

# John Coudsi

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## RESEARCH FIELDS

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Energy Economics, Electricity Markets and Regulation, Energy Transition, Renewable Energy

## EDUCATION

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**Ph.D. Economics**, Rice University (expected 2025)

Dissertation: Essays on the Energy Transition in Electricity Markets

**M.A. Economics**, Rice University (2024)

**B.S. Mathematics, Minor in Economics and Computer Science**, University of Texas at Austin (2020)

## HONORS

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- Graduate Fellowship, Rice University 2020 -
- Dean's List Honors, University of Texas at Austin 2017 - 2020
- University Honors 2017 - 2020, 2022, 2023
- MIT Launch International Startup Competition (1<sup>st</sup> Place) 2015

## WORKING PAPERS

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- "Retirement Decisions for Natural Gas and Coal Fired Plants in ERCOT" (Job Market Paper)  
**Abstract:** The transition towards renewable energy is reshaping electricity markets, leading to increased pressure on fossil fuel-based generators, particularly natural gas and coal-fired plants, to retire. However, these generators remain essential for backing up intermittent renewable energy. Their reliability is critical for maintaining resource adequacy and ensuring grid stability during periods of low renewable output or extreme demand. This paper examines the structural factors influencing the retirement decisions of these generators in the Electric Reliability Council of Texas (ERCOT) market. Using a dynamic discrete choice, we estimate structural parameters governing plant operation and retirement decisions, accounting for the endogeneity of fuel prices and operating costs. The results show that as wind and solar capacity grows, fossil fuel generators—particularly coal plants—are increasingly driven toward early retirement due to age and reduced operating profitability. We also explore how increased renewable energy penetration impacts retirement decisions in our counterfactual analysis. These findings provide insights into the future of resource adequacy and policy interventions needed to manage the energy transition in ERCOT. Future research will consider the role of carbon pricing as a factor in accelerating generator retirements.
- "Dynamics of Renewables in Electricity Markets"
- "Residential Solar Panel Rebound Effect" (work in progress)

## RESEARCH, TEACHING, AND PROFESSIONAL EXPERIENCE

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- Research Assistant for Professor Peter Hartley, Rice University** 2022 -
- Research Fellow, Baker Institute Center for Energy Studies** 2022 -
- Research Assistant for Dr. Erick Knight, Boston University** 2016 - 2017
- Teaching Assistant, Rice University** 2020 -  
Microeconomics – Energy Sector (G), Energy Economics I and II (G), Energy and Macroeconomics (G)  
Mathematical Economics (UG), International Economics and Finance (UG), Microeconomics (UG)
- Teaching Assistant, University of Texas at Austin** 2019 - 2020  
Abstract Algebra (UG), Introduction to Number Theory (UG)
- Teaching Assistant, University of Houston** 2018  
Number Theory (UG)
- NextEra Energy (Gexa Energy) – Data Analyst; Houston, TX** 2019

## OTHER EXPERIENCE

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- Rice Graduate Economics Association Cohort Representative** 2020 -
- Rice Graduate Student Association Economics Representative** 2020 - 2024
- University of Texas Student Government Representative** 2019 - 2020

## **SEMINARS AND CONFERENCES**

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2023, 2024 US Association for Energy Economics Conference

2024 International Association for Energy Economics Conference

Baker Institute Center for Energy Studies Speaker Series and Roundtables

Rice University Economics Seminar, Rice University Mathematics Seminar

2018, 2019 Boston University Number Theory Seminar

2018 University of Houston Undergraduate Colloquium (1<sup>st</sup> Undergraduate Speaker)

## **SKILLS**

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**Programming:** C++, Java, Python, R, Stata, Mathematica, MATLAB, LaTeX, Microsoft Office Suite, Julia, HTML, ArcGIS

**Languages:** Fluent in English, Arabic, and Spanish

**Societies:** Pi Mu Epsilon Math Honor Society, US Mensa Society

## **REFERENCES**

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**Professor Peter Hartley**

Rice University Economics

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**Dr. Kenneth Medlock**

Rice University, Baker Institute

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**Dr. Safaa Amer**

Social Security Administration

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