

Building a Climate Smart Workforce

Integrating Climate Change into Decision Making



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Association of Climate Change Officers

www.ACCOonline.org

Mission: ACCO defines, develops and supports the functions, resources and communities necessary for effective organizational leadership in addressing climate-related risks and opportunities.

Vision: ACCO enables all organizations to be more sustainable by building enterprise capacity and empowering leadership to respond to climate change.

Basic assumptions about thriving societies ...

- Economic engines driving a community need to be resilient to episodic activity and adaptive to changes in environment, marketplace, culture and population
- But you also need ...
 - Dependable and safe infrastructure
 - Ability to commute and transport
 - Access to food, goods and natural resources
 - Good public health
 - Job opportunity, security and upward mobility
 - Security
 - Prosperous businesses (that don't undermine public good)
 - Well informed public decision makers and elected officials

The human capital lens

- How to balance today's needs with longer-term considerations when the economics in play are so enormous and the systems implications so broad?
- Human nature is to focus on episodic (e.g. storm event)
- Decision-makers are in their roles for a period of time that isn't long enough to envision the decadal climate change implications
- Most of the workforce wasn't trained to address climate change and related considerations in their professional capacity (nor do most job descriptions meaningfully account for the requirements to do so)

But human capital is the key to it all

- **Foundational knowledge and skills**
 - Science Literacy
 - Environmental and Economic Literacy
 - Understanding of the Policy Landscape
 - Management Acumen
- **Organizational knowledge and experience**
 - Strategic Planning
 - Decision-Making
 - Compliance and Enterprise Risk Management
 - Asset Management
 - Value and Supply Chains
 - Communications and Social Responsibility
 - Governance
- **Strategic execution competencies**
 - Enterprise Risk Mitigation
 - Supporting Change Within the Organization
 - Stakeholder Engagement
 - Reaching Beyond the Organization

CCP[®]

Climate Change Professional (CCP[®]) Designation

(formerly the Climate Governance Certificate)

New: [Click here](#) to download the requirements checklist.

The Climate Change Professional (CCP[®]) is the credential for mid-level practitioners reflecting your dedication to professional development and your competency in the fundamentals of climate change preparedness and strategic planning. A combination of related work experience and completion of all core curriculum courses and elective requirements is required for this designation.

The CCP[®] designation is currently available for practitioners across all sectors and professional functions. ACCO will be unveiling CCP[®] categories tailored to specific professional roles and sectors in 2017.

CCO[®]

Climate Change Officer (CCO[®]) Designation

In development

The Climate Change Officer (CCO[®]) is the master-level credential underscoring your ability to drive climate related action within an organization. A combination of extensive related work experience and completion of all core curriculum courses and elective requirements is required for this designation.

[Learn more](#)

Pre-requisites:

- Masters or post-graduate degree
- 2+ years working extensively on climate change, sustainability or related initiatives

or

- Four-year degree
- 4+ years working extensively on climate change, sustainability or related initiatives

or

- Secondary (high school) degree
- 7+ years working extensively on climate change, sustainability or related initiatives

Pre-requisites:

- Four-year degree
- 10+ years managing or directing climate change, sustainability or related initiatives

or

- Masters or post-graduate degree
- 7+ years managing or directing climate change, sustainability or related initiatives

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The buck stops with public will



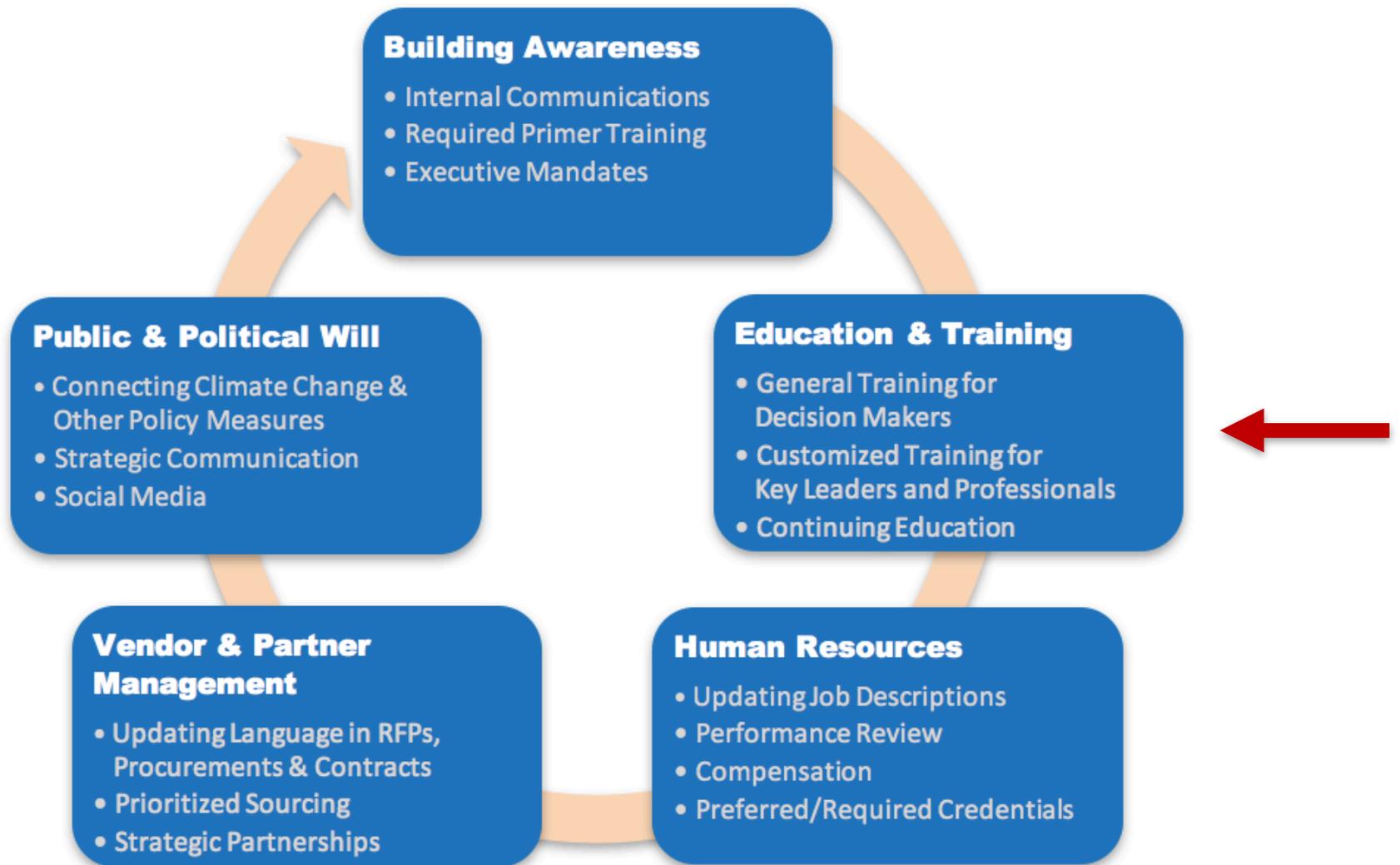
U.S. Climate
Resilience
Toolkit

Innovation Exchange Webinar

November 1, 2016

ACCO
ASSOCIATION OF CLIMATE CHANGE OFFICERS

Key elements to successful climate action



Legend: 100-level = Beginner; 200-level = Intermediate; 300-level = Advanced Application; 500 - Sector Specific

Climate Science, Risk & Adaptation Planning	GHG Management, Reporting & Reduction Strategies	Energy Strategies	Commodities & Markets	Supply Chain Management	Governance, Engagement & Behavior Change	Project Finance & Economic Analysis	Enterprise Strategy
Climate-101: Understanding Climate Science & the Latest Projections	GHG-101: Basics of GHG Accounting, Reporting & Disclosing GHG Emissions	Energy-101: Creating a Comprehensive Energy Efficiency Management Program	Commodities-101: Understanding & Leveraging RECs	SupplyChain-101: Introduction to Assessing Climate Related Risks in the Supply Chain	Governance-101: Engaging Stakeholders & Establishing Strategies for Leading Organizational Change	Economics-101: The Economics of Climate Change	Enterprise-201: Analyzing & Quantifying Climate Risk, Assessing Materiality and Disclosing Climate Risk
Climate-102: Understanding Climate Variability, Extreme Events & Long-Term Climate Change	GHG-102: Fundamentals of the Energy, Water & Food Nexus	Energy-102: Energy Markets and Regulation and Other Issues Affecting Energy Costs	Commodities-102: Offsets, Markets & Driving Offset Projects	SupplyChain-201: Getting Actionable Supply Chain Data and Engaging Suppliers	Governance-102: The Legal/Policy Landscape of Climate Change & Related Implications	Economics-201: Putting a Price on GHG Emissions	Enterprise-301: Prioritizing and Funding Climate Initiatives (2016-17)
Climate-103: The Basics of Sea Level Rise and Impacts on Coastal Assets & Infrastructure	GHG-201: Establishing GHG Reduction Goals & GHG Management Structures	Energy-103: LEED Core Concepts (2016-17)	Commodities-201: Procuring REC and Offset Projects with Tangible Benefits	SupplyChain-202: Prioritizing Supply Chain Initiatives and Strategies for Implementation	Governance-201: Building, Maintaining and Benchmarking a Stakeholder Engagement Program	Economics-301: Quantifying Climate Risks (2016-17)	
Climate-201: Identifying Climate Hazards & Conducting Vulnerability Assessments	GHG-301: Developing and Managing and Internal Carbon Fee (2016-17)	Energy-201: Developing & Enhancing Your Renewable Energy Strategy		SupplyChain-203: Activating Your Supply Chain (2016-17)	Governance-202: Engaging the C-Suite on Climate Change (2016-17)		
Climate-202: Leveraging Climate Data & Tools		Energy-202: Price Stabilization and Renewables Procurement through Power Purchase Agreements		SupplyChain-301: Mitigating Climate Related Risks in the Supply Chain (2016-17)	Governance-301: Advanced Strategies and Tactics for Leading Organizational Change (2016-17)		
Climate-203: Developing an Adaptation Plan for Your Organization		Energy-203: Assessing P3 Opportunities and Establishing a Strong Partnership Project (2016-17)					
Climate-204: Engaging in Regional Adaptation Initiatives (2016-17)		Energy-204: Leveraging Microgrids to Reduce Risk & Footprint (2016-17)					
Climate-205: The Role of Natural Infrastructure in Resilience (2016-17)		Energy-501: Navigating Long-Term Defense Energy Challenges: Efficiency Measures, Renewables & PPAs					
Climate-501: Climate Risk as an Encroachment Factor on Defense/National Security Installations							

Climate-101:

Understanding Climate Science & the Latest Projections **BEG**

Core Requirement: Climate Governance Certificate

(Course description and learning objectives updated 5/07/2015)

This boot camp will provide participants with an overview of the current state of knowledge about Earth's climate system, how climate is projected to change this century, practical implications of these projections for different socioeconomic sectors, and the basics how effective communication and engagement can help mobilize your organization for action. Attendees will learn how to use climate projections to identify climate related risks and vulnerabilities, and understand how science-based information and tools are being used for strategic planning. Participants will go through an interactive demonstration to apply what they have learned throughout the course.

Learning Objectives

- Distinguishing between weather, climate variability, and climate change
- Describing observed recent decadal-scale changes in climate and their impacts
- Paraphrasing types and trends in climate forcings, their relative importance, and uncertainty
- Summarizing projected climate changes and how climate projections are made
- Explaining some major impacts of projected climate change and their corresponding uncertainty
- Understanding public opinion about climate change and effectively communicate about climate science to different audiences
- Classifying public opinion based on scientific studies to select communication strategies

Climate-102: Understanding Climate Variability, Extreme Events & Long-Term Climate Change **BEG**

General Elective

Recommended Pre-Requisites: [Climate-101](#)

(Course description and learning objectives updated 5/07/2015)

There is inherent variability built into the Earth's natural systems, but anthropogenic disruption of the atmosphere, biosphere and oceans is leading to longer-term climatic changes that cannot be ignored. More frequent and more extreme occurrences of certain types of weather events associated with climate change also increasingly challenge resilience and recovery. This Bootcamp gives participants an understanding of current climatic trends and shorter-term consequences that is critical to ensuring the stability and long-term success of an organization. Participants will learn about longer-term natural climate trends as a baseline for understanding current human disruptions to the climate system.

Learning Objectives

- Discerning the difference between climate variability and climate change
 - Understanding the difference between climate and weather
 - Assessing probability, magnitude and returns of extreme events
 - Understanding uncertainties and limitations of climate projections, and how and when extreme weather events might change:
 - Understanding IDF curves (intensity, duration, frequency)
 - Attributing extreme events or weather patterns to climate change
 - Understanding of regional / local examples as well as global data
- Distinguishing between climate change and modern climate variability, and communicating these issues
- Placing modern climate change in the context of long-term climate records

Climate-202: Leveraging Climate Data & Tools **INT**

General Elective

(Course description and learning objectives updated 5/07/2015)

There is a wealth of publicly available climate data in addition to internal data gathered by your organization. How do practitioners effectively organize and apply this data to learn from it, pinpoint organizational risks and opportunities, and inform and motivate colleagues? This Bootcamp builds your climate knowledge by surveying the full range of available tools and strategies to help you take full advantage of climate data.

Learning Objectives

- Learning about existing climate data, modeling and tools available to practitioners, and where and how to access these resources
- Understanding sources of and reasons for uncertainty (at different timescales, due to measurements, due to politics, downscaling, etc.), and making strong organizational decisions in this context
- Translating data into actionable information for your organization, and understanding thresholds for action
- Using case studies to understand how subsets of these data and tools have been used in the past
- Identifying critical gaps in data and knowledge

Bootcamp Curriculum Committee

- > **Phil Duffy** – Senior Advisor, U.S. Global Change Research Program, National Aeronautics and Space Administration
- > **David Herring** – Director of Communications & Education, NOAA Climate Program Office, U.S. National Oceanic and Atmospheric Administration (NOAA)
- > **Rich Jeffries** – Director of the COMET® Program, UCAR
- > **Kathy Jacobs** – Professor, Center for Climate Adaptation Science and Solutions, University of Arizona
- > **Rachael Jonassen** – Professor, George Washington University
- > **Dwane Jones** – Director of the Center for Sustainable Development, University of the District of Columbia
- > **Paul Kirshen** – Research Prof., Civil & Environmental Engineering, University of New Hampshire
- > **Marni Koopman** – Climate Change Scientist, GEOS Institute
- > **Donna LaSala** – Professor, Presidio Graduate School
- > **Caroline Lewis** – Founder & Executive Director, The CLEO Institute
- > **Ed Maibach** – Director, Center for Climate Change Communication, George Mason University
- > **Rawlings Miller** – Technical Specialist, ICF International
- > **Paul Wagner** – Senior Ecologist and Branch Chief, Institute for Water Resources, U.S. Army Corps of Engineers

Upcoming Live Bootcamps

Bootcamp Information	Credit Type	Date	Time
Climate-101: Understanding Climate Science & the Latest Projections	Core Curriculum	Part A: Oct-28-2016 Part B: Nov-4-2016	1:00pm - 2:30pm (eastern)
Governance-102: The Legal/Policy Landscape of Climate Change & Related Implications	Core Curriculum	Part A: Nov-2-2016 Part B: Nov-9-2016	1:00pm - 3:00pm (eastern)
Energy-201: Developing & Enhancing Your Renewable Energy Strategy	Elective	Nov-14-2016	1:00pm - 3:30pm (eastern)
Enterprise-201: Analyzing & Quantifying Climate Risk, Assessing Materiality and Disclosing Climate Risk	Core Curriculum	Part A: Nov-18-2016 Part B: Dec-2-2016	1:00pm - 2:30pm (eastern)
GHG-101: Basics of GHG Accounting, Reporting & Disclosing GHG Emissions	Core Curriculum	Nov-28-2016	1:00pm - 4:00pm (eastern)
Commodities-101: Understanding & Leveraging RECs	Elective	Dec-5-2016	1:00pm - 3:00pm (eastern)
Climate-201: Identifying Climate Hazards & Conducting Vulnerability Assessments	Core Curriculum	TBA Dec 2016	1:00pm - 2:30pm (eastern)
Climate-202: Leveraging Climate Data & Tools	Elective	TBA Dec 2016	1:00pm - 3:00pm (eastern)
Climate-103: The Basics of Sea Level Rise and Impacts on Coastal Assets & Infrastructure	Elective	TBA Dec 2016/Jan 2017	1:00pm - 2:30pm (eastern)
GHG-201: Establishing GHG Reduction Goals & GHG Management Structures	Elective	TBA Dec 2016/Jan 2017	1:00pm - 3:30pm (eastern)

Don't Miss the April 14 Webinar on the U.S. Climate Resilience Toolkit
Hear from NOAA's David Herring and Leaders from Industry and Government Using the Toolkit

Utilizing the U.S. Climate Resilience Toolkit

Thursday, April 14, 2016
1:00pm - 2:30pm (eastern)

The U.S. Climate Resilience Toolkit provides scientific tools, information, and expertise to help professionals manage their climate-related risks and opportunities, and improve their resilience to extreme events. The site is designed to serve interested citizens, communities, businesses, resource managers, planners, and policy leaders at all levels of government. This interactive webinar will provide background on the Toolkit and lead participants through an activity to demonstrate ways in which they can harness this outstanding resource.

About the Webinar Speakers:

David Herring (National Oceanic and Atmospheric Administration)

David Herring is a science writer and editor with extensive experience communicating about climate and Earth system science. In March 2008, David joined NOAA's Climate Program Office where he serves as Director of Communication and Education, and Program Manager for NOAA Climate.gov. Before coming to NOAA, David worked for 16 years at NASA, where he led development of NASA's Earth Observatory (earthobservatory.nasa.gov), and served as the Terra mission's Outreach Coordinator. David trained in journalism, science education, and science and technical communication at East Carolina University, in Greenville, NC, where he received his Masters Degree in 1992. He is an elected Fellow of the American Association for the Advancement of Science (AAAS).



Presenter



David Herring

Director, Communication & Engagement,
Climate Program Office
National Oceanic and Atmospheric
Administration (NOAA)

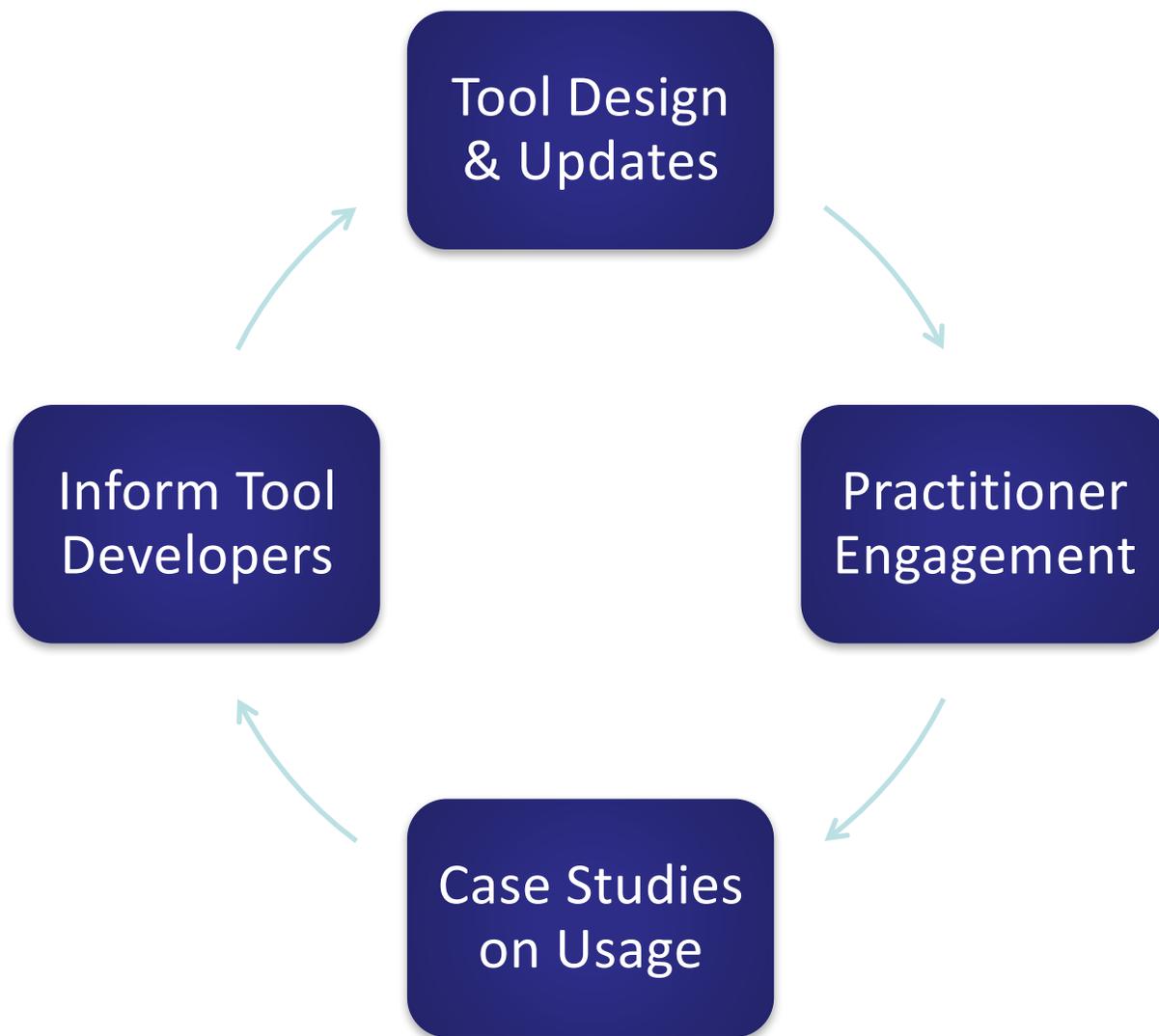
Moderator



Phil Santiago

Senior Program Manager
Association of Climate Change Officers

Collaboration between tool developers & practitioners



ACCO's role

Aspiration for a Climate Change Officer Profession -- *see EO 13693 section 11(a)*

- Climate change officers and professionals play a key role in bringing about a critical transformation to operations and governance across all sectors and geographic regions

Envisioning a Climate Savvy Workforce -- *see EO 13693 section 11(b)*

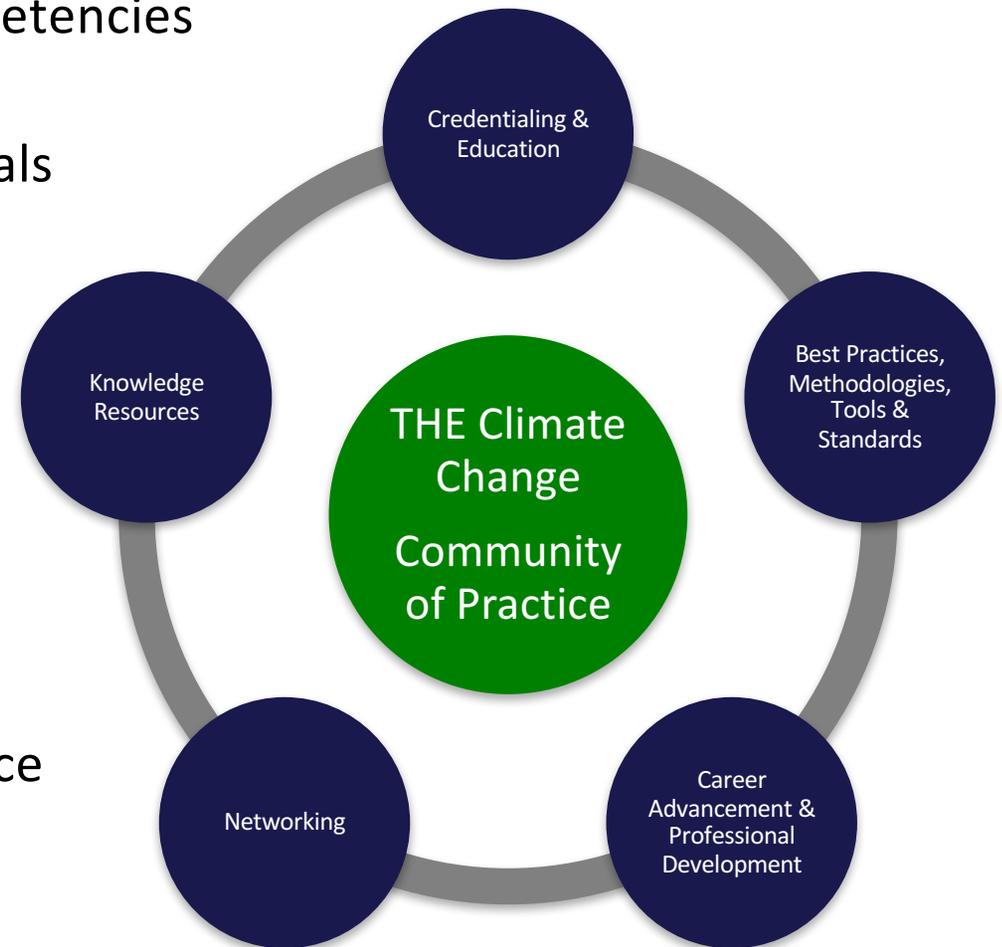
- Senior officials and executives across all roles and functions need to be educated and trained to successfully address climate change and/or environmental impacts upon operations, missions and an organization's assets

Workforce Transformation

- Develop a broad and diverse library of curriculum tailored for professionals across all sectors, geographic regions and key roles
- Customized certificate programs designed for roles such as supply chain, energy and facility management, financial portfolio/investment, city/regional planning, engineering and architecture
- Work with senior executives and HR professionals across sectors to incorporate climate change into management structures, job descriptions and hiring practices
- Accredite institutions to teach courses → hundreds of teaching institutions leading to an exponential increase in workforce capacity to address climate change

What we are building ...

1. Champion for the professional competencies
2. Guardian to the practices and requirements for climate professionals
3. Partner to peer bodies in driving climate and related practices into their respective professions
4. Portal for & provider of education and training
5. Gold standard for credentialing of climate change capabilities
6. Premier community where experience is shared, collaborations formed and new opportunities realized
7. Incubator for cutting edge solutions (e.g. research, policy, practices, tools)





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