

**Message from**  
**Engr. Husnain Ahmad**  
**President**  
**Pakistan Engineering Congress**

**Dear Members:**

I feel obliged to share with you that it gives me a bit of satisfaction that the following three big events, which were recently organized by Pakistan Engineering Congress were not only well attended but were also widely covered by the Electronic and Print Media.

- World Water-Day on the theme of “Transboundary Water – Shared Water & Shared Opportunities” was held at “Mashhadi Hall” of the Congress on 28th March, 2009. (Book of papers is under print).
- World Environment-Day on the theme of “Your Planet Needs You – Unite to Combat Climate Change” was also held at “Mashhadi Hall” of the Congress on 6<sup>th</sup> June, 2009 (Book of papers is under print).
- Mid-Term Symposium on the topic of “Genesis of Power Crisis and its Management in Pakistan” was held on 18<sup>th</sup> July 2009 at P.C Hotel, Lahore. The Honourable Syed Khurshheed Ahmed Shah Federal Minister for Labour & Man-Power was the Chief Guest. Volume 31 (of Symposium series) containing the papers that were presented at the event were distributed to the audience. The in-augural session was telecast live by the Electronic Media.

Papers presented at the World-Environment Day 2008 held on the theme “Kick the Habit towards Low Carbon Economy” have now been printed in a special issue of Congress Journal & are being furnished to members of the Congress / Libraries etc.

There have been delays in the timely publication of the Quarterly Journal “Engineering News” due mainly to dearth of papers. Now the delays have been bridged and the “October – December 2008 & January – March 2009 issues are under print & will be in your hand soon. We are now in process of compiling April – June 2009 issue.

In order to enable timely issue of the Journal and enhancing its level, I seek your help in sending Technical Papers on any Engineering Project / Issue of your choice as well as news about new Engineering concepts, innovations both domestic & foreign. I firmly believe that your patronage of Pakistan Engineering Congress will be forthcoming and is bound to go a long way in enhancing the quality of the Congress Journal

With best regards,

Yours sincerely



**(Engr. Husnain Ahmad)**  
President

## **Quran-i-Pak with simple English Translation**

Quran-i-Pak with simple English Translation is available without any Hadiya with Syed Fiaz Omar Life Member Pakistan Engineering Congress.

Genuine Readers may contact him at 178-P, Gulberg near Gulab Devi Hospital, Lahore.

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## **Cooking Under the Sun**

GLOBE-Net (April 9, 2009) - A \$6 cardboard box that uses solar power to cook food, sterilise water and could help 3 billion poor people, cut greenhouse gases, has won a \$75,000 prize for ideas to fight global warming.

The "Kyoto Box", named after the United Nations' Kyoto Protocol that seeks to cut emissions of greenhouse gases, is aimed at billions of people who use firewood to cook.

The cooker uses the greenhouse effect to boil and bake. It consists of two cardboard boxes, one inside the other, with an acrylic cover that lets the sun's power in and stops it escaping and doubles as a 'hob top'. A layer of straw or newspaper between the boxes provides insulation, while black paint on the interior and the foil on the exterior concentrate the heat still further.

The design is so simple that the Kyoto Box can be produced in existing cardboard factories. It has just gone into production in a Nairobi factory that can produce 2.5 million boxes a month. A more durable model is being made from recycled plastic.

"We're saving lives and saving trees," the Kyoto Box's developer Jon Boehmer, a Norwegian based in Kenya, said in a statement.

This fuel-less stove aims to address health problems in rural villages as well as avoiding carbon dioxide emissions: it provides a source of clean boiled water, cuts down on indoor smoke inhalation and reduces the need to gather firewood.

The FT Climate Change Challenge was backed by the Financial Times, technology group Hewlett-Packard, which sponsored the award, and development group Forum for the Future. The other four finalists were a garlic-based feed additive to cut methane emissions from livestock, an indoor cooling system using hollow tiles, a cover for truck wheels to reduce fuel use and a "giant industrial microwave" for creating charcoal.

A statement said that Boehmer would carry out trials in 10 countries, including South Africa, India and Indonesia. He would then collect data to back an application for carbon credits. Boehmer envisions a network of women distributing thousands of the flat-pack devices from the backs of lorries to families across Africa and the developing world. His hope is that the cooker will be eligible for carbon credits - hence the name Kyoto Box. The €20-30 yearly profit per stove would be passed on to the users, meaning the device pays for itself.

"It's all about scaling it up," sums up Mr Boehmer. "There's no point in creating something that can only help a few million people. The needs are universal - everybody needs to cook."

The United Nations is discussing giving credits to developing countries that preserve tropical forests, which soak up carbon as they grow. Those credits could then be traded.

Many countries are looking for cheap green ways to stimulate economies mired in recession. More than 190 nations have agreed to work out a new U.N. climate pact to succeed Kyoto at a meeting in Copenhagen in December 2009.

**Mian Iftikhar Ahmad,  
Environmental Consultant.**

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**Low-Carbon Energy, A Road Map**

Technology available today, and those expected to become competitive over the next decade, will permit a rapid decarbonization of the global energy economy. New renewable energy technologies, combined with a broad suite of energy efficiency advances, will allow global energy needs to be met without fossil fuels and by adding only minimally to the cost of energy services.

The world is now in the early stages of an energy revolution that over the next few decades could be as momentous as the emergence of oil and electricity-based economies a century ago. Double-digit market growth, annual capital flows of more than \$100 billion, sharp declines in technology costs, and rapid progress in the sophistication and effectiveness of government policies all herald a promising new energy era.

Advanced automotive, electronics, and building systems will allow a substantial reduction in carbon dioxide (CO<sub>2</sub>) emissions, at negative costs once the savings in energy bills is accounted for. The saving from these measures can effectively pay for a significant portion of the additional cost of advanced renewable energy technologies to replace fossil fuels, including wind, solar, geothermal, and bio energy.

Resource estimates indicate that renewable energy is more abundant than all of the fossil fuels combined, and that well before mid-century it will be possible to run most national electricity systems with minimal fossil fuels and only 10 percent of the carbon emissions they produce today. The development of smart electricity grids, the integration of plug-in electric vehicles, and the addition of limited storage capacity will allow power to be provided without the base load plants that are the foundation of today's electricity systems.

Recent climate simulations conclude that CO<sub>2</sub> emissions will need to peak within the next decade and decline by at least 50 percent to 80 percent by 2050. This challenge will be greatly complicated by the fact that China, India and other developing countries are now rapidly developing modern energy systems.

**Mian Iftikhar Ahmad  
Environmental Consultant**

**Courtesy : Gulia D'Amico  
Dg Communities**

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## **Lecture on “Learning Architectural and Engineering Lessons from the World Trade Tower Building Collapse on Ground Zero”**

at

**Mashhadi Hall, Congress Headquarter, November 27, 2008**

A Lecture was held at the Congress Headquarter on November 27, 2008 on “Learning Architectural and Engineering Lessons from the World Trade Tower Building Collapse on Ground Zero, in collaboration with American Concrete Institute Pakistan Chapter and Lincoln Corner Karachi. The Lecture was presided by Engr. Ch. Ghulam Hussain, Secretary Pakistan Engineering Congress, while the chief guest was Prof. Dr. Shabih-ul-Hassan Zaidi, Dean City Planning & Architecture Department University of Engineering & Technology Lahore. Engr. Siddique Essa, Vice-President, American Concrete Institute Pakistan Chapter introduced the subject. Mr. Naimat ullah Khan, Coordinator Lincoln Corner Karachi presented a video in respect of the Collapse of World Trade Centre Building on Ground Zero.

In this (One Hour) video NOVA takes a look at what can be learned from the World Trade Centre disaster. The Programme reviewed the structure of the Alfred A. Murrah building in Oklahoma City and details how the building suffered a progressive collapse when bombed in 1995. It also contained notes that the American Society of Civil Engineers found that the World Trade Centre (WTC) towers performed well when attacked and that there was no trade-off of safety for economy in construction. This video reviews findings from the National Institute of Standards and Technology (NIST) detailing how and why the WTC towers collapsed and reports on NIST conclusions that the WTC had no structural flaws that could account for its collapse, the towers fell due to the interplay between the impact damage and fire. It summarizes some of the NIST recommendations for improving safety standards that resulted from the study of the WTC collapse & specifies safety features being designed into China’s World Financial Centre in Shanghai, which will be the world’s tallest building when completed. This also includes detailed safety features in the newly rebuilt #7 WTC building (the third skyscraper to collapse). The main focus of this video was to explore the question of how safe is safe enough?

Mr. M. Asif, Director American Information Resources Centre, US Consulate Lahore gave his presentation on AIRC Resources in print, Audio visual aid & web resources. He also shared how anyone can utilize these resources & distributed the AIRC information brochure in audience.

A panel of experts on high rise buildings in Pakistan present at the event gave their views.

Engr. Dr. Javed Yunas Uppal described a finite element dynamic analysis of the progressive collapse of such an event on high rise building predicting time of collapse for a particular structural configuration for the purpose of devising safe evacuation of the occupants which was presented by him at an International Conference on Failure of Structures an year after. Dr. Uppal expressed that sufficient redundancies were necessary in the build-up of a high rise structure to ward against speedy progressive collapse.

Architect Prof. Dr. Shakeel Qureshi of National College of Arts pointed-out that the high rise buildings should have wide enough escape stair routes for evacuation of the trapped people and fool proof methods of fire management should be adopted.

Prof. Dr. Noor M. Sheikh, Dean Electrical Engineering, University of Engineering and Technology Lahore pointed-out that the emergency power generators energizing the sprinkles system should not be placed at the roof-top which is a most vulnerable place.

Prof. Dr. Zahid Ahmad Siddiqui of Civil Engineering Department, Engineering University pointed out certain omissions in design or construction of the towers that might have resulted in this type of collapse.

Chief Guest, Dr. Shabih UI Hassan Zaidi, in his observations applauded Pakistan Engineering Congress & AIRC US embassy Lahore on this joint initiative and stressed the need to host such programme to share international resources and to improve our expertise in engineering field.

In a Question/Answer session various important questions were raised by the audience and experts from the discussion panel answered the questions, mostly focused on tragedies here in Pakistan and whether our high-rise are safe and in compliance with International standards or not?

The discussion ended with a note of thanks to the sponsors who enabled presentation of the video for the participant's information in the correct perspective, so that lessons could be drawn from the unfortunate event, and care that is needed to be taken in the future design of high rise buildings.

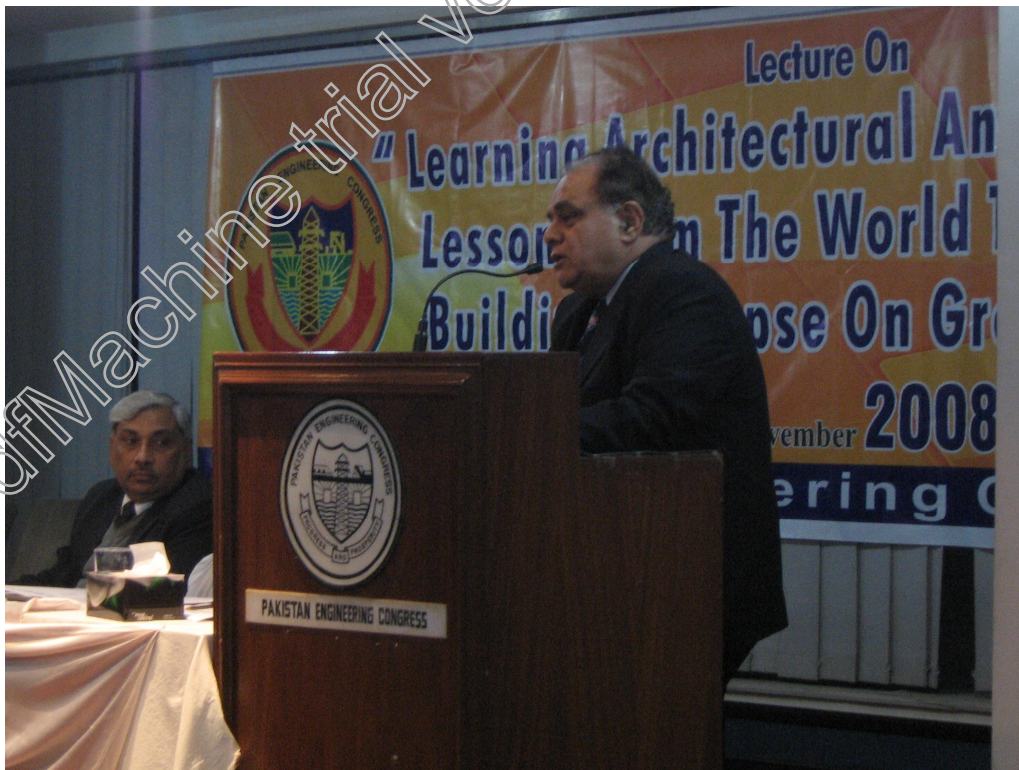
The Program mementos were presented to AIRC, LCK, ACI & the Chief Guest. The Program concluded by vote of thanks by Engr. Ch. Ghulam Hussain, Secretary PEC Lahore.



From Left : Prof. Dr. Syed Shabih UI Hassan Zaidi of UET Lahore,  
Engr. Faqir Ahmad Paracha, Vice-President Pakistan Engineering Congress,  
Engr. Ch. Ghulam Hussain, Vice-President / Secretary Pakistan Engineering Congress



Mr. M. Asif, Director AIRC, US Consulate Lahore speaking at the event



Dr. Engr. Javed Younus Uppal presenting his findings



A view of the audience



Chief Guest Prof. Dr. Syed Shabih UI Hassan Zaidi of UET Lahore presenting shield to Mr. M. Asif Director AIRC, US Consulate Lahore



From Left : Mr. Naimat Ullah Khan, Co-ordinator LCK  
(receiving the shield from Dr. Syed Shabih Ul Hassan Zaidi, Engr. Ch. Ghulam Hussain  
Vice-President / Secretary PEC and Engr. Faqir Ahmad Paracha, Vice-President PEC



A view of the audience