

**World Federation of Engineering Organizations**  
**World Engineers Forum 2012**  
**September 2012**  
**LJUBLJANA DECLARATION**  
**ON SUSTAINABLE BUILDINGS AND INFRASTRUCTURE**

Members of the World Federation of Engineering Organizations Executive Council and the participants of the World Engineers Forum 2012 in Ljubljana, Slovenia, agreed to this Declaration.

**Considering that:**

- there is an urgent societal need to achieve sustainable design and construction of buildings and infrastructure to meet the needs of human well being and environmental protection;
- existing and new technologies combined with improved processes and procedures will enable implementation and management for sustainable construction of buildings and infrastructure;
- implementable solutions for sustainable construction must account for local and regional needs, cultures, priorities, and available human and financial capacity;
- development proposals and projects require thorough analysis of their technical, economic and environmental feasibility and social and cultural impacts, before their approval and implementation;
- international standardization on sustainability principles in buildings and engineered infrastructure is rapidly developing;
- there are many methods for sustainability assessment of buildings and infrastructure available worldwide;
- it is necessary, through interdisciplinary collaboration of engineers, architects, planners and scientists, to implement effective solutions and new models for communities due to rapidly changing demographics and living conditions.

**Declare that:**

Sustainability and reliability of buildings and infrastructure for communities should be considered through integrated design by multidisciplinary teams, who are committed to life-cycle analysis (project inception to end of service life).

Substantial technological improvement as well as sound, evidence based policies are needed to assure construction of sustainable buildings and the supporting infrastructure services (transportation, water and wastewater, gas pipeline, electrical distribution and communication systems).

By exchanging and applying scientific and technical knowledge, innovation and practice, engineers create sustainable solutions to the design, construction, operations, maintenance and decommissioning of buildings and infrastructure that support communities, for:

- Buildings
  - ○ by applying sustainability assessment methods and tools, based on life-cycle analysis including economic, social and environmental effects;
  - ○ by using internationally agreed indicators for building sustainability with consideration of local factors;
  - ○ by using “Environmental Product Declaration” in design of green buildings;
  - ○ by implementing integrated design, based on the multidisciplinary project teams;
  - ○ by integrating criteria for sustainable building design of socially acceptable facilities in response to demographic trends.

#### Communities

- ○ by analyzing and considering demographics and the trend of urbanization in land use planning;
- ○ by considering population mobility in development concepts of large urban centers;
- ○ by complying with sustainability criteria in planning, design, construction, operations, maintenance and decommissioning of infrastructure projects;
- ○ by using sustainability rating tools for communities and infrastructure.

#### Disaster Risk Management

- ○ by mitigating unacceptable impacts of manmade and natural disasters through sustainable planning;
- ○ by incorporating resilience to maintain the operation of critical systems essential for the functioning of a community such as, transportation, water and wastewater, gas pipeline, electrical distribution and communication systems.

The World Federation of Engineering Organizations and its members are ready, willing and able to contribute their expertise, creativity and dedication to delivering the elements of this Declaration.

We urge the world’s leaders to engage the World Engineering Community as a full partner in addressing these complex challenges as we evolve into a sustainable planet.