December 2014 Update

Dear EEMI colleagues and friends,
Season’s Greetings to all of you from Jon, me and all our associates at EEMI. We send our best wishes for joyous holidays and for a healthy and happy 2015. We also want to take this opportunity to send this update on the Institute to convey the significant progress made since our last communication. The update below provides separate, concise summaries of twelve aspects of the Institute that are of key importance to its continued progress and future success. The topics are modularized for your convenience so that you can select those to read that may be of interest to you. Future updates will be sent on a more frequent schedule and will be shorter as they will focus on fewer aspects of EEMI that have current relevance. The twelve aspects covered in this update include:

1. Grants received by EEMI
2. EEMI Focal Areas: definition and leadership
3. Graduate certificate program: Greenhouse Gas Management
4. Graduate certificate program: Environmental and Energy Management
5. Graduate certificate program: Energy Engineering and Management
6. Graduate course: Organizational Management Systems for Environmental and Energy Sustainability
7. EEMI affiliation with GW Sustainability Collaborative
8. Nascent affiliation with American University and The University of Maryland
9. GW Charter for EEMI
10. EEMI Website
11. EEMI fund raising
12. Plans to convene EEMI Advisory Board

Jon and I thank all of you for your confidence, your advice, your encouragement and your friendship. Knowing that you are there for us has meant a huge amount and has allowed us to cheerfully proceed with this challenging undertaking. We hope to vindicate your faith in us and we will certainly continue our efforts to bring about some worthy accomplishments.

In closing, Jon and I extend our warmest regards and best wishes for the New Year.

Jonathan P. Deason, PhD
Co-Director, EEMI

Joe Cascio, Esq.
Co-Director, EEMI

Attachments:
1) EEMI Intro
2) EEMI Slide Presentation
3) EEMI Focal Areas
4) EEMI Advisory Board and Affiliates
Grants received by EEMI
Even before being officially chartered by GW, we garnered two grants for EEMI. The first, from Potomac Electric Power Company (Pepco) was an “earned income” grant to produce an educational package to educate the utility’s clients on the value and use of “smart meters.” The second grant was awarded by the National Institutes of Standards and Technology (NIST) to create a new graduate-level course on standards, and the processes for standardization and conformity assessment. When completed, this course is intended to be cross-listed by a number of GW Schools including Engineering and Applied Science, Law, Business, Policy and Public Administration, and International Affairs. The new course will familiarize GW graduates in these related fields which are likely to play an increasingly important role in their careers. The course will also serve to establish EEMI’s standards credentials that will be helpful in advancing its principal goals – to conduct research and provide education on non-regulatory, next generation self-governance approaches and methods that are primarily focused on national and international standards.

EEMI Focal Areas definitions and leadership
We have developed clear and succinct descriptions of the EEMI Focal Areas (see the attachment on focal areas). Each single-page description will appear in our upcoming website and is meant to provide a sampling of the issues and relevant standards that are applicable to that area. Six of the areas have designated leadership and we are carefully evaluating candidates for the two remaining openings. The most recent leader to sign on is Professor Leroy (Lee) C. Paddock, associate dean for environmental law studies at the GW Law School. Lee is co-editor of the recently published ELI volume, Next Generation Environmental Compliance and Enforcement, ELI Press, August 2014, and will co-lead a symposium in March 2015 with ELI and other sponsors, in cooperation with the U.S. Environmental Protection Agency on Advanced Monitoring, Remote Sensing, and Data Gathering, Analysis and Disclosure in Compliance and Enforcement. Jon and I look forward to future endeavors with all focal area leaders and with the internal and external affiliates of EEMI that specialize in one or more of the chosen areas.

Graduate Certificate Program: Greenhouse Gas Management
Under the leadership of Professor Rachael Jonassen, EEMI has agreed to collaborate with the Greenhouse Gas Management Institute (GHGMI) to develop a set of online interactive engineering courses focused on GHG management to be offered in a graduate certificate program. The target audience includes energy and environmental managers in the business sector, but the curriculum will appeal to a larger audience. The program teaches the technical facets of managing GHG emissions from energy-related activities in a business setting where public policy plays a central role. Specifically, the program addresses the measurement, reporting, analysis, reduction, trading, and verification of GHG emissions from these activities. Collectively, these elements comprise GHG management. Graduates of the program will be able to measure, analyze, and report emissions related to energy use and to apply cost-effective energy management principles that reduce GHG emissions. GHGMI is a not-for-profit organization that has developed an extensive curriculum of over 50 courses on greenhouse gas (GHG) management, which are used by the international institutions such as the United Nations. EEMI and GHGMI are now adapting some of these courses for the GW certificate program.

Graduate Certificate Program: Environmental and Energy Management
This four-course certificate program will be housed in the GW School of Engineering and Applied Science (SEAS). Entitled the Environmental and Energy Management Graduate Certificate Program, it is already partially developed and will qualify its graduates for technical and managerial positions in industry and government organizations where the management of environmental and energy issues is structured around national or international system standards (e.g., ISO 14000 and ISO 50000 series). The primary project tasks to bring this program to fruition are to develop the NIST funded standards course from scratch, and to complete the development of a second course, Organizational Management Systems for Environmental and Energy Sustainability. The third and fourth courses, which focus on environmental protection and energy generation and consumption, exist and have been taught successfully before.

Graduate Certificate Program: Energy Engineering and Management
This is a pre-existing, customized graduate certificate program from the Departments of Mechanical and Aerospace Engineering, and Engineering Management and Systems Engineering (EMSE). [The Institute is administered under the auspices of EMSE.] The certificate program prepares graduates for projects related to alternative energy generation and energy resources management. It opens up new opportunities for graduates in this rapidly growing job sector for positions as energy auditors, energy analysts, energy project managers, and related positions. The program explores the
latest information in energy efficient building design, micro-grid, renewable energy development and advanced materials research with in-depth coverage of the economics of energy generation and distribution, the art of managing energy projects, and analytical methods of analyzing the viability and feasibility of energy projects. EEMI will work closely with program leads to incorporate standards and other non-regulatory self-governance approaches and methods into the existing curriculum, as appropriate and as deemed beneficial to program graduates.

**Course: Organizational Management Systems for Environmental and Energy Sustainability**

The goal of this course is to develop and enhance the knowledge and capabilities of students about next generation environmental and energy management systems that are based on self-governance approaches that go beyond compliance requirements. The course exemplifies these systems by specifically focusing on the implementation of environmental and energy systems that conform to international standards series ISO 14000, *Environmental Management Systems*, and ISO 50000, *Energy Management Systems*. The course covers principles and concepts of management systems, justifying the organizational need for a system, forming the system implementation team, evaluating organizational requirements, identifying risks and operations that need to be managed, scoping the system, setting objectives, metrics and operational controls, creating action plans, system maintenance and corrective actions, updates, audits and management reviews, including helpful tools and aids for management system development and implementation. This course will be taught by Joe Cascio.

**EEMI Affiliation with GW’s Sustainability Collaborative**

At GW, EEMI is administratively housed in the School of Engineering and Applied Science (SEAS) but functions as an integral component of GW’s Sustainability Collaborative. Dr. Kathleen Merrigan has led the Collaborative as Executive Director since her arrival at GW in 2014, after spending four years as deputy secretary of USDA. Sustainability is one of GW’s core strategic initiatives, and an essential part of achieving the university’s goal of being the preeminent research university in the nation’s capital. The University has substantial academic expertise in a wide range of fields related to sustainability, including climate and energy, environmental engineering, public health, food culture and systems, and environmental law and policy. GW currently offers more than 250 courses on topics related to sustainability and 40 undergraduate, graduate and post-graduate programs in sustainability-related fields. In 2012, the University began offering an 18-credit minor in sustainability open to all undergraduate students. EEMI’s slice of GW’s sustainability pie is to promote research and education on non-regulatory, next generation self-governance approaches and methods that are primarily focused on national and international standards.

**EEMI’s growing relationships with American University, The University of Maryland and Others**

EEMI is pursuing opportunities to team up with other organizations and academic institutions to promote common goals related to alternative approaches for improving environmental protection and reducing energy use. This includes finding ways in which corporations and other organizations can go beyond traditional organizational compliance activities by molding organizational cultures and harnessing employee enthusiasm to increase environmental and energy use performance at minimal cost. A technology-related research target to promote such ends involves the augmentation of existing surface water nutrient simulation models using advanced, low cost nutrient sensors implanted throughout watersheds. EEMI and American University recently held a discussion meeting to explore water technology research possibilities to be conducted jointly or in close collaboration. The meeting was attended by more than 20 senior officials from the U.S. Environmental Protection Agency, U.S. Department of Energy, Environmental Defense Fund and other organizations. The probability for this initiative to provide substantial sponsored research funding from the Federal government and from non-profit organizations such as the Water Environment Federation, is promising. Separately, Joe Cascio has been appointed to the Professional Science Master’s (PSM) Programs Advisory Board at the University of Maryland University College (UMUC). This will strengthen ties and opportunities for joint activities and collaborations.

**EEMI Charter Approval**

The EEMI Charter has yet to be approved. The *GW Advisory Council on Research* met in October of this year to review our charter application and raised three concerns:

i. The Council feels that the research purpose of EEMI is unclear.
ii. The Council feels that the application presents a program, not a center that should stand alone.
iii. The current application does not reflect an interdisciplinary reach.
We have now submitted our substantiated response to those concerns and expect a favorable decision when the Council meets again this coming January. We will notify Board members and affiliates when that happens to inform you that we are now a recognized, legitimate Institute of GW.

**EEMI Website**
We have made some progress in bringing a website online but considerable work remains to bring it to fruition. In part, we did not want to have a website before we had an approved charter as that might have sent a misleading message both inside and outside the University. We plan to have the website online very soon after the Charter is granted. You will be the first to hear when that occurs.

**Fund Raising for EEMI**
The Institute is self-funded and has a budget that is totally dependent on grants. As described in the first aspect above, so far we have received two grants. We will, however, need to redouble our efforts to raise additional funds for research, programmatic expenses and for operations. This will be a topic for us to discuss at the first gathering of the Board (see below). Our strategy for fund raising includes approaching both Federal agencies and private sector corporations and foundations. We will approach these institutions with proposals that are congruent with their missions or their self-interest. In general, this would involve the advancement of environmental and energy performance, the promotion of education and application of consensus standards and other next generation self-governance approaches and methods, and the exploration and dissemination of scientifically-backed knowledge on matters and issues where the public is seeking an unbiased, disinterested view. We welcome guidance on this aspect of EEMI from all Board members and Affiliates.

**Meeting of the EEMI Advisory Board**
Once we are chartered and therefore GW official, we will be pleased to convene the Advisory Board. We will not do this lightly as we will want to benefit from your guidance and advice to the utmost. So, we will schedule this event at a time meant to produce the maximum benefit for EEMI and also for your collective convenience. We will be sure to carefully craft an agenda to elicit the full extent of your wisdom. Cognizant of your significant professional commitments and how distant some of you are from Washington DC, we will find a way to connect us together without the necessity for meeting in person. At some point in the future, after EEMI has had some notable success we’ll ask your advice on convening a face-to-face meeting, but not just yet. We certainly look forward to this first meeting next year and will inform you with sufficiently in advance and will seek your input for a time that will work for your schedule. [See attachment *EEMI Advisory Board and Affiliates* for listings of Board membership and affiliates who are actively working with us to implement the EEMI.]