

Clean Energy Investments under the Inflation Reduction Act

The program will begin shortly. Please stand by.

BeyondMU
LIFELONG LEARNING

TIME TO RISE

THE MARQUETTE PROMISE TO BE THE DIFFERENCE

Clean Energy Investments under the Inflation Reduction Act

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- **John Clancy**, Leader of Energy Strategies Practice Group, Godfrey & Kahn

MARQUETTE S-LAB

1) Events

2) Research

3) Education

- Exec. Ed.
- AIM Program
- MBA/M.S. Finance

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SUSTAINABILITY LAB @ MARQUETTE BUSINESS

Upcoming events:

- Beyond MU: Clean Energy Investments under the Inflation Reduction Act
- Sustainability 2.0 Conference

The Marquette University Sustainability Lab is a cross-disciplinary project that aims to research and disseminate knowledge, foster and develop managers around effective sustainability and stewardship practices increasingly demanded across industries globally. Our lab aligns with the university's commitment to the **Laudato Si' papal encyclical** and furthers our Catholic, Jesuit mission to care for our common home. Through instructional opportunities that span business, the STEM fields, the humanities and more, the Sustainability Lab provides students with the knowledge they need to Be the Difference.

Marquette has long been recognized as a leader in sustainability. The university hosts the "Sustainability 2.0" Conference every fall, bringing together business leaders and executives from

ANNUAL REPORT

- Our 2023 Annual State of the Sustainable Economy and Policy Recommendations report is now out!

SUSTAINABILITY LAB

- + Sustainability Conference
- + Executive Education
- + Graduate Students
- + Undergraduates
- + Research

DR. MERKER'S SUSTAINABLE FINANCE BLOG

Sustainable Finance

Gas Continues to Fill the Power Gap (Reuters)
U.S. power producers increased output of electricity from natural gas by more than from clean power sources in the openi...

Global Boiling (Phenomenal World)
"Take always: 1) Global Warming should be more aptly renamed Global Climate Disruption 2) This year's heat is a 4 standar..."



SUSTAINABILITY 2.0 CONFERENCE

October 24, 2023

Alumni Memorial Union Ballroom, Marquette campus

ESG and sustainability experts will gather from around the country for the fourth annual Marquette Business “Marquette Sustainability 2.0 Conference” to discuss how the adoption of ESG and sustainability standards in business and industry continue to give rise to an emerging paradigm for responsible and ethical business practice.

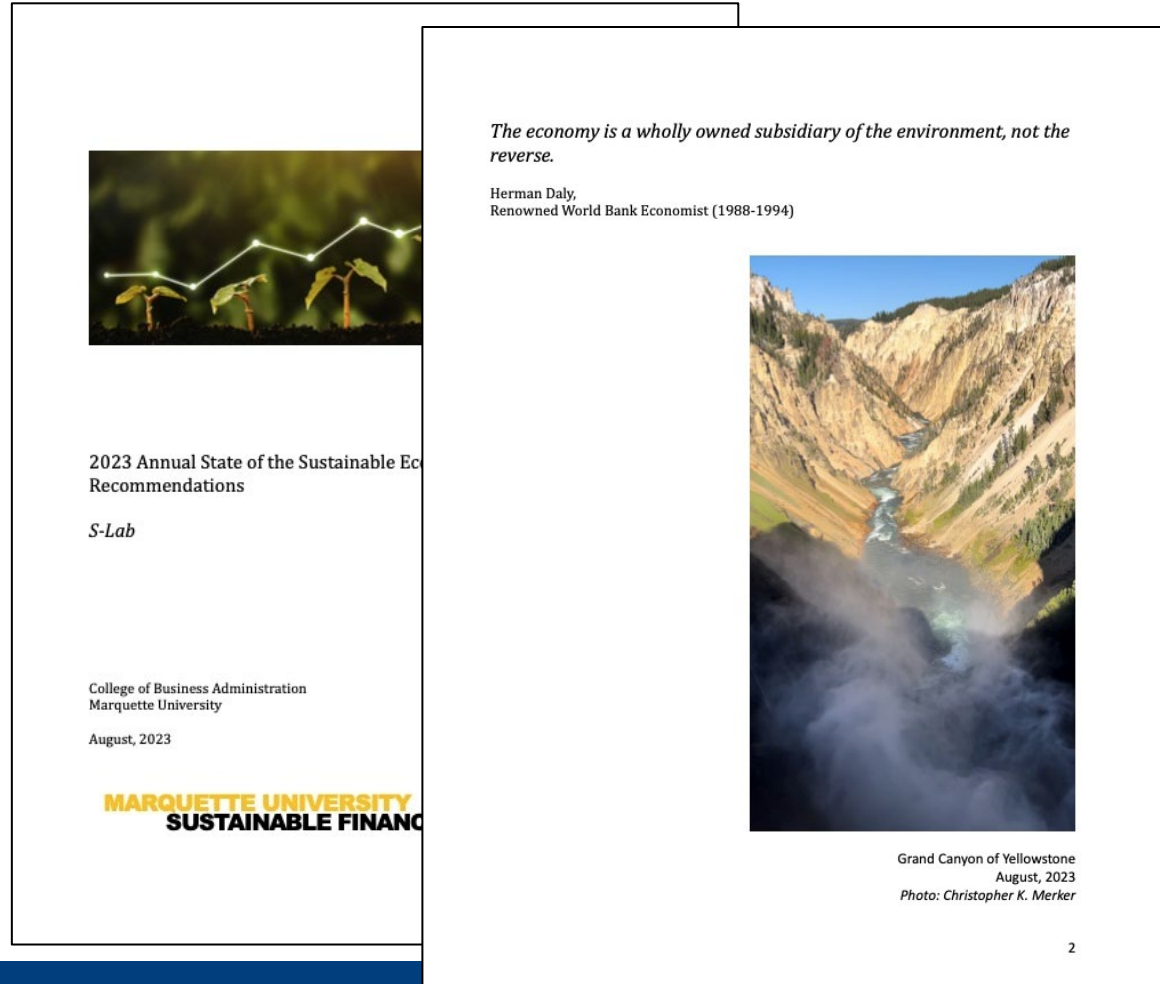
Learn more about sponsorship opportunities and register today.



S-LAB: STATE OF THE SUSTAINABLE ECONOMY REPORT

Now Available!

<https://www.marquette.edu/business/sustainability-lab/annual-report-download.php>





➤ **John Clancy**
Leader of Energy Strategies Practice Group
Godfrey & Kahn

Opportunities for Increased Credits

- 10% increase if meet domestic content requirements
 - Essentially all steel and iron from U.S. and 40% of manufactured product costs.
- 10% increase if located in “energy community”
 - Includes brownfield sites, areas with closed coal mines or coal-fired power plants, and to areas that have significant employment or local tax revenues from fossil fuels and higher than average unemployment.
- Potential credit increase under environmental justice solar and wind capacity limitation (1,800 MW limit)
 - Can include storage properties installed in connection with solar/wind generation charged at least 50% by that generation
 - 10% if in low-income community or on Indian lands
 - 20% if low-income residential building project or low-income economic benefit project

Key Change under IRA: Tax Credit Direct Pay

- Tax-exempt entities may receive value of credit directly
 - Elect to be treated as having made a payment of tax equal to credit.
 - Receive direct cash refund from IRS
- No depreciation deductions.
- Pre-filing registration is required, must renew registration annually
- Limited to out-of-pocket cost of property
 - If grants or forgivable loans are used to purchase or construct energy property, the amount of direct pay credit will be reduced to no more than 100% of project cost not funded by grants or loans
 - This limitation does not appear to be supported by statute

Elective Pay Credits

- Production Credit (§ 45) & Clean Electricity Production (§ 45Y)
- Energy Investment (§ 48) & Clean Electricity Investment (§ 48E)
- Carbon Oxide Sequestration (§ 45Q)
- Zero-emission Nuclear Power Production (§ 45U)
- Clean Hydrogen Production (§ 45V)
- Advanced Manufacturing Production (§ 45X)
- Clean Fuel Production (§ 45Z)
- Advanced Energy Project (§ 48C)
- Alternative Fuel Vehicle Refueling Property (§ 30C)
- Qualified Commercial Vehicles (§ 45W)

Inflation Reduction Act Allows Sale of Tax Credits

- Entities unable to take tax credits directly can transfer/ sell them for cash to unrelated entities.
- Cash sale is nondeductible for the buyer and tax-exempt for the seller.
- Pre-filing registration is required, must renew registration annually
- Available for
 - Energy Credit (48)
 - Clean Electricity Investment Credit (48E)
 - Renewable Electricity Production Credit (45)
 - Clean Electricity Production Credit (45Y)
 - Zero-emission Nuclear Power Production Credit (45U)
 - Advanced Manufacturing Production Credit (45X)
 - Clean Hydrogen Production Credit (45V)
 - Clean Fuel Production Credit (45Z)
 - Carbon Oxide Sequestration Credit (45Q)
 - Alternative Fuel Vehicle Refueling/Recharging Property (30C)
 - Qualified Advanced Energy Project Credit (48C)

IRA Grants

- Climate Pollution Reduction Grants
 - \$5 billion in funding split into 2 phases: Planning (\$250M) & implementation (\$4.6Bn)
 - Projects that will achieve or facilitate the reduction of GHG emission and air pollution
 - Eligible: States, DC, Puerto Rico; air pollution control agencies; municipalities; Territories; Tribes; or groups of the same that are covered by a Phase I plan
- Environmental Justice Block Grants
 - \$2.8 billion for projects to benefit disadvantaged communities
 - Eligible: community-based organizations or partnership of CBO with municipalities, tribes or institutions of higher learning
- Rural Energy for America Program (REAP) grants
 - \$2 billion in additional funding, awards up to 50% (\$1 million max)
 - For Renewable Energy Systems or Energy Efficiency Improvement
 - Eligible: agricultural producers and rural small businesses (including coops, utilities)

Powering Affordable Clean Energy (PACE) program

- IRA included \$1 billion for rural electric loans.
- Potentially forgivable loans up to 60% for new wind, solar, hydropower, geothermal, or biomass
 - Including supporting energy storage
- Energy must be provided to rural and nonrural residents
 - >50% of population served must be rural
- Project Loans up to 75% of capitalized costs
 - Minimum award: \$1 million
 - Maximum award: \$100 million

Powering Affordable Clean Energy (PACE) program

- \$300 million available for each of the following:
 - Category 1: up to 20% total loan forgiveness
 - Category 2: up to 40% total loan forgiveness if the project is in or serves 50 percent or more of the population of a (1) designated energy community, or (2) disadvantaged or distressed community.
 - Category 3: up to 60% total loan forgiveness if:
 - The proposed service area consists of 60 percent or more of a Tribal area, serves a SUTA, or owned by an Indian Tribe or Alaska Native Corporation

Greenhouse Gas Reduction Fund

- \$27 billion available to eligible entities for funding and financing
 - National Clean Investment Fund - \$14 billion
 - 2-3 national nonprofits
 - Provide financing to businesses, communities, community lenders to deploy GHG emissions and air pollution reduction projects.
 - Clean Communities Investment Accelerator - \$6 billion
 - 2-7 hub nonprofits
 - Provide capital to public, quasi-public and non-profit community lenders (i.e., CDFI, credit unions, green banks, housing finance agencies) for clean technology projects.
 - Must go to low-income and/or disadvantaged communities
 - Distributed power generation and storage; replacement of backup generators; zero-emissions vehicles
 - Solar For All - \$7 billion
 - Expand residential and community solar programs for low-income/disadvantaged communities.

Advanced Energy Project Credit (§48C)

- \$10 billion in competitive tax credits
 - 30% credit if meet prevailing wage and apprenticeship criteria
 - \$4 billion reserved for energy community census tracts
- Eligible projects: expand clean energy manufacturing and recycling; critical materials refining, processing and recycling; and that reduce GHG emissions at industrial facilities.

Extension and Modification of ITC under Inflation Reduction Act

- Investment tax credit
 - Base credit rate of 6%
 - But increased to 30% if below 1 MW AC or meet prevailing wage and apprenticeship.
- 30% credit available for
 - Solar, wind, geothermal, combined heat and power, fuel cell, energy storage, and microgrid controllers.
- 30% credit also available by election in lieu of production tax credit for
 - Wind, biomass, landfill gas facilities, trash facilities, qualified hydropower facilities, and marine and hydrokinetic renewable energy facilities.
- After Dec. 31, 2024, ITC transitions to new technology-neutral Clean Electricity Investment Credit (48E) credit that functions similarly



Daniel Romito

Co-Director, S-Lab, Marquette University, and
Director of ESG Strategy & Integration at
Pickering Energy Partners

Tax Incentives Should Not Reprioritize Investment Diligence

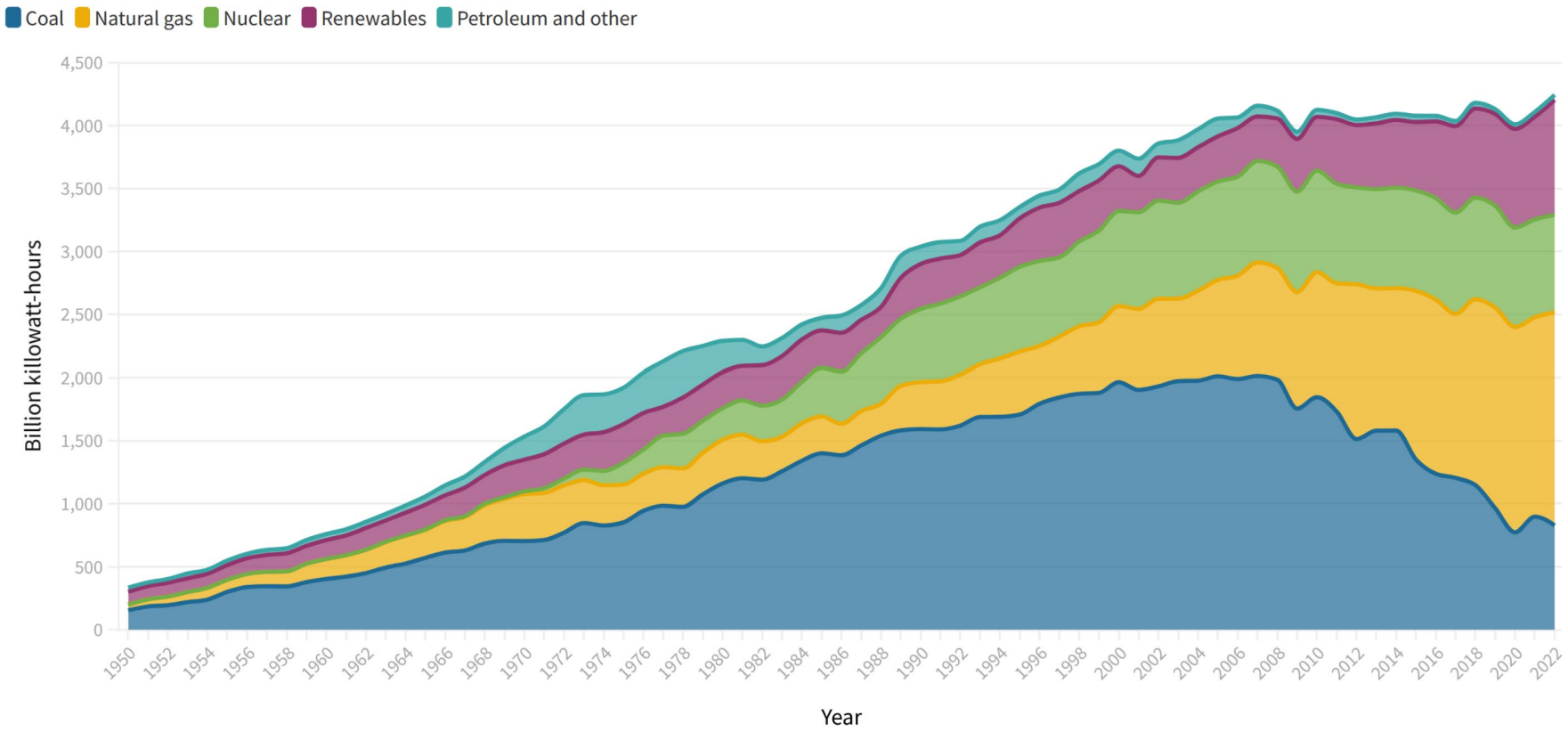
- Long-term capital discipline
- “Pragmatic functionality”
- Commercial scalability
- No reliance on subsidy over the long-term
- Sustainable cash flows and ROI

Case Study - The True Cost of Greening

- IRA Methane Tax
 - For facilities >25,000 metric tons CO₂e per year
 - \$900 / metric ton of methane in 2024
 - \$1,200 / metric ton of methane in 2025
 - \$1,500 / metric ton of methane in 2026+
- Key considerations:
 - Retrofit the asset base v. pay the tax
 - Regulatory measurement moves from spreadsheet estimates to empirical assessment
 - Supply chain risk weight within the equation increases!

We Shouldn't Assume We Know All The Answers Today

U.S. electricity generation by major energy source



Source: U.S. Energy Information Administration • Visualization: C. Chang

Please Do Not Fight Economic Realities

- Natural gas dependency in the EU increased to 97.0 % in 2022, up from 83.1 % in 2021.
- In 20 EU Member States natural gas dependency was higher than 90 % in 2022, up from 15 Member States in 2021
- Key point:
 - Economic and market forces will always trump idealistic forces
 - Remain pragmatic and disciplined!

What Is Today May Change In The Future

- The European Commission has recently argued that natural gas plays a key role in transitioning to renewable energy
 - Natural gas = methane-based fossil
- Natural gas typically emits less carbon dioxide than coal, but is not considered a renewable
- Nuclear, conversely, is considered “green”
 - The arguments against it typically revolve around safety, including how to store the radioactive waste it produces.
 - Nuclear plants are also costly and projects are often beset by delays.

Where Does Future Opportunity Reside?

- Battery technology
- Battery storage
- Battery recycling
- Solar efficiency
- Wind turbine recycling
- Water efficiency technology
- Regardless of the path chosen, nothing trumps the ability to provide self-sustaining cash flows!



Interested in advancing Marquette's *Time to Rise* Campaign?

Learn how you can support Marquette Business sustainable finance education and initiatives.

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