Message from The President

On behalf of my dearest colleagues of BOG's (Board of Governors) and for myself Maged Fouad, I would like to introduce our dearest ASHRAE Society and ASHRAE CAIRO Chapter to your goodness in few words as follows:

ASHRAE, founded in 1894, is a global society advancing human well-being through sustainable technology for the built environment. The Society and its members focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE shapes tomorrow's built environment today.

ASHRAE is a great value, meaning & society. That is what I believed in when I was assigned to lead our ASHRAE CAIRO Chapter on July 1st, 2014 as a Chairman.

I grew in the ASHRAE society realizing what ASHRAE looks for from clear planning and strategies, and immediately started to apply what ASHRAE asks and cares for such as:
- MBO “Management by Objectives”.
- Leadership.
- YEA “Young Engineers in ASHRAE”.

We – a team work of BOG's and a group of volunteers from different ages, experiences, under graduated engineers and post graduated engineers– held our first meeting on September 2014 to draw an ambitious plan to RE-shape, RE-habilitate, RE-construct, RE-plan our Cairo Chapter with a smart action plan on immediate, short, medium and long term basis.

So, after introductive meetings and awareness short lectures for about a 40 to 50 newly active volunteer members of young, medium and old engineers we succeeded to compose and truly activate –for the first time in our ASHRAE Cairo chapter and according to ASHRAE USA MCO “Manual for Chapters Operations”– the following active new launched committees:

- CTTC “Chapter Technology Transfer Committee” chaired by Eng. Ahmad Nour.
- MPC “Membership Promotion Committee” chaired by Eng. Mamdouh Abdoukader.
- RPC “Research Promotion Committee” chaired by Dr. Hashim Safwat.
- SAC “Students Activities Committee” chaired by Prof. Dr. Mahmoud Fouad.
- ECG/Webmaster “Electronic Communications Committee & Webmaster” chaired by the most active Chair Eng. Hossein Abdelkader.
- Newsletter Editor Committee chaired by Eng. Fouad Hamad.
- Publicity Committee chaired by Eng. Asser Barakat.
**YEA “Young Engineers in ASHRAE Committee” chaired by Eng. Maria Morgan.**

All of those committees are perfectly executing a great progress which will be regularly shown to all our dear colleagues and members in our Cairo Chapter as well as to all our dear colleagues who are working in the same HVAC field and market.

As a clear Vision as well as Mission for my management to this perfect group of volunteers and in that short period, since the beginning I looked very obviously to gain a successful and cooperative relationship for both ASHRAE society also for ASHRAE Cairo Chapter with the Industrial society as ASHRAE Society has the wide and infinite capabilities to add all technical support within the standards, codes, applications & researches to all and any industries and for this we achieved a great milestone as follows:

We got and after a lot of efforts also communications with all support from Eng. Osama Shawki –The former Vice President of Arab Contractors Company, who really was the most supporter to our ASHRAE CAIRO Chapter– to draw a clear and fruitful MOU ‘Memorandum Of Understanding’ between our ASHRAE CAIRO Chapter & OUR Egyptian Engineers Syndicate for all and different ways of collaboration looking forward to improve our engineers of different professions ‘Mechanical, Electrical, Architects and Civil engineers’ within a steering committee between our two parties and that reports to our BOG to discuss, approve and release at each step of its progress which will ensure the most benefits for all our EGYPTIAN engineers. As strategically planned by our ASHRAE Society with the full support and guidance from our RVC GGA ‘Regional Vice Chair for Grassroots Government Advocacy’ Dr. Ahmed Alaa, also according to my new and creative thinking to serve our SOCIETY in general and to activate our ASHRAE CAIRO Chapter by aiming to have a strategic and extended role for our CAIRO Chapter, we achieved the following:

- After a lot of meetings, contacts, visits and revisions we are discussing a MOU ‘Memorandum Of Understanding’ between our ASHRAE Cairo Chapter & the Egyptian Union of Industries within the CEI ‘Chamber of Engineering Industries’ and the Committee of Electrical Equipment.

- We succeeded to have a permanent active member form ASHRAE CAIRO Chapter in all regular meetings of the technical committee of the Egyptian Authority of Standards and Quality Control to have an active also positive role for all the derivations of all and any codes also to transfer all the wide technical experience and know-how of ASHRAE Society in this major subject when needed.

We still have a plenty of vital activities MUST be added also to be done for our ASHRAE CAIRO Chapter and ongoing procedures hopefully to be executed at the soonest such as:

- To launch our NEW ALEXANDRIA ASHRAE Section to serve all post graduate and professional engineers in that important second capital city. ‘Within the first week of June, 2015’

- To launch two more student chapters at both Alexandria University and Mansoura University in addition to the existed two student chapters of both Cairo University and Tanta University. ‘Within the month of June, 2015’

In conclusion I feel all the honor as the ASHRAE CAIRO Chapter Chairman to execute with the full aid and concrete support and endless volunteered effort from my dearest colleagues who were really and always showing all the care to push our wide and ambitious imaginations which are actually transferred to a reality aiming ONLY to serve our profession, HVAC field, our ASHRAE society and most of all to support our dearest country and homeland EGYPT.

Finally I ask all and every Engineer in EGYPT to add a value for our plans and executions by joining us now, soon & ever. Our chosen slogan since our first day is ‘Hand in Hand & together we are strong’. So, let us be strong.

Thank you and kindly receive my deepest appreciation, kindest regards and best wishes.

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**Maged Fouad Hashem**  
ASHRAE CAIRO CHAPTER  
President – 2015/2014  
CEO and FOUNDER of MAG GROUP
Chapter Board of Governors

Eng. Maged Fouad
Chapter President

Prof. Dr. Mahmoud
Chapter President - Elect

Dr. Hesham Safwat
Chapter Secretary

Eng. Mamdouh Abdel Kader
Chapter Treasurer

Prof. Dr. Essam E. Khalil
Member of the BOG

Eng. Emad Mokhtar
Member of the BOG

Prof. Dr. Ahmed Medhat
Member of the BOG

Eng. Fouad Hamad
Member of the BOG

Eng. Mohamed Elmanzalawai
Member of the BOG

Committees’ Chairs and Co-Chairs

Eng. Ahmad Nour
CTTC Chair

Eng. Hossam Abdelkader
ECC Chair

Eng. Ahmed Bolbol
GGA Chair

Eng. Nadia Ali
Historical Co-Chair

Eng. Mohamed Ali
Historical Co-Chair

Eng. Maria Morgan
Newsletter Co-Chair

Eng. Asser Barakat
PC Chair

Eng. Taher Mohamed
SAC Co-Chair

Mr. Hassan Mohamed
Office Secretary

www.ashraecairo.org
Introduction to Geothermal

The word Geothermal has two parts:
- Geo, meaning earth.
- Thermal, meaning heat.

In fact, some “Green” architects are designing homes and buildings that are at least partially subterranean, to take advantage of that stable temperature and reduce the need of mechanical HVAC. However, there are also reasons why we don’t build everything underground. That would be expensive and difficult, and people like to see out through their windows.

The geothermal AC concept works like this:

We take the largely constant temperature of the earth beneath our feet and start from that point to begin cooling/heating our home or business.

Geothermal energy originates from the heat retained within the Earth since the original formation of the planet. It uses the earth as a heat source (in the winter) or a heat sink (in the summer).

GEOTHERMAL APPLICATIONS

Houses:
- Vertical system
- Horizontal system
- Well to well system

Commercial:
- Schools
- Administration buildings
- Commercial Buildings (Malls)
- Residential Buildings

EARTH CONNECTION

Facilitates heat extraction from the ground via a heat exchanger loop for use in the heat pump unit. Three types of earth connection exists:

A- Shallow Lakes and Ponds
B- Horizontal Loop
C- Vertical Loop
District Cooling System

District cooling is a system utilized to generate chilled water from a big capacity central plant and pump it through a piping network and distribute it to serve buildings in a predetermined area, which produces chilled water to be used by the air conditioning systems in the served buildings either directly or indirectly through energy exchange stations located at building terminal, after energy exchange water returns again to the central plant to be re-cooled and pumped once more to the distribution network again and again, the cost of this service for each user to be calculated according to the energy consumption measured via energy meters to be installed in the users buildings, the benefits of this system are:

1. Reduction in installation cost.
2. Save in installation area.
3. Reduction in energy consumption.
4. Large system reliability.

MAIN COMPONENT OF DISTRICT COOLING CHILLED WATER SYSTEM

Central Chilled Water Generating Plants: It consists of number of big capacity water absorption or electric compression chillers, cooling towers, primary chilled water pumps, secondary chilled water pumps, condenser water pumps; water treatment plants, motor control centers, automatic control systems.

Distribution Piping Networks: This is the piping network to be used to distribute chilled water to user’s buildings. It consists of properly sized insulated pipes manufactured mostly of steel, high density polyethylene, ductile iron pipes. The pipes network to be installed either above ground or inside walk-through tunnels or directly buried in ground soil. It should be installed complete with its accessories including different types of valves, flow control devices, pressure control equipment and leaking detection devices.

Energy Transfer Plants: This to be achieved either by using the chilled water directly by the building air conditioning equipment or indirectly via heat exchangers at the building terminal.

Automatic control system, measuring instrumentations and energy measuring meters.

By CTTC Chair Eng. Ahmad Nour

List of references:
2. ASHRAE Application.

By MPC Chair & Chapter Treasurer
Eng. Mamdouh Abdulkareem

www.ashraecairo.org
Some Chapter Activities

CHAPTER TECHNOLOGY TRANSFER COMMITTEE (CTTC):

Chair: Eng. Ahmad Nour.
Co-Chair: Dr. Hesham Safwat.
Co-Chair: Eng. Mohamed Ragab.


It aimed to give an idea of the benefits of applying district cooling in the projects done by Eng. Ahmed Abdelghany. Targeting students, young engineers, consultants and engineers.


May 16, 2015: Conducting a field technical tour to Dar Elhandasah Building in the Smart Village which is a LEED building to demonstrate the applied technologies and methods.

February 9, 2015: Organizing a short seminar about “Chapter Committees Responsibilities” in Energy in Buildings Laboratory, Faculty of Engineering – Cairo University. By Dr. Ahmed Alaa the GGA FVC.

It aimed to explain the chapter officers, members of the board of governors and committees’ responsibilities and duties toward their society and communities.


This seminar aimed to introduce the building construction industry, define the consultant role in the process and explain the process from the Kick-off till the final approval of the building.

ELECTRONIC COMMUNICATIONS COMMITTEE (ECC):

Chair: Eng. Hossam Abdelkader
Co-Chair: Eng. Sherif Gomaa

Launching the chapter website (www.ashraecairo.org) and starting emails communication between the Chapter and its members. Updating all the main events online to keep the time line connected with the past years historic content. Updating members with the news through emails.
GRASSROOTS GOVERNMENT ADVOCACY COMMITTEE

Chair: Eng. Ahmed Bolbol
Co-Chair: Eng. Maged
Co-Chair: Prof. Dr. Essam E. Khalil

February 9, 2015: Reaching a Memorandum of Understanding with the Federation of Egyptian Engineering Syndicates (700,000 registered Egyptian Engineers) after a successful meeting attended by Dr. Ahmed Alaa, the Regional Vice Chair of Grassroots Government Activities (RVC GGA).

April 21, 2015: Signing the Memorandum of Understanding with Egyptian Engineers Syndicate in a celebrating gathering at the Othman Ahmed Hall in the Egyptian Engineers Syndicate main building in Ramses street.

HISTORICAL COMMITTEE:

Chair: Eng. Emad Mokhtar
Co-Chair: Eng. Mohammed Ali
Co-Chair: Eng. Nadia Ali

February 9, 2015: Discussing a Memorandum of Understanding with the Federation of Egyptian Industries (FEI), Chamber of Engineering Industries (CEI), Committee of Electrical equipment & Air-Conditioning units after a successful meeting attended by Dr. Ahmed Alaa, the Regional Vice Chair of Grassroots Government Activities (RVC GGA).

Actively keeping a digital record of all chapter activities on hard desk and online by preparing articles for the website pages and conducting interviews with Egyptian leaders in HVAC&R.

MEMBERSHIP PROMOTION COMMITTEE (MPC):

Chair: Eng. Mamdouh Abdoukader
Co-Chair: Eng. Hayam Shalabi
Co-Chair: Eng. Mohamed Sallam

February 9, 2015: Reaching an agreement to start a soon cooperation in all coming meetings or events by attendance of ASHRAE Cairo Chapter representatives with the Vice president of the Egyptian General Authority for Standards & Quality Control after a successful meeting attended by Dr. Ahmed Alaa, the Regional Vice Chair of Grassroots Government Activities (RVC GGA).

Due to the great efforts done by the MPC members and the Chapter community, Cairo chapter members' number has increased significantly from 92 to over 135 members.
PUBLICITY COMMITTEE (PC):

Chair: Eng. Aser Barakat

Publicizes the aims, activities, achievements and the scientific educational purposes of the chapter.

RESEARCH PROMOTION COMMITTEE (RPC):

Chair: Dr. Hesham Safwat

Plans and implements plans within the chapter to generate funds to support chapter research and society-held scholarships.

STUDENT ACTIVITIES COMMITTEE (SAC):

Chair: Prof. Dr. Mahmoud Fouad
Co-Chair: Dr. Taher Mohamed

February 2, 2015: Conducting a technical tour to the Egyptian Company for Air Systems (ECAS) – a well-known Air-handling units manufacturer in the Egyptian market.

February 3, 2015: Conducting a technical tour to 2 running projects sites of Consukor Co. – a well-known HVAC contractor in the field – which continued for 2 days.

February 5, 2015: Conducting a technical tour to Delta Construction & Manufacturing (DCM) – a well-known HVAC Equipment Manufacturing in Egypt – which continued for 2 days.

March 4, 2015: Organizing two parallel Fulbright information sessions, one for graduate students and another for postdoctoral researchers.

March 4, 2015: Conducting a lecture on Geothermal Energy lectured by Prof. Dr. Mahmoud Fouad.

May 9, 2015: Conducting a technical tour for students to Dar Elhandasah building in the Smart Village as a (LEED) building to stand on the applied technologies.

CHAPTER REGIONAL CONFERENCE COMMITTEE (CRCC):

Chair: Eng. Ahmed Bolbol
Co-Chair: Eng. Maged Fouad

Harmonizing all committees activities during the whole year and summarizing it in preparation for the RAL CRC.

Chapter Awards Recipients – 2014

Eng. Nawal Ibrahim Hashish

Eng. Badr Abdelkader
[1989-till now] The Arab Consulting Engineers (ACE), (Technical Manager).

Prof. Dr. Samir Sobhy Ayad
Ph.D. in Dec. 1980, Colorado State University, USA. M.Sc. in Feb. 1975, Dep. Of Mechanical Engineering, Cairo University. B.Sc. in May 1971, Department of Mechanical Engineering, Cairo University.

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