas Energy and Water Nexus," Water Resources IMPACT, American Water Resources Association, July 2019

Thank You!

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