

## A Preliminary Proposal

### UWM Climate Change and Sustainable Development Institute

#### **Background:**

Global warming has attracted increasingly serious interest among scientists, policy makers, politicians, journalists, and the general public around the world. Popular and academic articles, books, web sites, and television documentaries all provide dramatic and detailed examples of the serious consequences of ignoring the issue. For example, climate change studies predict:

- If current climatic trends continue, the average temperature of the earth will be higher at the end of the 21<sup>st</sup> century than at any point in the past two million years.
- If temperature trends continue, over one million species could become extinct by 2050.
- The melting of over 250 million acres of sea-ice since 1979 and thawing of arctic permafrost has shifted the range of plant and animal species.
- Even if greenhouse gases in the atmosphere (CO<sub>2</sub> and methane) could be kept at today's levels, the temperature of the earth would continue to increase for several decades because of the inertia in the climate system.
- If carbon dioxide levels continue to rise, serious drought could affect most of the world by the end of the 21<sup>st</sup> century.
- Of the 20 warmest years on record, 19 have occurred in the 1980s or later. The three warmest on record have all occurred since 1998.

As these examples illustrate, the effects of global warming/climate change are wide-ranging, frightening, and continuing, which point to the critical need to understand human impact on climate change and what needs to be done for sustaining resources of the world - clean air, water, and soil. Time for analysis and conclusions has arrived. Serious attention must be given to developing solutions for this complex and multi-faceted situation. An institute located at UWM that draws on campus-wide interest and expertise of faculty and staff in issues associated with global warming can help address these complex issues.

#### **Institute Overview:**

Over the last few months, the University of Wisconsin-Milwaukee (UWM) has formed a campus-wide group of faculty and staff experts in disciplines varying from biology to economics to engineering and urban planning. This group is united in its commitment to develop a campus-wide, interdisciplinary institute for the study of global warming/climate change. This timely and important venture will involve over fifty faculty and researchers from all schools and colleges of the university. They will conduct focused research, integrate that research into their teaching and larger educational efforts, and develop practical applications and implementations of the research on global warming.

From the 12 schools and colleges of UWM, the following research clusters in global warming/climate change have been identified: Accounting and Finance, Architecture and Urban Planning, Atmospheric Sciences, Economics, Education, Energy, Engineering, Environmental Science, Geography, Health, Construction Materials, Nursing, Public Policy, and Technological Processes. Faculty from these and other academic areas will collaborate on basic and applied research, educational outreach, and implementation of research under the university-wide umbrella of a new institute for research on global warming/climate change. This proposed Institute will provide overall administrative and organizational coherence, including coordination of projects, assistance with funding, and a visible public manifestation of UWM's commitment to this serious issue.

**Mission Statement of the proposed Institute:**

The UWM Climate Change and Sustainable Development Institute will combine research, education, and public service to address the future societal challenges on the serious and timely topic of global warming/climate change.

**Objectives of the Institute:**

The Institute will have two major components to its activity:

- Research; and, Community outreach and education.

Specific objectives of this new Institute will include:

- Conducting research on biological, economic, political, sociological, technical, and other academic areas related to global warming and climate change.
- Hosting visiting researchers from across the country and around the world.
- Producing academic and general interest publications.
- Hosting scientific and public policy conferences.
- Developing educational programs and materials for undergraduate and graduate students, scientists, and engineers.
- Developing and presenting educational programs and materials for pre-college (K-12) students and teachers.
- Developing, presenting, and coordinating/sponsoring educational programs and materials for the general public.
- Serving as a technical resource for the business and industrial community.
- Developing collaborative projects with business, industry, government, and advocacy groups.
- Working with industry on a local, regional, and national level to improve manufacturing and business practices and to implement changes to reduce the impact on the environment.
- Using the UWM campus to promote best practices to minimize greenhouse gas emissions from campus activities and to showcase sustainable development initiatives.

This proposed Institute represents a focused, multi-disciplinary approach to a complex and timely issue that demands serious attention. UWM, as an urban university with a strong community presence and deep and diversified academic excellence, is an ideal institution to launch this important new venture to help the academic, business, and industrial communities and the general public.

The proposed structure of the new Institute would include a Director and other administrative personnel, a Steering Committee (internal UWM members), an Advisory Board (external members), affiliated UWM faculty associates, visiting faculty, researchers, policy researchers, community activists, and a support staff.