Roadmap to the Future

2023 S-2.0 Conference

Sustainable Economy Update

Christopher K. Merker, Ph.D., CFA
Co-Director
S-Lab
College of Business Administration
Marquette University
christopher.merker@marquette.edu
1) Events
2) Research
3) Education
   - Exec. Ed.
   - AIM Program
   - MBA/M.S. Finance

https://www.marquette.edu/business/sustainability-lab/
S-LAB: STATE OF THE SUSTAINABLE ECONOMY REPORT

Now Available!

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

Sustainable Economies face five main risks:

- Climate change
- Water stress
- Species destruction
- Growing inequality
- War and geopolitical conflict
Hurdles

- Sustainable Economies face five main hurdles:
  - Technology (technical)
  - Capital (financial)
  - Policy (legal and regulatory)
  - Coordination (market/cultural/geopolitical)
  - Time (speed/efficiency)

Strategies

- Mitigation
- Adaptation
The United States is uniquely responsible for leadership in sustainable finance and business.
## U.S. Sustainable Economy Dashboard – through October 2023

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Positive / Negative</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geopolitical</td>
<td>Negative</td>
<td>Two major regional conflicts: Ongoing Ukraine War and new Israeli-Hamas War. China is a growing threat, and North Korea remains a potential risk.</td>
</tr>
<tr>
<td>Fiscal / Monetary</td>
<td>Negative</td>
<td>Debt increased 43% since Covid. Deficit forecast to leap from 3.7% to 6.4% of GDP in 2023. Interest cost approaching 14% of tax revenue. Too much debt can crowd out investment and cause stagflation. Inflation picture gradually improving, although long-term yields recently spiked.</td>
</tr>
<tr>
<td>Social</td>
<td>Neutral</td>
<td>Inflation eroding middle class offset by strong job market. Disparity in income remains across races and gender; however, some improvement among younger workers.</td>
</tr>
<tr>
<td>Climate and Nature Policy</td>
<td>Positive</td>
<td>California may push SEC over the line on climate disclosure. Release of TNFD guidance; recent commitment of 193 countries to rewild the planet. Inflation Reduction Act may stimulate upwards of $3 trillion in green investment, but outcomes remain uncertain.</td>
</tr>
</tbody>
</table>
| Climate Change                | Negative            | • 15 confirmed weather and climate disasters with losses exceeding $1 billion  
• Only one other year (2017) had more billion-dollar disasters in the first six months.  
• Combined total of these 2023 disasters is $32.7 billion—second only to 2021 for total damage costs through the first half of the year since 1980. (Office for Coastal Management) |
U.S. on an unsustainable fiscal path

- Leverage and default risks increasing despite full employment
- Will demand meet supply?
- Tightening credit fundamentals
- Deleveraging cycles slow economy

Source: Baird Private Asset Management
The average global temperature has increased by a little more than 1° Celsius (2° Fahrenheit) since 1880.

Two-thirds of the warming has occurred since 1975.
July 2023 was the hottest month on record

- 2023 3rd-hottest year on record through July,
- Global temperatures through July 2023 were 1.29°C (2.32°F) above the 1881-1910 baseline, approaching record levels from 2016.
- 2023 - 99% chance of finishing among the top five on record.
- Warming will continue as long as carbon pollution continues. We have many options to cut carbon pollution from energy, transportation, agriculture, and more.

Source: NASA and Climate Central
The growing cost of climate disasters

Multiple insurance companies have stopped writing homeowners policies in California or have limited how many customers they will have on their books. They include giants Allstate, State Farm, Farmers, and AIG, as well as AmGUARD Insurance, Falls Lake Insurance and Chubb Ltd.

North Bay Business Journal
September 1, 2023

A combination of extreme weather events, higher costs to rebuild and a rise in litigation has put the state’s (FL) insurance industry into crisis. Multiple insurers have pulled out of the state altogether...The surge in insurance premiums has led many people who own their homes outright to drop insurance...others who can’t are selling.

-Wall Street Journal, October 17, 2023
Bending the curve – policy scenarios

Figure 6: Current Global Energy Mix

- **No climate policies** (4.1 – 4.8 °C)
  - Expected emissions in a baseline scenario if countries had not implemented climate reduction policies.

- **Current policies** (2.5 – 2.9 °C)
  - Policies in place result in warming of 2.5 to 2.9 °C by 2100.

- **Pledges & targets** (2.1 °C)
  - Policies that count towards reducing emissions result in warming of 2.1 °C by 2050.

- **2°C pathways**
  - Pathways that result in warming of 2.0 °C by 2100.

- **1.5°C pathways**
  - Pathways that result in warming of 1.5 °C by 2100.

82% from fossil fuels

Source: International Energy Agency
A 2021 IEA report estimates 20 percent of global GHG emissions come from coal, the largest single source. Ending coal by switching to natural gas, or by scrubbing or capturing emissions, could contribute significantly to emissions reduction. While China and India stand out among the world’s largest consumers of coal (see Figure 2), high intensity (i.e., high per capita) countries such as Australia, Poland and South Africa are also significant consumers.

Source: International Energy Agency, Axios

https://www.iea.org/commentaries/it-s-critical-to-tackle-coal-emissions
https://www.worldometers.info/coal/coal-consumption-by-country/
Source: International Energy Agency, Axios
Frameworks and Standards are Rationalizing

The ISSB's proposed Exposure Draft S2 Climate-related Disclosures, built on the 11 TCFD recommendations. The ISSB requirements fall under the same 4 pillars of the TCFD.

Nov 2021, COP26 announced launch of ISSB Seeks to establish a global baseline for sustainability reporting. Applies the financial materiality concept.

Mar 2022, IFRS and GRI announced MoU A collaboration agreement to coordinate their work programmes and standard-setting activities. GRI applies the impact materiality concept.

A not-for-profit, public interest organisation established to develop enforceable and globally accepted accounting and sustainability disclosure standards.

Aug 2022, IFRS Foundation assumed responsibility for SASB Standards ISSB committed to building on the SASB Standards and embedding its industry-based approach to standards development.

A not-for-word organisation that runs a leading global framework for environmental reporting.
The SEC climate rule (2022)

Three categories of disclosure:
1) Material climate impacts
2) Greenhouse Gas Emissions
3) Targets & transition plans (e.g., internal carbon price)

Focuses on:
Transition risk and physical risk

Threshold for reporting:
1% of revenue (absolute materiality threshold)

Reports in:
10K

Timing:
FY23 – Large Accelerated Filers
FY24 – Limited assurance (and everyone else)
FY26 – Reasonable assurance
California – leapfrogging the SEC (2023)

- Most extensive emissions- and climate-disclosure law in the U.S.
- SB 253 requires companies with greater than $1 billion in annual revenues to publicly file annual reports
- Direct, indirect, and supply chain greenhouse gas (GHG) emissions, verified by an independent and experienced third-party provider
- SB 261 requires companies with $500 million in annual revenues to prepare biennial reports
- Disclosing climate-related financial risk and measures to reduce and adapt to that risk
- First reports are due by January 1, 2026.


- Public and private companies with operations in California
- Up to 10,000 companies
- Scope 3 is required!
Biggest reporting challenges facing companies

Sustainability Reporting Challenges
Which areas represent the biggest reporting challenges for your organization?

- Greenhouse-gas emission
- Climate-change risk
- Supply-chain mgmt
- Biodiversity impacts
- Employees*
- Energy mgmt
- Legal & reg environ
- Water mgmt
- Systemic risk mgmt
- Waste mgmt

*Employee engagement, diversity & inclusion
Source: WSJ Pro Sustainable Business Survey 2023
Most intend to comply, even if the SEC climate rule fails

PwC SEC Climate Disclosure Survey, 2023

- 39% Not fully prepared to meet disclosure requirements
- 89% Reporting some ESG data now
- 95% Prioritizing reporting since rule was announced
- 70% Will comply, even if no rule.
- 96% Independent assurance, even if not required

The share of adults who live in middle-class households is shrinking. Now, 50% of the population falls in this group as of 2021, down from 61% 50 years earlier, according to Pew.

Nearly three-quarters, or 72%, of middle-income families say their earnings are falling behind the cost of living, up from 68% a year ago, according to a separate report by Primerica based on a survey of households with incomes between $30,000 and $100,000. A similar share, 74%, said they are unable to save for their future, up from 66% a year ago.

https://www.cnbc.com/2023/01/18/amid-inflation-more-middle-class-americans-struggle-to-make-ends-meet.html#
State of DEI

Income varies widely across racial and ethnic groups in the United States

**Median Household Income by Race/Ethnicity of Household Head (2021 Dollars)**

- **Asian**
- **White, not Hispanic**
- **All Races**
- **Hispanic, of any race**
- **Black**


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Gender pay gap in U.S. has not closed in recent years, but is narrower among young workers

Median hourly earnings of U.S. women as percentage of men’s median earnings among ...

Effect of SCOTUS ruling?


https://www.pewresearch.org/short-reads/2023/03/01/gender-pay-gap-facts/
## 2023 S-Lab policy recommendations summary

<table>
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<th>Policy Recommendations</th>
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<tr>
<td>1. Expand natural gas supplies to replace coal.</td>
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<td>2. Build capacity in renewables.</td>
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<td>3. Emphasize geothermal and nuclear over solar and wind.</td>
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<tr>
<td>4. Speed the regulatory approval process for energy projects.</td>
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<td>5. Emphasize hybrids over electrics in transport.</td>
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<td>6. Measure and disclose carbon emissions.</td>
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<td>7. Expand Carbon Capture technology.</td>
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<td>8. De-emphasize hydro-electric and biofuels.</td>
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<td>9. Improve water measurement and management practices.</td>
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<td>10. Re-naturalize the environment and manage for biodiversity effects.</td>
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<td>11. Reduce food waste and improve sustainable food production practices.</td>
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<tr>
<td>12. Apply sustainable practices and materials in road and building construction.</td>
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<tr>
<td>14. Put the governance infrastructure in place to manage the business more sustainably.</td>
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Planetary Boundaries

A big thank you to our speakers and sponsors!
APPENDIX

Sustainability is Core for Marquette

The MarquetteUGreen Sustainability Vision

Marquette in the future is a university that reaches beyond boundaries to transform our social, environmental, and economic influence today and for future generations. Everyone at Marquette will seek opportunities to innovate, collaborate and advance sustainability as it relates to academic, engagement, operations, students, dining, transportation, and community. We do this in pursuit of our Jesuit mission to discover knowledge, develop excellence, and cultivate faithful leadership in service to others.

Guiding Principles

Four fundamental actions or behaviors will inspire and guide sustainability at Marquette:

• Care - Social and environmental responsibility, including care for creation and climate justice.
• Enhance - Health and well-being of students, employees, communities and ecosystems.
• Protect - Environmental welfare and ecosystem resilience.
• Secure - Economic security and resource conversation.

Sustainability and its Importance

The most commonly used definition of sustainable development is from the Brundtland Report.

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainability is not a fixed state but a process of change that seeks to harmonize environmental protection, social equity, and economic viability.

Sustainability is the foundation for the United Nation’s global framework for international cooperation on the 17 Sustainable Development Goals (SDG’s).

St. Francis / Laudato Si Pledge

The Pledge affirms:

PRAY and reflect on the duty to care for God’s Creation and protect the poor and vulnerable.

LEARN about and educate others on the causes and moral dimensions of climate change.

ASSESS how we, as an institution, contribute to climate change by our own energy use, consumption and waste.

ACT to change our choices and behaviors to reduce the ways we contribute to climate change.

ADVOCATE for Catholic principles and priorities in climate change discussions, especially as they impact those who are poor and vulnerable.

https://www.marquette.edu/sustainability/
# Executive Education - Sustainability Management

## Four Modules – Sustainability Management

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<th>Module</th>
<th>Description</th>
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<tr>
<td>Fundamentals of Sustainability Accounting I</td>
<td>The FSA Credential is designed to understand the link between material sustainability information and a company’s financial performance.</td>
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<tr>
<td>Fundamentals of Sustainability Accounting II</td>
<td>Level II expands on the fundamentals of sustainability and materiality.</td>
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<tr>
<td>Strategic Sustainability</td>
<td>This capstone course provides a systems approach for businesses to integrate sustainability into strategic planning.</td>
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<tr>
<td>ESG Investing</td>
<td>ESG analysis is an increasingly important part of the investment process.</td>
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**Coming Soon!**

### Fundamentals of Sustainability Accounting I
- Part I: The Need for Sustainability Accounting Standards
- Part II: Understanding SASB Sustainability Accounting Standards
- Part III: Using SASB Standards

### Fundamentals of Sustainability Accounting II
- Part I: Identifying the Material Financial Impacts of Sustainability Factors
- Part II: Evaluating the comparability of sustainability information
- Part III: Understanding the connection between sustainability performance and valuation

**Learn More at: marquette.edu/ESG**