



# World Engineering Forum 2012

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## Sustainable Construction for People

17 - 21 September 2012, Ljubljana, Slovenia

**Organised by:** Slovenian Chamber of Engineers | World Federation of Engineering Organisations

**In co-operation with:** WCCE | ECEC | ECCE | Green Building Council Slovenia | Slovenian Academy of Engineering | Association of Engineering Societies in Slovenia

**Patrons:** UNESCO | President of the Republic of Slovenia, Dr. Danilo Türk | The City of Ljubljana



### Dear participants of the World Engineering Forum – WEF 2012,

Welcome to Ljubljana, the capital of Slovenia, where over the next two days 60 eminent speakers from more than 30 countries around the world will present the latest approaches to sustainable construction and develop new ideas for the green economy. The World Federation of Engineering Organisations (WFEO) with more than 90 national members and the Slovenian Chamber of Engineers are together hosting over 600 guests from all continents.

The objective of the Forum on Sustainable Construction for People is to bring the profession, the economy and politics together in order to help relaunch the building sector that is currently facing one of the toughest crises in history. In the decades to come, the main design and construction development challenge will be characterised by a shortage of energy and water. I believe that engineers possess all necessary competencies and ideas that will ensure a safe, clean and healthy future for our planet.

The International Advisory Board selected speakers for the four forum sessions: Cities and Urban Environment, Sustainable Infrastructure, Green Buildings and Disaster/Risk Management. The most relevant conclusions of the WEF 2012 topics will be added to the declaration of the Rio +20 - WFEO Seminar on Sustainable Communities and a common statement will be formulated and presented at the Closing Ceremony of the forum. On the next day it will be formally approved by the WFEO Executive Council.

Respected participants of the World Engineering Forum 2012, in the name of the organiser, the Slovenian Chamber of Engineers, I wish you all successful work, fruitful discussions and a pleasant stay in Ljubljana, one of the most beautiful cities in the world.

Ljubljana, September 2012

**mag. Črtomir Remec**

President of the Slovenian Chamber of Engineers  
President of the WEF 2012 Organising Committee



## 2012 World Engineering Forum: Sustainable Construction For People

### Programme - Overview

	Sunday 16 September	Monday 17 September	Tuesday 18 September	Wednesday 19 September	Thursday 20 September	Friday 21 September
	WFEO Technical Committees' Meetings	WFEO Technical Committees' Meetings	World Engineering Forum Sustainable Construction for People		WFEO Executive Council Meeting	World Engineering Forum Sustainable Construction for People
7:00						
8:00	Registration	Registration	Registration	Registration		
9:00						
10:00	Engineering and Environment	Women in Engineering				
11:00	Energy	Disaster Risk Management	Opening Ceremony	Sustainable Infrastructure	Green Buildings	
12:00		Engineering Capacity Building		Disaster/Risk Management	WFEO Executive Council Meeting	
13:00		Young Engineers/ Future Leaders				Technical Excursion
14:00						
15:00	Engineering and Environment	Women in Engineering		Round Table	Green Buildings	
16:00	Education in Engineering	Information and Communication	Cities and Urban Environment	Disaster/Risk Management	WFEO Executive Council Meeting	
17:00	Innovative Technology	Anticorruption				
18:00	Registration			Closing Ceremony		
19:00		Welcome Reception	Opening of the Exhibition "Modernist Residential Architecture"	Reception at Ljubljana Castle	WFEO Gala Dinner	

**Supporting Partners:** Engineers Chamber of Montenegro | Serbian Chamber of Engineers | Croatian Chamber of Civil Engineers | Chamber of Certified Architects and Engineers of Macedonia | Trim, d.d. | Hidria, d.d. | Slovenian National Building and Civil Engineering Institute | Aerodrom Ljubljana

### Sponsors:



# World Engineering Forum: Sustainable Construction for People

## PROGRAMME IN DETAIL



Tuesday, 18 September 2012

	<b>Opening Ceremony</b>	
<b>9:00-10:00</b>	<b>Welcome Speeches</b>	
	Mag. Črtomir Remec	President of the Slovenian Chamber of Engineers
	Prof. Janez Koželj	Deputy Mayor of Ljubljana City
	Adel Al-Kharafi	President of the World Federation of Engineering Organisations
	Irina Bokova (video message)	Director General of the UNESCO
	Dr. Danilo Türk	President of the Republic of Slovenia
	Joseph Robl	President of the European Council of Engineering Chambers
	Prof. Dr. Baldomir Zajc	Honorary President of the Slovene Engineers Association
<b>10:30-13:00</b>	<b>Opening Speeches</b>	
	Maria Damanaki	European Commissioner for the Maritime Affairs and Fisheries
	Irene Campos - Gomez	Minister of Housing and Human Settlements of Costa Rica, President of the Pan American Federation of Engineering Societies
	Laszlo Lovei	Director of the Sustainable Development Department in the Middle East and North Africa Region, World Bank
	Dr. Lydia Brito	Director of the Division of Science Policy and Sustainable Development, UNESCO
	Prof. Janez Koželj	City of Ljubljana on the Way to a Sustainable Future 2007-2011
	Dr. Milan Medved	Mining Engineering and Sustainable Development - The Case of Premogovnik Velenje
<b>14:00-16:00</b>	<b>Cities and Urban Environment</b>	
	<i>Chairman: Prof. Dr. Daniel Favrat, Switzerland</i>	
	Dr. Strahinja Trpevski, F.Y.R.O.M.	Challenges Towards Path of Sustainable Construction for the EU Candidate Countries
	Robert Smodiš, Slovenia	Sustainable Multigenerational House as a Response to Global Urbanization
	Er. Seng Chuan Tan, Singapore	A Singapore Story: From Concrete Jungle to Liveable City
	Camilo Santamaría-Gamboa, Colombia	Sustainable Cities: Stockholm and the New Neighbourhood of Hammarby
	Prof. Dr. Adel S. El Menchawy, Egypt	Ecoresorts – A Type of Sustainable Architecture
<b>16:30-18:00</b>	<i>Chairman: Robert Smodiš, Slovenija</i>	
	Prof. Dr. Daniel Favrat, Switzerland	Efficient Energy Systems for Buildings and Cities
	Prof. Dr. Lars Bylund, Sweden	Energy Autonomous Urbanisations for Emerging Economies and Developing Countries
	Prof. Dr. Tai Sik Lee, South Korea	Sustainable Engineering for Extreme Environments – Earth & Space
	Prof. Abubakar Sani Sambo, Nigeria	Estimation of Energy Demand in the Building and Construction Section of the Nigerian Economy
	Dimitar Natchev, Maria Stefanova, Bulgaria	Standards for Sustainable Construction



Wednesday, 19 September 2012

	<b>Sustainable Infrastructure</b>	
<b>9:00-11:00</b>	<i>Chairman: Doc. Dr. Henrik Gjerkeš, Slovenia</i>	
	Dr. Vilas Mujumdar, U.S.A.	Sustainable and Resilient Infrastructure and Housing - A Need for Enhanced Quality of Life
	Mag. Danijel Zupančič, Slovenia	The Aspect of Sustainable Development in Engineering Practice
	Prof. Dr. Carsten D. Ahrens, Germany	Offshore Wind Energy and Civil Engineering in Germany - A Green and Sustainable Partnership
	Pradeep Chaturvedi, India	Renewable Energy Systems
	Prof. Mauricio Porraz, Mexico	Ocean and Coastal Engineering
	Dr. Ana Mladenović, Slovenia	Waste as a Resource in Building and Civil Engineering - the Current Situation in Slovenia
<b>11:30-13:30</b>	<i>Chairman: Michael R. Sanio, U.S.A.</i>	
	Adj. Prof. David Hood, Australia	Achieving Sustainability Outcomes from Infrastructure
	Dr. Marjana Šijanec Zavrl, Slovenia	Integration of Nearly Zero Energy Buildings in Sustainable Networks - a Challenge for Sustainable Building Stock
	Miloš Todorović, Slovenia	Benefits of BIM and Multi-Discipline Collaborative Environment
	Dr. Emilio M. Colon, Puerto Rico	Tablets Simplify Construction Management
	Albert Otto, Nigeria	Sustainable Construction: Towards a Paradigm Shift in Built Development Approach
<b>14:30-16:00</b>	<b>Round Table: Slovenia and Green Economy</b>	
		<i>Moderator:</i> <b>Marko Umberger, President of the Solar Energy Society</b>
		<i>Participants:</i> <b>Suheil H. Sabbagh, President H.R., Consolidated Contractors Company</b>
		<b>Tatjana Fink, General Manager, Trimo</b>
		<b>Tadej Ružič, President of the Management Board, Pomgrad</b>
		<b>Gregor Benčina, Managing Director, Jelovica</b>
		<b>Gorazd Klemenčič, Vice President Buildings Business Slovenia, Schneider Electric</b>
		<b>Špela Videčnik, Partner, Ofis arhitekti</b>
<b>17:00 -18:00</b>	<b>Closing Ceremony</b>	



Wednesday, 19 September 2012

	<b>Disaster Risk management</b>	
<b>9:00-11:00</b>	<i>Chairman: Dr. Branko Zadnik, Slovenia</i>	
	Acad. Peter Fajfar, Slovenia	Role of Structural Engineering in Seismic Risk Mitigation
	Prof. Kazutoshi Kan, Japan	The Influence of Development on the Amount of Red-Clay Runoff in the Republic of Palau
	Dr. Marlene Kanga, Australia	Systematic Natural Disaster Risk Management for Sustainable Development
	Dr. Kazumasa Ito, Japan	Extraordinary Flood Management Project in the Tokyo Metropolitan Area
	Assist. Prof. Dr. Stanislav Lenart, Slovenia	Use of Reinforce Soil as a Natural Disaster Countermeasure
<b>11:30-13:30</b>	<i>Chairman: Dr. Kazumasa Ito, Japan</i>	
	Dr. Yumio Ishii, Japan	Damages and Evaluation of Investment in Integrated Disaster Risk Management
	Dr. Vilas Mujumdar, U.S.A.	Understanding Vulnerability of Critical Infrastructure Systems to reduce the Impact of Natural Hazard on Societal Functionality
	Dr. Chan Wirasinghe, Canada	An Introduction to False Tornado Warnings in Canada
	Dr. Leon Cizelj, Slovenia	The Augmented Role of Education and Research in the Safety of Nuclear Power Plants
	Dr. Yasuyuki Shimizu, Japan	Effects of the First Flood Control Plan and River Improvements on the Ishikari River Basin
<b>14:30-16:30</b>	<i>Chairman: Dr. Vilas Mujumdar, U.S.A.</i>	
	Prof. Dr. Matjaž Četina, Slovenia	Computations of Dam-Break Waves in Slovenia
	Dr. Syunsuke Ikeda, Japan	Recovery and Job Development in the Aftermath of the Great East Japan Earthquake Disaster - The Situation after One Year of the Disaster
	Dr. Keiko Tamura, Japan	Web-Based Victims Master Database System for Effective Support in Victims' Life Reconstruction Process-A Study of 2011 Earthquake off the Pacific Coast of Tohoku
	Ashok Basa, India	The 2004 Indian Ocean Tsunami - Impact on India
	Marc Goldsmith, U.S.A.	Risk Mitigation in Increasingly Complex Systems
<b>17:00-18:00</b>	<b>Closing Ceremony</b>	



Wednesday, 19 September 2012

	<b>Green Buildings</b>	
<b>9:00-11:00</b>	<i>Chairman: Dr. Marjana Šijanec Zavrl, Slovenia</i>	
	Vincent Briard, Belgium	Environmental Performance Matters, what Impacts on the Construction Sector
	Gerald Fuxjäger, Austria	Life Cycle Cost
	Dr. Ljudmila Koprivec, Slovenia	The Influence of Contemporary Materials and Technologies on the Building Envelope
	Prof. Dr. Dragoslav Šumarac, Assist. Prof. Dr. Maja Todorović, Serbia	The Way to Energy Efficient Buildings and the Savings Potential in the Republic of Serbia
	Friderik Knez, Slovenia	Experiance in Ecobalancing of Buildings in Slovenia
<b>11:30-13:30</b>	<i>Chairman: Brian Kyle, Canada</i>	
	Mladenka Dabac, Croatia	Renewable Energy Sources / res Way Towards Green Tourism*
	Dr. Matjaž Žnidaršič, Slovenia	A High Tech Green Building
	Dr. Roumiana Zaharieva, Bulgaria	Measures to Decrease the Environmental Footprint of Concrete
	Mag. Sabina Jordan, Slovenia	Ljubljana's Pilot Demonstration of an EU Project Cost Effective
	Dragan Vuković, Montenegro	The First Private Environmental and Energy-Efficient Building in Montenegro - Case Study
	Barry Lynham, Belgium	Delivering Low Energy Buildings that Work in Reality
<b>14:30-16:30</b>	<i>Chairman: Er. Seng Chuan Tan, Singapore</i>	
	Dr. Frank Heinlein, Germany	Making Sustainability Visible!
	Brian Kyle, Canada	Green Building Rating Systems, Sustainability & Standardisation of Practice
	Alexander Lehmden, Austria	The Road to the - "Nearly Zero Energy Building"
	Martin Feder, United Kingdom	Integrated Solutions Designed for High Performance and Sustained Results
	Dr. Natalie Eßig, Germany	Open House: European Open Source Metodology to Assess the Sustainability of Buildings
<b>17:00-18:00</b>	<b>Closing Ceremony</b>	

\* Speech in German Language