



# Building Human Capital

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Decision Making on Climate Risk




## Making the Case for Leadership on Climate Change

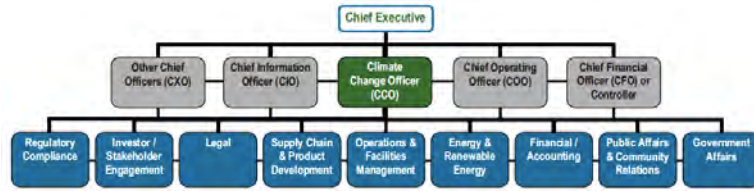
*The Department of Energy has already experienced dramatic cost and mission impacts associated with climate change and instability, including an estimated \$500 million in cost impacts at one facility alone. Had a senior executive with appropriate expertise been in place, some of these costs may have been avoided. More importantly, getting such a leader in place now will help mitigate future costs.*

*The CSO is a Postal Career Executive Service (PCES) position, the Postal Service equivalent of a SES position in the Federal Government. This level of experience at the highest management levels of the Postal Service provides me with working relationships necessary to fulfill the multi-functional aspects required for Sustainability and Environmental Issues. An example of how this has benefited the Postal Service is the National Recycling Operation. The program will standardize the recycling process in all 67 Districts of the US Postal Service. An investment of slightly less than \$35 million will produce a Net Present Value of over \$130 million and a ROI of roughly 85%. If I had not been at this senior level, I would not have been able to collaborate and reach agreements with Supply Management, Facilities, Operations, Maintenance and Finance to establish this business case.*

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## Drivers for Climate Change Leadership



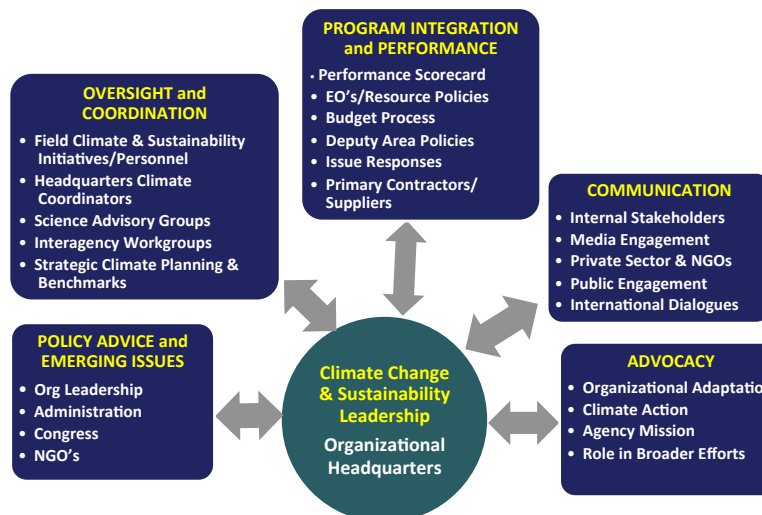
In order to effectively drive climate initiatives, a leadership function needs to be able to:

- Convene critical stakeholders across organizational divisions, departments and potential silos
- Provide an enterprise perspective on climate implications for the organization
- Account for risk mitigation and footprint reduction measures and benchmark institutional progress
- Assess climate implications on fulfillment of mission/goals
- Oversee organizational footprint reduction efforts
- Drive organizational planning for climate adaptation and resilience to extreme events
- Serve as a spokesperson on climate change
- Oversee internal/external education and engagement programs

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## Roles and Functions Critical to Effective Leadership



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## The Impacts of Climate Change

Climate change presents extraordinarily pervasive risks, challenges, and opportunities for organizations in all sectors, including Federal agencies. Lack of appropriately trained human capital and ineffective governance substantially increases risks directly and/or indirectly related to climate change, which include:

- increased operational costs
- destructive weather patterns and increasing frequency/magnitude of extreme events
- diminishing resources
- national security implications and threats
- changing parameters and affecting outcomes of operations/mission activities

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## Climate Change Opportunity

Opportunities for organizations that take aggressive leadership and internal education/training initiatives include:

- increasing the success of missions/initiatives
- reducing operational costs,
- mitigating risks of surging and redundant costs from poor program strategy decisions
- recruiting a better talent pool
- shifting to alternative and safer resources enabling the achievement of sustainability performance goals and operational stability
- leading by example

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## Core Competencies for Climate Change Professionals

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**Foundational Knowledge and Skills**

- Science literacy
- Environmental and economic literacy
- Understanding of the policy landscape
- Management acumen

**Organizational Knowledge and Skills**

- Strategic Planning
- Decision-Making
- Compliance and Enterprise Risk Management
- Asset Management
- Value and Supply Chains
- Communications and Corporate Social Responsibility
- Governance

**Strategic Execution**

- Enterprise Risk Mitigation
- Supporting Change within the Organization
- Stakeholder Engagement
- Reaching Beyond the Organization

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## Curriculum Areas

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Climate Science, Risk & Adaptation Planning	Basics of Climate Science & Sea Level Rise, Projections, Tools, Data, Downscaling, Vulnerability Assessment, Adaptation Planning
GHG Management & Reduction Strategies	GHG Accounting, Basics of Disclosure, Gathering & Leveraging GHG Data, GHG Reduction Goals, Advanced GHG Management Structures
Energy Strategies	Energy Audits, Basic Management Strategies, Strategic Energy Management, Green Building Practices, P3 Projects, Advanced Energy Contract Vehicles, Long-Term Energy Planning
Commodities & Markets	REC & Offset Accounting, Markets, Strategies, Project Development, Advanced Projects
Supply Chain Management	Gathering Actionable Data, Assessing & Quantifying Climate Related Risk, Engaging Suppliers, Climate Savvy Sourcing & Procurement
Governance, Engagement & Behavior Change	Understanding Organizational Culture & Change, Identifying Success Factors, Developing Change Strategies, Overcoming Institutional & Cultural Challenges
Project Finance & Economic Analysis	Basic Project Finance, Financing Energy & GHG Reduction Programs, Quantifying Cascading Climate Risks, Risk Management Principles, Economics of Climate Change
Enterprise Strategy	Analyzing & Quantifying Climate Risk, Assessing Materiality and Disclosing Climate Risk

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## Tailoring Content to the Practitioner

Sectoral	Geographic Region	Professional Role / Function
<p><b>Government</b></p> <ul style="list-style-type: none"> <li>• Federal / Local / State</li> <li>• Defense &amp; Naonal Security</li> </ul> <p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li>• Transportaon</li> <li>• Energy</li> <li>• Telecommunicaon</li> <li>• Ports</li> </ul> <p><b>Manufacturing</b></p> <ul style="list-style-type: none"> <li>• Electronics</li> <li>• Apparel</li> <li>• Pharmaceucals</li> </ul> <p><b>Financial</b></p> <p><b>Health</b></p> <p><b>Education</b></p> <p><b>Agriculture</b></p> <p><b>Retail</b></p> <p><b>Transportation</b></p> <p><b>Natural Resources</b></p>	<p><b>Coastal &amp; Tidal River Communities</b></p> <p><b>Developing Nations</b></p> <p><b>U.S. Regions</b></p> <ul style="list-style-type: none"> <li>• Northeast</li> <li>• Southeast</li> <li>• Midwest</li> <li>• Great Plains</li> <li>• Southwest</li> <li>• Northwest</li> <li>• Alaska</li> <li>• Hawai'i</li> <li>• Rural Communities</li> </ul>	<p><b>Supply chain and procurement</b></p> <p><b>Investment portfolio &amp; pension fund management</b></p> <p><b>Risk management and business continuity</b></p> <p><b>Public policy and government affairs</b></p> <p><b>Facilities management</b></p> <p><b>Public affairs, strategic communications, and marketing</b></p> <p><b>Architects and engineers</b></p> <p><b>Attorneys</b></p>


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## Skills for Energy Management Professionals

- Knowledge and Data Management**
  - GHG Reporting and verification, how this is being used (GHG-101 and Enterprise-201)
  - Gathering data (energy metering) and analysis, and moving toward real-time performance monitoring of portfolio (Energy-101) – add usage of tools & resources
- Policy and Organizational Strategy**
  - Understanding of the policy landscape at all levels (Governance-102) -- Regional
  - Incorporating climate change models and projections into master planning/goal setting, benchmarking and metrics, working with sites on roadmap for next 3-5 years
  - Aligning planning/goals with climate action planning and other organizational goals
  - Alignment with GHG reporting and verification
  - Developing a risk mitigation strategy
- Governance**
  - Communication and stakeholder engagement (Covered by Gov-101 and Gov-201)
  - Planning for maintenance, persistence, behavior, etc.
- Project Finance and Economics**
  - Awareness of economic opportunities (incentives, rebates, etc.) and rate structures -- Regional
  - Strategies for financing projects (depreciation, PPAs, etc.) -- Regional
  - Quantifying performance depreciation and persistence

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## Skills for Energy Management Professionals

### Operations

- Fundamental load management and efficiency strategies (Covered by Energy-101)
  - Understanding pathways involving behavior change, equipment, technology, space usage and/or business processes
- Day-to-day energy management (facilities, ops) vs. long-term strategic energy planning (benchmarking)
- Identifying related climate hazards and conducting vulnerability assessment (Climate-201)
- Understanding of energy and GHG lifecycle of a product (covered in GHG-101)
- Understanding and leveraging available risk mitigation tactics

### The Energy System

- Energy-water nexus (GHG-102)
- Awareness of regionally specific energy considerations (resource mix, environmental implications and risks)
- How the energy system works (e.g. grid, renewables, smart grid, distributed generation, etc.)
- Awareness of traditional and emerging energy technologies and their corresponding roles, risks, footprint, etc. (Energy-101 and 201)
- Awareness of relevant certifications (e.g. LEED, Green Globes, ERGY STAR, etc.) and differentiating between various types of energy professionals
- Role of the built environment in GHG emissions and climate related vulnerabilities

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## Skills for Energy Management Professionals

### Commodities & Markets

- Role of commodities (RECs and offsets), and ownership vs. not (Covered by Comms-101 and 102)
- Incorporating renewables into energy purchasing (Covered in Energy-201)

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## Skills for Supply Chain Professionals

- Knowledge of climate related life cycle analysis and risk tradeoffs
- Types of sourcing and procurement (e.g. government, indirect, other processes)
- Understanding of reporting and disclosure requirements
- Ability to communicate financial and environmental benefits
- Internal/external stakeholder engagement strategies
- Making the distinction between contributing to climate change and impacts from climate change
- Day-to-day vs. long-term strategic
- Assessing supply chain risks and understanding of current supply chain risk management processes
- Identifying related climate hazards and conducting vulnerability assessment
- Understanding of global distribution of climate change effects
- Assessing exacerbation of existing risks
- Distinguishing capabilities of big businesses vs. small businesses
- Alignment with GHG accounting, reporting and verification
- Hot spot analysis and prioritizing focus points
- Monetizing risk and making the business case
- Understanding and leveraging tools and resources available
- Building an inventory and gathering data
- Contracting and procurement guidelines/tools
- Understanding the levers available for driving supplier, sourcing and procurement change

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## Executive Order 13693

Sec. 11. Employee Education and Training. Within 180 days of the date of this order, the Office of Personnel Management, in coordination with DOE, GSA, EPA, and other agencies as appropriate, shall:

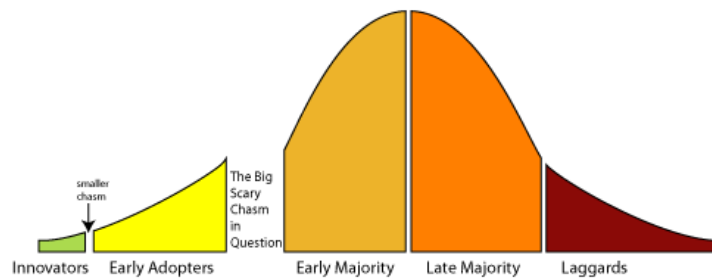
- a) consider the establishment of a dedicated Federal occupational series for sustainability professionals and relevant positions that directly impact the achievement of Federal sustainability goals and if appropriate, prepare and issue such occupational series; and
- b) initiate the inclusion of environmental sustainability and climate preparedness and resilience into Federal leadership and educational programs in courses and training, delivered through electronic learning, in classroom settings, and residential centers, particularly developmental training for Senior Executive Service and GS-15 personnel.

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## Building Demand

- Credentialing bodies and universities respond to demand signals from employers
- Standardize practices and curriculum
- Need to benchmark and demonstrate value/ROI for training
- Visionary leadership



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