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

Please cite as: Gabriel Collins, “U.S. Produced Water Legislation & Regulation Impacts the Energy Transition, Emissions Reductions, and Human Wellbeing,” Oilfield Water Markets 2021 Conference, 13 May 2021, Frisco, TX
Disclaimer & Disclosure

This analysis reflects my personal opinions and assessments only. It is designed solely to be illustrative and stimulate broader thought, with the objective of elevating the conversation in the energy and water space. It IS NOT an investment analysis or investment advice. It is also NOT offering any legal opinions or advice and does not create an attorney-client relationship with any reader or consumer of the information presented herein. Readers rely on the information in this analysis at their own risk. Neither the author nor the Baker Institute for Public Policy are liable for any loss or damage caused by a reader’s reliance on information contained in any of the charts, data series, opinions, or other information presented herein. I am not a hydrologist, geologist, or engineer and am not offering advice on technical aspects of any assets which may be discussed in this analysis, including, but not limited to geological factors and engineering challenges that may arise in an oilfield water development project. The information and opinions contained in, and expressed by this analysis, are based on sources deemed reliable. However, there is no warranty, assurance, or guarantee, express or implied, about the completeness, reliability, or accuracy of this content. The views expressed herein are my interpretations as of the date the report is published and are subject to change without notice.

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

**U.S. Primary Energy Sources, % of Total Consumption**

- **Oil & gas still provide over 65% of U.S. primary energy supply**
- **U.S. primary energy use grew about 30-fold between 1865-2020**

**Key Points**

- Oil & gas still provide over 65% of U.S. primary energy supply.
- U.S. primary energy use grew about 30-fold between 1865-2020.

**Graph Details**

- **Oil as % of total**
- **Gas as % of total**
- **Nuclear as % of total**
- **Renewables as % of total**
- **Hydro as % of total**

**Timeline**

- 1901: Spindletop oil discovery

**Categories**

- **Transportation (and some Chemicals)**
- **Electricity/Industrial Heat/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

Thank You!

Contact Information: gbc3@rice.edu
https://www.bakerinstitute.org/experts/gabe-collins/