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Leveraging the Federal Government's Buying Power to Mitigate Climate Change

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Leveraging the Federal Government's Buying Power to Mitigate Climate Change

The urgent need to address climate change makes it imperative that contract management professionals step up to meet the challenge.

By Polly Hall, Tim Cooke, and Steven L. Schooner

As global temperatures continue to rise, sustainable procurement will increasingly dominate our professional lives.

This year many more of us have become aware of the recurring drumbeat of historical records for high temperatures. The media increasingly struggles to keep up with chronicling not only the greater *frequency* of what we think of as "natural disasters," but the increasing *severity* of (and damage associated with) storms, fires, floods, droughts, and water shortages.[1] As the White House recently highlighted:

> Economic harms from extreme weather and climate events have become more commonplace due to increasing temperatures, sea levels, and economic development in areas vulnerable to these events. In recent years, the United States has experienced, on average, more than one disaster that has caused over a billion dollars in damages each month.[2]

Science tells us that each of these new, troubling conditions now serves as the baseline against which we will weigh future increases, records, and disasters.

We now understand that a warming planet was the inevitable consequence of two centuries of unprecedented economic growth based largely on an energy economy of burning of fossil fuels. Largely invisible to the eye, the energy that made our current lifestyle possible emits a staggering, unsustainable volume of heat trapping, long-lingering greenhouse gases (GHGs).

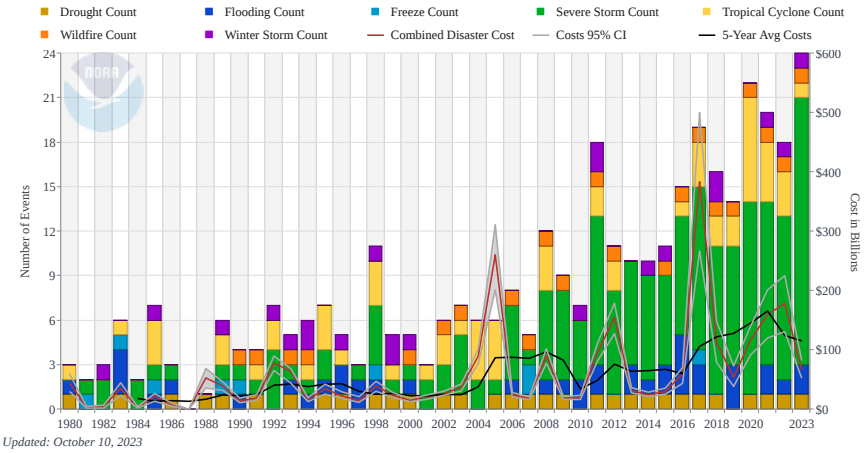
Innumerable untold private and public economic decisions, dating

from the invention of the steam engine and mass production of the internal combustion engine, generated previously unimaginable wealth and comfort. We increasingly understand, however, that the status quo is no longer sustainable, particularly in the long run.

The United States, one of the largest, economically advanced, industrialized nations, is a major contributor to climate change. Most experts agree that the Department of Defense (DoD) alone is the planet's largest institutional greenhouse gas emitter.[3] Unfortunately, the interplay of Constitutional history, longstanding competing interests, and a complex political economy have constrained the federal government from effectively communicating the urgency of climate change to the public or taking the difficult actions necessary to address the rapidly escalating and severe array of climate troubles.

We no longer enjoy that luxury. Given the size and diversity of the federal procurement budget, the U.S. government is well situated to provide leadership, model more sustainable behavior, and stimulate evolving markets.

United States Billion-Dollar Disaster Events 1980-2023 (CPI-Adjusted)



Updated: October 10, 2023

Source: National Centers for Environmental Information, National Oceanic and Atmospheric Administration

> You cannot get through a single day without having an impact on the world around you. What you do makes a difference, and you have to decide what kind of difference you want to make.
>
> Jane Goodall, British Ethologist

Trailing the Private Sector

Recognizing the detrimental impacts of extreme climate events that threaten lives, health,[4] and economic prosperity, the Biden Administration has promulgated six executive orders that place sustainable procurement in a preeminent position.

The federal acquisition community will increasingly be called upon to exercise the federal government's enormous buying power – currently more than $600 billion per year – to influence the marketplace to help preserve and protect the future well-being of the nation against climate impacts ranging from destructive wildfires to the ravages of hurricanes, floods, and droughts. What procurement officials buy, how they buy, and who they buy from can drive large shifts in the behavior of industry and consumers.

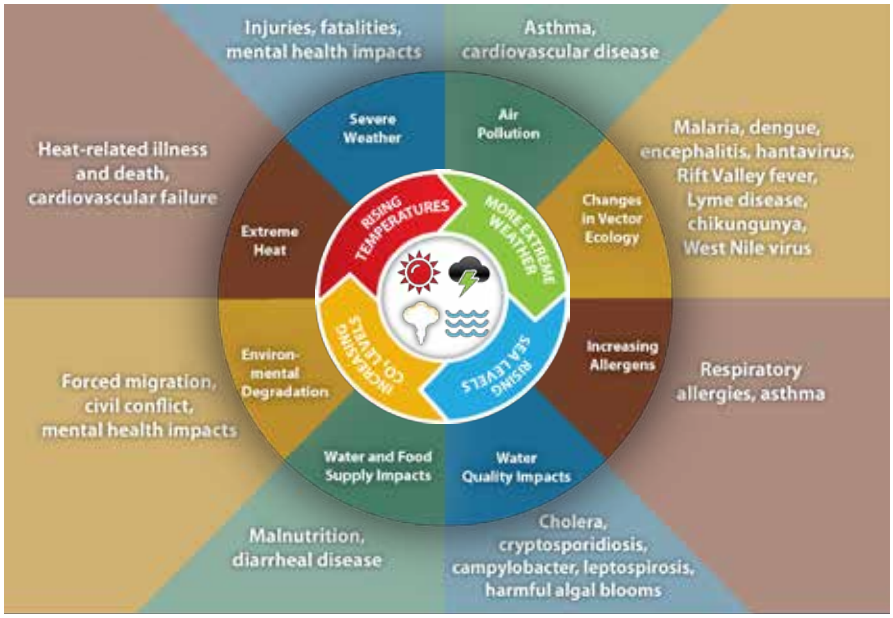
Unfortunately, governmental policies increasingly lag the private sector. Socially responsible corporations are increasingly developing and delivering products and services in climate-responsible ways.[5] Responding to consumer and investor demand, leading multinationals are scrambling to follow suit.[6] The public – particularly Generation Z and the nation's youth – increasingly expects a similar response from government.[7] That makes sense, because federal buying behavior can help accelerate and expand the maturity of industry's climate consciousness and behavior.

There's nothing new about federal procurement initiatives focused on preserving the environment. The environmental movement in the 1970s laid the foundation for green

procurement, with early initiatives focused on reducing waste and energy consumption in federal facilities. Environmentally friendly purchasing expanded in the 1980s and 1990s. President Bill Clinton's Executive Order 12873[8] required federal agencies to purchase environmentally preferable products and services and led to more comprehensive green procurement policies.

Sadly, sporadic legislative, regulatory, and policy initiatives failed to anticipate, let alone keep up with, the planet's rising temperatures and the cascading effects of a warming climate.

Impact of Climate Change on Human Health



Source: Centers for Disease Control and Prevention National Center for Environmental Health

Recent Federal Climate Action

Federal Acquisition Regulation (FAR) Part 23, Environment, Energy and Water Efficiency, Renewable Energy Technologies, Occupational Safety, and Drug-Free Workplace, in part, is intended to promote environmentally responsible practices in federal procurement, encourage sustainable purchasing, increase energy efficiency, reduce waste, prevent pollution, and ensure that federal contractors comply with environmental laws. On August 3, 2023, the FAR Council proposed a consolidation and housekeeping rule intended to restructure and update FAR Part 23 to dedicate it solely to the environment, sustainability, and material safety.[9]

In addition, FAR Case 2021-015 requires for the first time that federal suppliers disclose their GHG emissions and climate-related financial risk. Comments on the proposed rule were received through mid-January 2023, and the rule is being finalized. The proposed "responsibility rule" establishes a policy that large federal suppliers must disclose GHG emissions to be qualified to receive government business and uses the broadest definition of emissions throughout the supply chain. It provides consistent measurement methods enabling emissions to be effectively and efficiently managed. The proposed regulation aligns with global measurement methods and embeds science-based targets for emissions.[10] More rules may be forthcoming from the FAR Council.

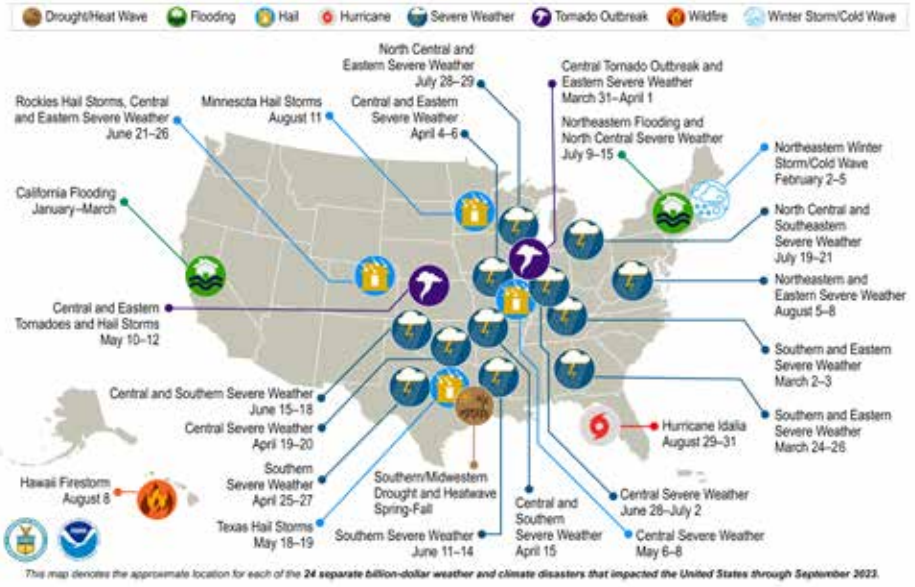
On the legislative front, the 2022 Inflation Reduction Act is considered the most significant climate policy action in U.S. history and was accompanied by a significant infrastructure-related investment. It contains a broad array of financial incentives for clean technologies and industries and for households and businesses to invest in equipment and capital to reduce their carbon emissions. Where appropriate, federal procurement policy may place additional priority on accentuating demand for clean technologies and industries through the procurement process.

Contracting Must Play Catch-up

However, neither the government's current legislative and regulatory arsenal nor our acquisition workforce is currently positioned to keep pace with the climate-related challenges we face. The federal acquisition community is not sufficiently staffed or supported to quickly make that leap, particularly to the extent that few acquisition professionals have been exposed to, trained in, incentivized to undertake, or gained experience in sustainable procurement.

Nor is sustainable procurement currently considered a professional "core competency." For example, neither the concepts nor the nomenclature surrounding the GHG Protocol,[11] nor the significance of Scope 1, 2, and 3 emissions,[12] have found their way into the profession's body of knowledge.[13]

United States 2023 Billion-Dollar Weather and Climate Disasters



Source: National Centers for Environmental Information, National Oceanic and Atmospheric Administration

This is not to suggest that no progress has been made. Executive agencies, including the Environmental Protection Agency, General Services Administration, and Department of Defense, among others, continue to make resources available, share experiences in achieving more sustainable solutions, and experiment with evolving sustainable approaches, from designing more green roofs,[14] to better understanding embodied carbon in construction materials,[15] to electric vehicle charging.[16] Looking ahead, sustainable procurements need to become models and lessons learned so that the message and expertise can be shared, and success stories can become best practices.

As temperatures rise, the government will have no choice but to devote ever-increasing resources to *adapting* to climate change.[17] That's not limited to cleanup and rebuilding after the next storm or fire or flood.[18] It includes everything from raising Navy ports and hardening Air Force runways to installing air conditioning in buildings further north and transporting water to drought-stricken areas.

While governments will have no choice but to increasingly invest resources to adapt to hotter temperatures, the government also has an interest in *mitigating* (or slowing) down the rate at which temperatures are rising. In other words, there is an important distinction between *adaptation*, which refers to adjusting or responding to climate change and its effects, and *mitigation,* which entails attempts to intervene or slow climate change.[19]

Incorporating Sustainability Into Contracts

As the FAR Council works to implement sustainable procurement regulations, and the Defense Acquisition University and the Federal Acquisition Institute begin to expand related training resources, the federal acquisition community can do more to motivate contractors to mitigate climate change.

Contracting professionals can redesign evaluation factors and incorporate specific climate change mitigation and sustainability requirements into procurement processes. They can require contractors to demonstrate proactive climate risk management, address risks related to supply chain disruptions, extreme weather events, and regulatory changes, or drive investment in climate-friendly technologies and practices.

Younger generations, who will inhabit our progressively warming planet, expect governments to do everything possible to mitigate – to slow the pace – of climate change. This requires fundamental changes in the way that the public thinks, acts, moves, eats, and lives. No institution is better positioned to influence market behavior to fundamentally change public opinion than government.

The federal acquisition community needs to rapidly learn, embrace, and champion sustainable procurement practices. This new focus aligns well with procurement innovation – which focuses more on outcomes than processes and embraces streamlined and increasingly efficient tools. Procurement innovation has been strongly championed by the Office of Federal Procurement Policy (OFPP). To leverage the government's buying power to mitigate climate change and maintain the planet's habituality, we must learn new skills, train ourselves to think differently, test new procurement approaches, share

When it comes to protecting the environment, we have both clear regulations as well as the authority to innovate how we buy in the Federal Acquisition Regulation.

I'm looking forward to learning how the Federal acquisition community is leveraging our regulations, their creativity, and partnerships with industry and academia to address climate change and ensure that we are protecting the health and well-being of the American people.

As I step into the role of Chair of the NCMA Sustainable Procurement Community of Practice, I am grateful for the strong foundation for the community of practice built by Holly Elwood and Tina Edwards, who have contributed to the exchange of information and advancement of sustainable procurement in tremendous ways.

It's humbling to be in this role, but I'm excited to continue to build this community, facilitate knowledge sharing, and help us advance this important work across the Federal government.

Polly Hall, Chair, NCMA Sustainable Procurement Community of Practice

our outcomes, and scale what works. To that end, because it can unleash innovative ideas and practices, the guidance below provided in FAR 1.102(d) is perhaps as important as anything found in FAR Part 23.

> [E]ach member of the Acquisition Team is to exercise personal initiative and sound business judgment in providing the best value product or service to meet the customer's needs. In exercising initiative, ... members of the Acquisition Team may assume if a specific strategy, practice, policy, or procedure is in the best interests of the Government and is not addressed in the FAR, nor prohibited by law ... or ... regulation, that the strategy, practice, policy, or procedure is a permissible exercise of authority.

Nothing in the *FAR* today prohibits the acquisition community from learning, thinking about, experimenting with, and sharing experiences related to more sustainable procurement practices throughout the entirety of the acquisition life cycle. Nothing in the *FAR* impedes acquisition professionals from integrating sustainability considerations into requirements generation, acquisition planning, solicitation development, incentive design, contract negotiation, and contract management.

Contracting Professionals Are Seasoned Change Agents

Around the world, and in many U.S. states, sustainable procurement increasingly dominates the acquisition reform agenda. That makes sense, because no government mission is more critical than maintaining the public's health, well-being, and quality of life. The federal procurement system, however, has been slow to embrace the trend, and cynics frequently suggest that our ponderous system is incapable of embracing such a dramatically different approach. But don't be lulled into complacency.

We've seen paradigm-shifting trends alter the public procurement profession throughout our careers. Congress reimagined the basic procurement legal landscape through the Competition in Contracting Act of 1984 (CICA), created a multi-agency policy instrumentality (the FAR Council), and implemented a uniform executive branch procurement regulatory regime, the *FAR* system.

Our procurement approach transitioned away from low-price shootouts (rendering anachronistic ceremonial public openings of offer envelopes) to a more flexible value-based system in which prices and technical merit were weighed or traded off against each other. Previously infeasible concepts, such as reliance on contractor past performance or hosting oral presentations, became second nature.

The educational and training standards required to wield a contracting officer's warrant rose exponentially. Technological tools, from the System for Award Management (SAM) to high-volume electronic transactions through *GSA Advantage!,* rendered the *Commerce Business Daily* (CBD) obsolete and stimulated a commercial marketplace unrecognizable to our mentors. Proliferation of task- and delivery-order vehicles streamlined the lion's share of the government's annual transactions. And, in a single generation, government outsourcing morphed federal procurement from a system designed, built, and staffed to enable the purchase of goods (or supplies) to one heavily dominated by the acquisition and management of services.

So don't fall into the trap of thinking that our profession is incapable of adjusting to address climate change. It's simply not true. We are incredibly adept at change. Indeed, some might say that change has become our only constant.

Expanding NCMA's *Sustainable Procurement Community of Practice (SP-COP)*

NCMA has an important role to play in the next phase of our profession's evolution – incorporating sustainability into all disciplines throughout the procurement life cycle. Our association recognizes the need to create and cultivate an open forum to provide heightened focus on sustainable procurement, accelerate the adoption of sustainable procurement practices, and help shape what best practice looks like in federal procurement.

NCMA established the Sustainable Procurement Community of Practice (SP-COP) in 2021, chaired by Holly Elwood of the Environmental Protection Agency and SAIC's Tina Edwards. In addition to a series of webinars and presentations at educational events, the SP-COP launched a resource page and hosted several early exchanges with the federal acquisition community.

At the July 2023 NCMA World Congress in Nashville, Polly Hall of the Department of Homeland Security took on the role of SP-COP Chair. A World Congress forum, with more than 50 participants, and follow-on engagement during November's Government Contract Management Symposium, helped envision and shape an agenda for the SP-COP's next phase.

Through these visioning sessions, it became evident that NCMA needed to raise awareness of the procurement's role in mitigating climate change, support knowledge sharing about existing work in this area, provide resources and training to contracting professionals, and integrate sustainability into contracting professional standards. Three key goals will guide the SP-COP members' work going forward:

1. Plan and deliver activities (e.g., articles in NCMA's *Contract Management* magazine and learning events) to drive sustainable federal procurement and share lessons learned, from procurement methods to industry-specific solutions.
2. Partner with NCMA to integrate sustainability into the Contract Management Standard™ (CMS™)[20] competencies and the Contract Management Book of Knowledge© (CMBOK©). Addressing climate change through more sustainable procurement will require acquisition professionals to learn new vocabulary,[21] revamp the acquisition planning process, rethink requirements generation, understand and deploy evolving technologies, experiment with different incentives and disincentives, reassess many economic assumptions (including the meaning of "value" to a government customer), and think differently about internalizing the so-called externalities (or effects upon the climate) associated with acquisition programs as well as individual procurement decisions.
3. Expand, drive usage of, and broaden the utility of the SP-COP resource page while ensuring that content is current and the user experience is enhanced.[22]

Expanding *Contract Management* Magazine Sustainable Procurement Content

SP-COP members expressed strong interest in seeing more sustainable procurement coverage in *Contract Management* magazine.[23] As climate scientist Katharine Hayhoe exhorts: "The most important thing every single one of us can do about climate change is talk about it – why it matters, and how we can fix it – and use our voices to advocate for change within our spheres of influence."[24]

NCMA will provide space for a recurring column by the SP-COP, beginning in 2024. The SP-COP seeks authors for future columns to provide insight into specific practices that offer beneficial environmental impacts, can mitigate adverse consequences of climate change, and can drive a more sustainable future. We also understand that deeper learning will occur through related programming. Ideally, the SP-COP will integrate these articles with learning events. If you're working, or gaining experience, or experimenting with any of these (or related) disciplines, tools, or skills, *we would love to hear from you and feature your voice*.

We Need You!

We believe there is a rich, diverse, and ever-expanding body of impactful procurement efforts occurring daily across the federal government to address climate change. That's great news, because the stakes couldn't be higher, and our window of opportunity to avoid the worst-case scenarios is rapidly closing.

The Intergovernmental Panel on Climate Change, in its *Climate Change 2023: Synthesis Report: Summary for Policymakers,* rexplained:

> Climate change is a threat to human well-being and planetary health (*very high confidence*). There is a rapidly closing window of opportunity to secure a livable and sustainable future for all (*very high confidence*). ... The choices and actions implemented in this decade will have impacts now and for thousands of years (*high confidence*)....
>
> Deep, rapid, and sustained mitigation and accelerated implementation of adaptation actions in this decade would reduce projected losses and damages for humans and ecosystems (very high confidence), and deliver many co-benefits, especially for air quality and health (high confidence)....[25]

It's time we join together and live the change we wish to see as a federal acquisition community. It's time to learn new skills, open our minds to thinking differently, share what we are doing, identify ways to enhance our impact, and scale what is working well in sustainable procurement.

To that end, please act now! E-mail ncmaspcop@gmail.com today to join the NCMA SP-COP, offer your ideas and collaboration for an upcoming "Sustainable Procurement" column or event, or to share information or resources that would be useful to the SP-COP. We, our government, the public we serve, our children, and future generations need your engagement! CM

This article, and the authors' endeavors as part of NCMA's Community of Practice, were undertaken in the authors' personal capacity. The thoughts and opinions expressed are those of the individual authors and do not represent the official positions of the Department of Homeland Security or any U.S. federal instrumentality.

Sustainable Procurement

POTENTIAL COLUMN TOPICS

- Policy Framework for Climate-Focused Procurement
- Climate-Focused Procurement: Case Studies
- Driving Environmentally Friendly Practices Through Purchasing Decisions
- Barriers to Climate-Focused U.S. Procurement
- Energy Savings Performance Contracts: Why They Matter
- Procuring Green Buildings, LEED, Green Roofs
- The Evolving Suite of Electronic Tools, from the Sustainable Facilities (SF) Tool and Green Procurement Compendium (GPC) to the GSA Federal Supply Schedule Environmental Aisle
- Technology and Sustainability: Green IT
- Energy Star, EcoLabels and Certification
- Negotiating for the Environment
- Prioritizing Renewable Energy and Green Technologies
- Greenhouse Gas Emissions
  - » Scope 1, 2 and 3 (Yes, The Supply Chain)
  - » The GHG Protocol: Tracking, Reporting, Disclosing, Validating & Targeting Reductions
- Cybersecurity and Sustainability
- Sustainable Supply Chain Management
- Embracing Global Best Practices (and Lessons Learned from Abroad)
- Quality Assurance, Avoiding Greenwashing
- Life Cycle Thinking, Internalizing Climate-Related Externalities into Decision-making, Overcoming the Tyranny of Low Prices
- Interviews with Sustainability Champions

Polly Hall is Chair of the NCMA Sustainable Procurement Community of Practice. She is Senior Advisor to the Chief Procurement Officer, U.S. Department of Homeland Security and former Executive Director for the DHS Procurement Innovation Lab (PIL). Hall also serves as Vice Chair of the Federal Innovation Council and Board Member of the DHS Center for Accelerating Operational Efficiency (CAOC). She is a Faculty Associate in the Supply Chain Management Department at the W.P. Carey School of Business at Arizona State University.

Tim Cooke is President & CEO at ASI Government. He serves on the Professional Services Council Board of Directors and as Vice Chair for Finance on the ACT-IAC Executive Committee, Vice Chair for Finance. In 2018, he served on the NCMA Board of Advisors and was Co-chair of the NCMA World Congress. Cooke is the former Senior Economist with the Center for Naval Analyses (CNA) and former Assistant Professor of Economics at Rice University. He holds an M.A. and Ph.D. (political economy) from The Johns Hopkins University and earned his B.A. in economics, summa cum laude, at George Mason University.

Steven L. Schooner is the Jeffrey & Martha Kohn Senior Associate Dean for Academic Affairs and Nash & Cibinic Professor of Government Procurement Law at The George Washington University Law School. He previously served as Associate Administrator for Procurement Law and Legislation at the Office of Federal Procurement Policy (OFPP). Schooner is a NCMA Fellow, Member of the NCMA Board of Advisors and a Certified Professional Contract Manger (CPCM). He received the NCMA Charles A. Dana Distinguished Service Award in 2012. He earned his LL.M. at George Washington University, his J.D. at William & Mary, and his B.A. at Rice University

ENDNOTES

1 For example, see Hilary Howard, *With Climate Change, Smaller Storms Are Growing More Fearsome, More Often*, New York Times (September 30, 2023) ("Climate change is very likely stoking more ominous and lengthy downpours because as the atmosphere heats up, it can hold more moisture, said Andrew J. Kruczkiewicz, a senior researcher who specializes in flash floods at Columbia Climate School at Columbia University."), https://www.nytimes.com/2023/09/30/nyregion/climate-change-flooding-storms.html.

2 Council of Economic Advisors, The White House, *The Rising Costs of Extreme Weather Events* (September 1, 2022), https://www.whitehouse.gov/cea/written-materials/2022/09/01/the-rising-costs-of-extreme-weather-events/.

3 Neta C. Crawford, *The Pentagon, Climate Change, and War: Charting the Rise and Fall of U.S. Military Emissions* (MIT Press, 2022), https://mitpress.mit.edu/9780262047487/the-pentagon-climate-change-and-war/.

4 Centers for Disease Control and Prevention, National Center for Environmental Health, *Climate Effects on Health*, interactive version of graphic available in English and in Spanish at https://www.cdc.gov/climateandhealth/effects/default.htm.

5 See, e.g., IBM Institute for Business Value, *In their own words: How CEOs are forging paths to sustainability* ("[I]n 2022, CEOs ranked sustainability as a top priority 37% more frequently than in the previous year. Urgency of action was a key theme.") https://www.ibm.com/thought-leadership/institute-business-value/en-us/report/ceo-sustainability.

6 See, e.g., Apple's recent promotional video, *2030 Status | Mother Nature* (September 12, 2023), available at https://www.youtube.com/watch?v=QNv9PRDIhes.

7 For a powerful introduction to the intergenerational divide on concern and anxiety surrounding, as well as demands for action on, climate change, consider Britt Wray's *Generation Dread: Finding Purpose in an Age of Eco-Anxiety* (Vintage, 2023), https://www.penguinrandomhouse.ca/books/647141/generation-dread-by-britt-wray/9780735280724.

8 Executive Order 12873, *Federal Acquisition, Recycling, and Waste Prevention,* 58 Federal Register 203 (October 20, 1993), https://www.archives.gov/files/federal-register/executive-orders/pdf/12873.pdf.

9 Among the six Biden Administration Executive Orders, the basis is established by EO 14008, "Tackling the Climate Crisis at Home and Abroad" EO 14008. The first two FAR Cases are the result of EO 14030 "Climate Related Financial Risk," EO 14030. For direct access to these and other relevant executive orders and other related executive policy documents, visit the Office of the Federal Chief Sustainability Officer, Council on Environmental Quality, Policy and Resources & Guidance pages at: https://www.sustainability.gov/policy.html and https://www.sustainability.gov/resources.html.

10 The Science Based Targets Initiative (SBTi) is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). Science-based targets show companies and financial institutions how much and how quickly they need to reduce their greenhouse gas (GHG) emissions to prevent the worst effects of climate change. Among other things, SBTi brings together expert teams to provide companies with independent assessment and validation of targets and provides technical assistance and expert resources to companies who set science-based targets in line with the latest climate science. See, generally, https://sciencebasedtargets.org/.

11 "[The] GHG Protocol establishes comprehensive global standardized frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions." See generally, Greenhouse Gas Protocol, https://ghgprotocol.org/.

12 As the U.S. Environmental Protection Agency (EPA) Center for Corporate Climate Leadership explains at https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance and https://www.epa.gov/climateleadership/scope-3-inventory-guidance:

> Scope 1 emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles). Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling.... Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly affects in its value chain.... Scope 3 emissions ... often represent the majority of an organization's total greenhouse gas (GHG) emissions.

13 National Contract Management Association, *Contract Management Body of Knowledge® (CMBOK®),* currently in its seventh edition, https://ncmahq.org/Web/Web/Standards---Practices/Contract-Management-Body-of-Knowledge.aspx.

14 U.S. General Services Administration, *Federal High-Performance Green Buildings, Green Roofs,* https://www.gsa.gov/governmentwide-initiatives/federal-highperformance-green-buildings/resource-library/integrative-strategies/green-roofs.

15 U.S. General Services Administration, Sustainable Facilities Tool, *Embodied Carbon,* https://sftool.gov/learn/about/658/embodied-carbon.

16 Defense Innovation Unit, *Department of the Air Force, Defense Innovation Unit Partner on Electric Vehicle Charging as a Service Project,* https://www.diu.mil/latest/department-of-the-air-force-and-defense-innovation-unit-partner-on-electric.

17 "Adaptation planning and implementation has progressed across all sectors and regions, with documented benefits and varying effectiveness." Intergovernmental Panel on Climate Change, *Climate Change 2023: Synthesis Report: Summary for Policymakers* (2023) A3, page 8, available at https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf. "The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change." *About the IPCC*, https://www.ipcc.ch/about/.

18 National Centers for Environmental Information, Billion-Dollar Weather and Climate Disasters, available at https://www.ncei.noaa.gov/access/billions/. This interactive graphic permits sorting by time, type of risk/disaster, geographical mapping, etc.

19 IPCC, Supplementary Chapter 18, *Inter-relationships between adaptation and mitigation*, https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg2-chapter18-1.pdf, part of *AR4 Climate Change 2007: Impacts, Adaptation, and Vulnerability*, https://www.ipcc.ch/report/ar4/wg2/. Over time, "[a]daptation options that are feasible and effective today will become constrained and less effective with increasing global warming." IPCC, *Climate Change 2023: Synthesis Report: Summary for Policymakers* (2023) B4, page 19, available at https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.

20 National Contract Management Association, *Contract Management Standard™,* https://ncmahq.org/Web/Web/Standards---Practices/Contract-Management-Standard-Publication.aspx. The CMS™ describes contract management in terms of the processes created through the integration and interaction of job tasks and skills and the purposes they serve. The CMS is approved by ANSI, an internationally recognized third party, and maintained by the Standards Consensus Body, a balanced panel of practitioners from Government, Industry, and Academia.

21 For an accessible introduction to this topic, see *Sustainable Procurement: Building Vocabulary To Accelerate The Federal Procurement Conversation*, Steven L. Schooner & Evan Matsuda, Briefing Papers No. 21-10 (Thomson Reuters, 2d Series, Sept. 2021), available at https://ssrn.com/abstract=3943341.

22 NCMA's *Climate & Sustainable Procurement* resource paget: https://ncmahq.org/climate

23 See also: CM Interview With Tina Richards, *Sustainability is a We Issue*, 62 CM __ (July 2022); Steven L. Schooner, *No Time to Waste: Embracing Sustainable Procurement to Mitigate the Accelerating Climate Crisis,* 61 CM 24 (December 2021); Steven L. Schooner & Markus Speidel, *Warming Up to Sustainable Procurement,* 60 CM 32 (October 2020).

24 Katharine Hayhoe, *Saving Us: A Climate Scientist's Case for Hope and Healing in a Divided World* (Atria, 2022).

25 Intergovernmental Panel on Climate Change, *Climate Change 2023: Synthesis Report: Summary for Policymakers* (2023) C1 & C2, pages 24-25, available at https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.

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