13-15 October 2016

Organized by
Association of Turkish Construction Material Producers (Türkiye İMSAD)

COOPERATING PARTNERS

IN COORDINATION WITH
Republic of Turkey Ministry of Energy and Natural Resources
Republic of Turkey Ministry of Environment and Urbanization
Republic of Turkey Ministry of Development (tbc)

SUPPORTING ORGANIZATIONS

İstanbul Technical University, ITU
Özyeğin University
Yaşar University, YU
Yıldız Technical University, YTU
Association of Sustainable Development, SKD
Association of Turkish Consulting Engineers and Architects, ATCEA
Energy Efficiency and Management Association, EYODER
İstanbul Association of Architects in Private Practice, ISMD
The Association of Real Estate and Real Estate Companies, GYODER
Turkish Association of Architects in Private Practice, TSMD
Turkish Contractors Association, TCA
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Zerrin Yılmaz (Prof. Dr. / ITU)
It is estimated that 2/3 of the world population is going to be living in metropolitan areas and mega cities, especially in developing countries, in the coming decades. This brings additional problems such as social, economic, technical and cultural issues to those metropoles. The world’s urban population will increase by 3.3 billion and reach to almost 5 billion till 2030. So best solutions of practice at global level are necessary to improve life quality and sustainability in cities.

Approximately 350 million people are presently living in the urban areas in European cities that are nearly 70% of the overall population, and according to worldwide estimations, urban consumptions are related with the two thirds of final demand and up to 70% of CO2 emissions are generated in cities. 75% of Europe’s GDP is produced in metropolitan districts, while their population only represents 59% of the total European population. Metropoles are therefore important.

Energy Issues in Turkey

Turkey became one of the fastest-growing economies in the world in 2010 with a real GDP growth of 9%. The significant growth in the economy continued in 2011 and the GDP growth rate in 2011 reached 8.5%, before decreasing to 2.2% in 2012. (NEEAP)

Turkey's economic growth is accompanied by increasing energy consumption. Primary energy demand has been increasing between 1990 and 2012, except during major economic crises, recording an average growth rate of 2.9% between 1990 and 2012. In 2013, primary energy consumption increased by 32% from 2005. (NEEAP)

Turkey's primary energy supply relies heavily on fossil fuels; about 93% of primary energy was supplied by fossil origin resources in 2013. Solid fuels (hard coal, coke, etc.) represented in 2013 the major source of energy, followed by natural gas and petroleum products. (NEEAP)

Climate Change Issues In Turkey

In the case of increases in the global temperature of up-to 2°C; the expected impacts in the Mediterranean Basin of which Turkey is situated in, show the extent to which measures taken against the impacts of climate change need to be programmed. In the Fourth Assessment Report of the IPCC it is indicated that a 1°C - 2°C increase in temperatures in the Mediterranean basin would be observed, that aridity will be felt in an even wider area, and heat waves and the number of very hot days will increase especially in inland regions. For Turkey, on the other hand, the average increase in temperatures is estimated to be around 2.5°C - 4°C, reaching up to 5°C in inner regions and up to 4°C in the Aegean and Eastern Anatolia. The IPCC report and other national and international scientific modeling studies demonstrate that Turkey in near future will get hotter, more arid and unstable in terms of precipitation patterns.

The Climate Change Action Plan 2011-2023 has been developed according to the National Climate Change Strategy for Turkey. According to that action plan Turkey's national vision within the scope of “climate change” is to become a country fully integrating climate change-related objectives into its development policies, disseminating energy efficiency, increasing the use of clean and renewable energy resources, actively participating in the efforts for tackling climate change within its “special circumstances”, and providing its citizens with a high quality of life and welfare with low-carbon intensity.

The law on Improving Energy Efficiency for the Utilization of Energy Resources and Energy by the Ministry of Energy and Natural Resources was published in 2011. It establishes that the energy consumption of Turkish government buildings and enterprises has to be reduced by at least 20% in 2023 compared to 2010. Turkey declared on September 30 2015 that there will be a 21 percent reduction in GHG emissions from the baseline emissions under business as usual level by 2030.

This situation is expected to have; negative impacts on water and soil resources that are necessary for food production and security and therefore on development estimates in rural areas, and; gradual increase of these impacts’ severity. For example it is anticipated that 50% of the surface waters in the Gediz and Greater Menderes Basins will be lost by the end of the century and that water scarcity will be faced in agricultural, domestic and industrial water usages. (IDEP 2011-2013 MoEU)
Besides the long-term impacts of climate change, Turkey is a country that is currently struggling against the vulnerability of its water resources and coastal areas and trying to adapt its agricultural activities to the existing climatic conditions. A considerable part of the population in Turkey is concentrated in the coastal areas with its infrastructure and economic activities. It is known that these areas are facing rising sea levels, salty water mixing with fresh water and more frequently observed meteorological hazards due to the impacts of climate change. In inland regions, when considering demographic and socio-economic tendencies, the pressures on natural resources have also been observed to increase also due to the impacts of climate change. This situation shows the vulnerable position of Turkey concerning the impacts of climate change and demonstrates the need to identify the potential vulnerabilities to climate change impacts, not only in all the processes of strategies and policies produced in relation to climate, but in all areas in order to ensure afterwards taking adaptation measures. (IDEP 2011-2013 MoEU)

**SCOPE**

This event aims to bring construction material producers, scientists, practitioners, architects, engineers, constructors, industry, governmental and non-governmental institutions, civil society, dealing with various aspects of Sustainable, Green, Resilient and SMART buildings, cities and Metropoles to discuss, share and exchange ideas, solutions, methods and techniques for a better future.

**THEMES**

The list and the table below provides examples of the type of topics that may be covered within the 15 thematic areas in the program.

- **Smart cities and communities**
  - Energy
  - Transport
  - ICT
  - Best Practices
- **Smart buildings**
  - Resource efficiency
  - Energy and emissions
  - Water
  - Indoor Environmental Quality (IEQ)
  - ICT
  - Best Practices
- **Sustainable systems, components and materials**
- **Sustainable retrofitting**
- **Methods and tools for assessment**
- **Policies and regulations for sustainability**
- **Innovation for sustainability**
- **Education for sustainability**
<table>
<thead>
<tr>
<th>Program Matrix for SBE16 Istanbul</th>
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<tbody>
<tr>
<td><strong>Context:</strong> geology, climate, natural resources, ecology, urban fabric, human resources</td>
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<tr>
<td><strong>Urban areas and building clusters</strong></td>
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<tr>
<td>Current Green House Gas (GHG) emissions</td>
</tr>
<tr>
<td>Earthquake risk</td>
</tr>
<tr>
<td>Flooding risk</td>
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<tr>
<td>Ecological sensitivity</td>
</tr>
</tbody>
</table>

| **Key performance indicators:** Social, cultural, economic, financial, environmental impacts, functionality |
| Efficiency of local transport | Material efficiency (kg/m²), Daylighting, lighting, thermal comfort, acoustics, Affordability issues for low income groups, Construction waste, Predicted EUI and GHG emissions, Actual energy utilization intensities (EUI) and GHG emissions, Resource efficiency Energy & emissions, Water, Indoor Environmental Quality (IEQ) |
| Land use efficiency | Shifting to less scarce mat'ls Production efficiencies |
| Green space, urban agriculture | Recycling and C&D waste |
| View corridors and aesthetics | Use of local materials |
| Fit with local streetscape | Resource efficiency |
| | Energy & emissions |
| | |

| **Methods, tools and techniques** |
| Urban area assessment ICT | Integrated Building Design Approach (IBDA), Energy simulations, Building Information Modelling (BIM), Building Environmental Modelling (BEM), Building Assembly Modelling (BAM), Building Optimisation Modelling (BOM), Fluid dynamics simulations, ICT |
| | Production technologies CAD - CAM rapid prototyping Additive manufacturing |
| | Reuse of Building components |
| | Environmental Product Declarations (EPD) |
| | Product databases for BIM |
| | ICT |

| **Policies, standards and regulations, action strategies, programs and projects demonstrations** |
| Green neighbourhood standards | Green building standards |
| Solar rights zoning | Regulations for energy & emissions |
| Policies for small urban project development | Regulations for water consumption |
| Gov't climate change strategy | Other building regs or standards |
| Gov't water conservation strategy | Earthquake standards |
| Self-sufficient neighbourhoods | Adaptation to new climate regimes |
| Synergy zone demonstrations | Self Sufficient Buildings |
| Mixed-use demonstrations | Nearly Zero Energy Buildings (NZEB) |
| Other demonstrations | Incentives for high performance buildings |
| | Demonstrations of performance |
| | Training for professionals |
| | Training for on-site workers |
| | Best Practices |
| | |
| | Product Environmental Footprints EN 15804 |

| **Innovation** |
| Renewables in urban zones | Building-integrated PV and SHW |
| Mixed use in small urban zones | Buildings with totally flexible uses |
| System synergies in urban zones | DC distribution in buildings |
| | Public Private Partnerships (PPP) for high performance buildings |
| | Best Practices |
| | Leased building systems |
| | Best Practices |
KEY DATES

1. First announcement 26 November 2015
2. Call for abstracts 07 December 2015
3. Deadline for abstract submission 01 February 2016
4. Review of submitted abstracts and selection by the Scientific Committee 03 February – 15 February 2016
5. Acceptance notification for abstract 19 February 2016
6. Deadline for full papers and extended abstracts submission 31 May 2016
7. Review of the full papers by the Scientific Committee 01 June – 11 July 2016
8. Notification for revisions 12 July 2016
10. Invitation (Oral) 1 September 2016

KEYNOTE SPEAKERS

To be announced until March 2016

CONFERENCE LANGUAGE

Turkish & English

REGISTRATION FEE

The registration fee covers admission to the sessions, proceedings, coffee breaks, lunches for three days and Symposium Dinner. In the case of Accompanying Persons, it covers three days sightseeing in Istanbul with lunches and museum visits instead of the sessions and proceedings.

<table>
<thead>
<tr>
<th>Supporting Organizations and Türkiye IMSAD Members</th>
<th>Early Bird Fee Before 19 August 2016</th>
<th>From 19 August 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Members</td>
<td>350 €</td>
<td>450 €</td>
</tr>
<tr>
<td>Students</td>
<td>400 €</td>
<td>500 €</td>
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<tr>
<td>Students</td>
<td>125 €</td>
<td>225 €</td>
</tr>
<tr>
<td>Accompanying Persons</td>
<td>200 €</td>
<td>300 €</td>
</tr>
<tr>
<td>Developing Countries</td>
<td>125 €</td>
<td>225 €</td>
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