

SOCIETY OF AFGHAN ENGINEERS

QUARTERLY
eNEWSLETTER



*CELEBRATING
10 YEARS OF
CONTINUOUS
SUCCESSFUL
PUBLICATION*



SAE eNEWSLETTER

VOLUME 11, ISSUE 3

SARATAN 1400

JULY 2021

SAE MISSION

TO PRESENT A FORUM FOR
AFGHAN ENGINEERS, ARCHITECTS
AND SCIENTISTS IN THE SHARING
OF EXPERIENCES AND
KNOWLEDGE AND FOSTER THE
PROMOTION OF SCIENTIFIC,
ARCHITECTURAL AND
ENGINEERING ETHICS IN OUR
QUESTS TO ENHANCE AFGHAN
CAPACITIES IN THESE FIELDS FOR
THE SERVICE OF AFGHANISTAN
AND THE WELL BEING OF THE
PEOPLE.





SAE eNEWSLETTER

Volume 11, Issue 3

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July 2021

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Message of the former Editor-In-Chief, SAE eNewsletter

Dear Colleagues of the Society of Afghan Engineers Salam:

I am wishing you, your respected families, friends, and colleagues' safety from coronavirus. We are looking forward to the prosperity and peace in Afghanistan and the entire world.



This is the third issue of the Year 2021 SAE eNewsletter (newsletter) and eleventh year of the quarterly update from the Society of Afghan Engineers (SAE) through the publication of the newsletter. The SAE eNewsletter will keep the Society members and their colleagues informed about the Society's activities and provide information that is of interest to Afghan architectural, engineering, and other professional communities in Afghanistan and abroad.

It has been a privilege and pleasure that I have served as Editor-In-Chief of the SAE eNewsletter for more than 10 years. Due to health reasons, I requested Mr. Najim Azadzoï, the SAE President, to appoint another colleague to take responsibilities as Chairman of the SAE eNewsletter Subcommittee as well as Editor-in Chief of SAE eNewsletter. Mr. Azadzoï nominated Ustad Hafizullah Wardak as my replacement. His nomination has been approved by Board of Directors. Congratulations to Professor Hafiz Wardak for his new appointment and I wish him continued success.

I would like to take this opportunity to thank the newsletter Editorial Board members and Subcommittee members, current and former Presidents, Board of Directors, and Executive Committee members for their support during the last 10 years of my work as Chief Editor of the newsletter.

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Thanks to the authors for their contributions to the publication of the newsletter by excellent articles that they submitted for publication in SAE eNewsletter. Their technical articles have certainly contributed to the improvement of the quality of the newsletter. Fortunately, we are surrounded by talented SAE colleagues in each corner of the globe. My goal as an editor was to serve as a motivator and supporter of writing and sharing best practices. As such, I appreciated all authors for taking their precious time to share their wisdom and knowledge with us through nicely written articles. Of course, writing takes time, dedication, skill, discipline, and wisdom. The editing of the SAE eNewsletter has been a collaborative process where many authors and Editorial Board members contributed their significant personal time and efforts. Thank you all for your time and dedication in helping our profession and the people of Afghanistan.

Hopefully, the published articles will continue to be useful to Afghan students, architects, and engineers for the decades to come. We are lucky to have such distinguished SAE newsletter editors. Please continue your collaboration and cooperation with Professor Hafiz Wardak, our newly appointed Editor-In-Chief, and to the SAE eNewsletter by providing practical, theoretical, and insightful articles.

Over the coming years, I look forward to reading innovative articles and issues.

Very Truly Yours,

Ghulam Mujtaba

Ghulam Mujtaba, MS- CE, P.E., CPM

Former Editor-In-Chief, SAE eNewsletter

Message of the new Editor-in-Chief, SAE eNewsletter

Dear Colleagues, and friends of SAE Asalaam Alaikum:
Just few weeks prior to the distribution of this issue of the Society of Afghan Engineers (SAE) eNewsletter a heavy responsibility got placed on my shoulder. I am truly and humbly honored with the decision of the Editorial Committee and SAE Board of Directors selecting me as the Editor-in-Chief, and Chairman of the SAE eNewsletter Subcommittee. I am also immensely proud to be working with an outstanding member of the Editorial Board and SAE leadership.



Our dear brother Ustad Mujtaba needs rest and recovery from his surgery. We wish him full recovery. The eNewsletter will move forward and will always seek his guidance and advice. I would like to thank Ustad Mujtaba for his successful leadership as Editor-in-Chief and Chairperson of the Electronic Newsletter Subcommittee for the past 11 years, providing SAE eNewsletter with the highest quality and on time distribution.

Society of Afghan Engineers, under the leadership of Ustad Najim Azadzo Sahib as the President and Ustad A. Manan Khalid as Chairman of the Board of Directors, is moving forward with bringing innovation and new ideas to the Society of Afghan Engineers to expand, attract and involve talented younger generation of Afghan engineers and effectively aid the Afghan engineering community in Afghanistan.

The overall content of the SAE eNewsletter must have relevance to the audience that are being targeted. It must become a well-functioning information bridge between the engineering/architectural audiences in Afghanistan and America, as well as other nations where Afghan technical communities are residing. This information bridge must become a persuasive, attractive, and an effective path for audience at both fronts. From the American front, it can provide latest technical news, technical papers related to overall engineering and technological developments in America and the West, to fulfill the interest and desire of the Afghan engineering community inside Afghanistan. From the Afghan front publish technical papers and news of the engineering/technological developments and technical breakthroughs inside Afghanistan. The engineering/architectural community of Afghans residing in America and Europe, as well other nations desire more of what is happening in Afghanistan in the field of engineering, Architecture, and overall technological developments. SAE newsletter can be a bridging vehicle to provide, and tie aspirations of the two fronts.

I am extremely thrilled to be embarking on this vital role and wish to express my sincere appreciation to the Editorial Committee and SAE leadership for giving me the opportunity to lead this important task as Editor-in-Chief of SAE eNewsletter. I strongly support the new initiatives and novel ideas of the leadership team for making the Society of Afghan Engineers an

effective organization supporting engineering progress in our beloved Afghanistan. There are two initiatives drifting in my mind. It is time to revisit SAE Bylaws and Guidelines. Few changes/amendments to SAE Bylaws and Guidelines must get planned, to permit publication of technical papers in Pushto and Farsi languages in addition to English language. This will open a new window of opportunity for technical papers and more technical news from inside Afghanistan. The second initiative is to publish news and announcement of local Afghan businesses, residing in various cities of America and Europe, for a nominal fee. The fee can become a source of financial support to increase the responsibility of SAE representative inside Afghanistan or add an additional staff to assemble and organize technical news that can be published in the SAE e-newsletter. Knowing this must be done within the bounds of SAE being a non-profit organization.

The preparation and distribution of the SAE eNewsletter is a collaborate efforts of the Editorial Board /Publication Committee. I am pleased that the Editorial Board and SAE leadership have promised their full cooperation and support. To publish the eNewsletter on time with highest quality the cooperation of members and Editorial Board is a must. We will move forward with the footprint of Ustad Mujtaba, and we all wish him quick recovery and needed rest.

My request from the audience is to share your thoughts and your stories with us, share the issue of SAE eNewsletter with your friends and colleagues, send us their emails so we can add them to our global distribution list.

Very Truly Yours,

Hafizullah Wardak

hwardak@comcast.net

Editor- in- Chief SAE eNewslettter

and Chairman - SAE eNewsletter Subcommittee

SAE Society of Afghan Engineers

PRESIDENT'S MESSAGE NO. 3, JULY 2021

PRESIDENT'S MESSAGE

The Society of Afghan Engineers continued making progress in all areas in the second quarter of the year 2021. I owe each member of the Society, particularly the Executive Committee and Subcommittee's Chairpersons for their contributions and the esteemed members of the Board of Directors for their support and hard work in the past ten (10) board meetings reviewing and approving a large volume of subjects and issues related to the Society's activities. The report below covers only a portion of what has been discussed with the Board of Directors, and the Chairpersons of the Committees and Subcommittees during the past three (3) months and since my last reporting to you. The Board of Directors patiently and carefully provided their feedback for each item presented to them. Our success is a joint effort by all members of the Society to serve the mission of the Society for a better, peaceful, and prosperous Afghanistan.



- Membership in the organization continued to grow, particularly many of our colleagues from Afghanistan requested membership in the SAE.
- The Society has a permanent representative in Kabul, Afghanistan now and he has already begun helping and supporting our mission in Afghanistan. I am pleased to introduce Engineer Habib Rahman Rahmat Mayar as the SAE's representative in Kabul. He is a graduate of the Electrical Department from the Faculty of Engineering, Kabul University, 1984.
- The SAE has a permanent physical address now in Alexandria, VA. SAE will be sharing the address with The Afghan Academy. Thanks for Mr. Sherdil, President of the Afghan Academy, for his generous contribution.
- I am pleased to report that the Society of Afghan Engineers (SAE) and the Afghan-American Chamber of Commerce (AACC) signed a Memorandum of Understanding (MOU) on April 13, 2021. The MOU was prepared by the SAE/Afghan Government Agencies Liaison Subcommittee and it was reviewed and revised by AACC. Afterward, it was reviewed by the SAE Board of Directors and approved.
- In a Virtual Meeting via zoom organized by the Afghan Education for Better Tomorrow (AEBT) on May 24, 2021 the subject of a Feasibility Study for a Renewable Energy Pilot

Project at Herat University was discussed. At this meeting Dr. Abdullah Faiz Chancellor of Herat University in his opening remarks stated that Herat University has 21,000 students in 16 different Colleges. The number of female students is equal to the number of male students. The university is in short supply of electric power and it is expected that the need for more electric power will be increased while the supply for future needs is not reliable. Options are to take advantage of the six-month natural wind and the sunny days in Herat and seek alternative energy from other sources such as renewable solar and wind powers. In addition to Mr. Faiz; Mr. Passon Areffi, Dean of College of Urban Planning; Noman Moheb; Ms. Huce, Ms. Kawish Azadani; Faiz Ramani, School of Engineering; Hekmat Hekmat; Ghazala Tabash, were present. Mr. Hamedullah Zaheb, from the Faculty of Engineering, Kabul University was also present. From AEBT, Ghulam Feda, President; Qasim Tarin; Dr. Yama Abassi; Zalmi Roashan were present. From SAE, Mr. Razaat Ludin, Hamayon Ibrahim, Amin Mahmood, and myself were present. Others who participated were Mr. Said Faisal and Mr. Mukhtar Homam, Homam Consulting, Ontario, Canada. At the end of the meeting, it was decided that a joint effort for a Feasibility Study of a Renewable Energy Pilot Project shall take place in Herat University.

- On May 21, 2021, Her Excellency, Deputy Minister Sahar Hamdard, contacted the Society of Afghan Engineers to learn more about the Society's missions and activities. Afterward, in a phone conversation on May 30, 2021, she expressed her positive views of SAE engagement with the Ministry of Urban Development and Land (MUDL). A meeting was arranged between Ms. Sahar Hamdard and Mr. Razaat Ladin, SAE/Afghan Government Agencies Liaison Chairperson who was in Kabul at that time. The meeting took place at the Ministry of Urban Development and Land on June 1, 2021. Her Excellency was very positive and visionary in terms of SAE's engagement at the MUDL as well as generally in Afghanistan. The MUDL is interested in collaborating with SAE in the following areas: 1) Developing codes, standards and regulations for various aspects of the MUDL. 2) MUDL is planning to organize a regional conference in Herat in partnership with some international communities. MUDL would like SAE to help organize the conference. 3) MUDL wants to build a Research Center for engineering at the Kabul University. They need SAE's help in setting up the Research Center. 4) MUDL wants help in conceptualizing and designing the International University in Jalalabad. 5) MUDL is working on sections of the Kabul New City and needs help in reviewing documents, plans, and related guidelines. It was agreed that a Memorandum of Understanding (MOU) between SAE and MUDL to be signed. Ms. Hamdard will try to push it through the President's office and then help get it signed as soon as possible. (The MOU has been prepared and will be submitted after the review of the Board of Directors.
- In a meeting between His Excellency Deputy Minister Basiri and Mr. Razaat Ludin, on June 3, 2021 a joint agreement was made to officially formalize SAE's collaboration with the National Water Affair Regulation Authority (NWARA) and to sign a Memorandum of Understanding for future collaboration between the two organizations. Tentatively both parties, SAE and NWARA, agreed to collaborate in the following areas: 1) Jointly work on possible pilot projects for solar powered water lifting stations in Sorobi and Murghab rivers. Murghab river has enormous potential. 2) Support in review and recommendations on a design manual for irrigation systems that is presently being prepared by NWARA. 3) Support in review and recommendations on a 5-year strategic plan being prepared by NWARA. 4)

To support Water Infrastructure Guidelines to be included in the Afghanistan building codes. 5) Help in developing the Afghanistan Water Supply code. 6) Organizing and leading training workshops for professional engineers on watershed management, how to design water supply and irrigation dams using locally available material such as soil and rocks. A Memorandum of Understanding (MOU) between SAE and NWARA has been prepared and will be submitted to the Board of Directors for review.

- On June 6, 2021, Mr. Sarwar Hangam, Director of Afghan National Standardization Authority (ANSA) met with Mr. Rafaat Ludin in his office in Kabul. The purpose of the meeting was to discuss ANSA's engagement with SAE to help enhance the quality of work at ANSA. It was decided to sign a Memorandum of Understanding between SAE and ANSA to structure collaborations between the two organizations. Some potential areas of collaboration may include the following: 1) Developing and Adopting Codes and Standards: The Parties intend to collaborate with a view in developing compulsory/enforceable and non-enforceable standards, including complementary codes such as electrical, mechanical, plumbing and other codes and standards. 2) Review of existing codes and standards: The parties intend to collaborate in reviewing existing standards and making recommendations to changes and updates as and when needed. 3) Capacity Development and Training: The Parties intend to collaborate in identification for training subjects and delivery of relevant training to Afghan professionals either via online tools or in person. 4) The Parties intend to collaborate in other areas that may be identified by either or all Parties with the aim to enhance engagement and active support of SAE for ANSA's work and objectives.
- On June 5, 2021, Dr. Aref Naimzad, Dean of the Faculty of Engineering, Kabul University met with Mr. Rafaat Ludin, at the Faculty of Engineering. At this meeting the Head of the Department of Architecture, Dr. Mohammad Saraj Sharifzai was also present. The purpose of the meeting was to discuss mutual collaboration between the SAE and the Faculty of Engineering at Kabul University. Both parties agreed to sign a Memorandum of Understanding (MOU) to work together to enhance the Kabul University, Faculty of Engineering (KU-FE) output by using technical, organizational and academic skills of SAE for the benefit of works at KU-FE in all areas. Two separate Memoranda of Understanding were prepared, reviewed and agreed on terms and conditions outlined. The MOUs are being reviewed by the Board of Directors:
 - MOU between KU-FE and SAE: Both Parties agreed: 1) To collaborate with a view in developing new curricula and reviewing existing curricula in various engineering disciplines to enhance effectiveness. 2) To collaborate in identifying subjects and topics for potential content delivery by professional SAE members for the benefit of KU-FE students. 3) To collaborate in identification of training subjects and delivery of relevant training to faculty and staff of KU-FE in areas of interest. 4) To collaborate in identifying the need for technology support at KU-FE and pursuing avenues to meet such needs in an effective manner. 5) To collaborate in other areas that may be identified by either or all Parties with the aim of enhancing engagement and active support of SAE for KU-FE's work and objectives.
 - MOU between SAE and Department of Architecture regarding Ashraf Roshan's Scholarship Fund. Both Parties agreed: 1) To work together to identify, select and award academic grants to students that meet the stipulated criteria for the late Ashraf

Roshan Scholarship Fund award as per eligibility requirement set forth. For details of the Ashraf Roshan Scholarship Fund, please refer to Memo 1-A, dated March 9, 2021 by Prof. Bashir Kazimee, Chairperson of SAE Architecture and Urban Planning Subcommittee.

- Our Dear Professor Ghulam Mujtaba Khan, who served with honor as the SAE eNewsletter Subcommittee Chairman and Editor-in-Chief since January 2011 (for over 10 years) resigned due to health reason. We are thankful for his excellent service and his dedication to SAE's goals and objectives.
- In a SAE virtual Board Meeting on June 10, 2021, the appointment of Professor Hafizullah Wardak as the new SAE eNewsletter Subcommittee Chairperson and Editor-in-Chief was approved unanimously. Earlier, in a separate virtual meeting of the members of the SAE Editorial Board on June 7, 2021, Professor Wardak was nominated by the President of the Society for the above position and his nomination was also approved unanimously by the member of the Editorial Board; Prof. Ghulam Mujtaba Khan, Prof. Wahed Hassani, and Manan Khalid.

Congratulations to Professor Hafizullah Wardak

- The SAE Website needs to be updated and to become functional. In a Board Meeting on June 10, 2021, Muhtaram Jamal Masumi invited Mr. Abaas Khorrami, a young Afghan who is proficient in Website design and maintenance. SAE Website has not been updated for almost a decade. Many of the commands are obsolete and cannot function properly. Mr. Khorrami will review the Website and make recommendations on fixing and improving the overall design and functioning without any compensation. We thank him for his time and efforts.
- The Society has a new Facebook Group account now by the name of the "Society of Afghan Engineers". It was created two months ago and already have more than 520 members, mostly engineers and architects and planner from Afghanistan. A number of Ustad Hafizullah Wardak Sahib's lectures and some of the SAE eNewsletter articles were posted in the Facebook and members are commenting and requesting copies of the lectures and articles. We encourage members of the SAE to join this Facebook Group and become members and share their related posting.
- <https://www.facebook.com/groups/275329343923115>

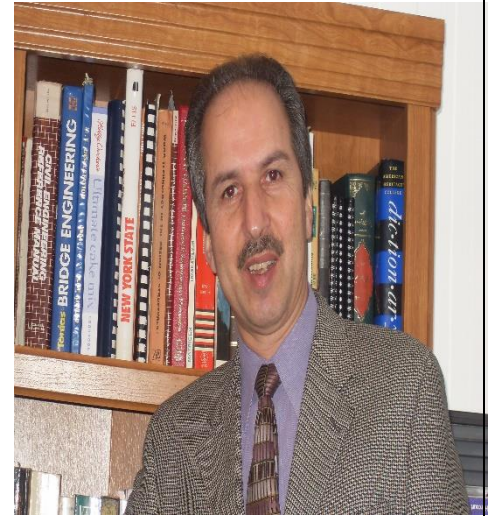
With Regards,

Najim M. Azadzoi, AIA , SAE President

Message from Mr. Abdul Manan Khalid, the Chairman, SAE Board of Directors

Dear Readers of the SAE ENewsletter,

By the time you read this message, it will be the start of the third quarter of 2021 and six months since the new administration took charge of the SAE. For me, it has been the busiest six months since my involvement with this noble Society. During this time, the Board of Directors have held nine meetings to ensure that all business that needed to put the activities in motion have been reviewed and approved. Since the last issue of the eNewsletter, the following were brought up to the Board and were finalized.



1. Nomination of Mr. Habib Rahmat Mayar as the SAE's representative in Kabul was reviewed and approved. He will pursue SAE's business with the government agencies and will follow up on issues related to the Society's mission.
2. Part A of the budget for year 2021 was reviewed and approved. Part A covers the immediate and necessary needs for the operation of the Society.
3. Draft MOU between SAE and Afghan Education for Better Tomorrow (AEBT), a California based organization, was reviewed and feedback provided.
4. Draft MOU between SAE and the Ministry of Urban Development and Land (MUDL) of the Islamic Republic of Afghanistan was reviewed and feedback provided.
5. The modernization and maintenance of the SAE's website was discussed with the intention to hire an expert in the field to modernize the existing website.
6. Nomination of Ustad Hafizullah Wardak for Chairman of the SAE eNewsletter Subcommittee and Editor In-Chief of the SAE eNewsletter was reviewed and approved.
7. The three-person task force in consultation with Ustad Ghulam Mujtaba completed the compilation of the revisions to Bylaws. It was chaired by Mr. Amanullah Mommandi with Mr. Jalal Masumi and Mr. Zabihullah Zaca as the other two members. All proposed revisions will be reviewed by the Board prior to the Society's General Assembly Meeting which has to happen later in the year.

Following and building on the hard work of our predecessors, and the genuine help of the valued members, we are well positioned to serve our beloved country and our people in accordance with the Society's mission. Serving our beloved country and our impoverished people is a noble cause that the Executive Committee and the Board alone cannot accomplish on their own. It needs every member of the professional society inside Afghanistan and around world to extend their hands and take part.

On a sobering note, the merciless virus which brought the world to a standstill, has been spreading fast in Afghanistan. The country that has had every disaster known to mankind come upon it over the past several decades. Let's collectively pray for our country and our people.

Stay safe and be well.

Sincerely

Abdul Manan Khalid, P.E., LEED (BD+C)
Chairman, SAE Board of Directors

Executive Reports from The President of SAE

SAE EXECUTIVE REPORT No. 15

June 11, 2021

Professor Hafizullah Wardak, SAE Editor-in-Chief and Chairperson of SAE Electronic-Newsletter Subcommittee

In a **SAE Board Meeting** (zoom) on June 10, 2021, 9:00 pm ET, the appointment of Professor Hafizullah Wardak as the new **SAE Editor-in-Chief** and **SAE Electronic-Newsletter Subcommittee Chairperson** was approved unanimously.

In a separate meeting (zoom) of the members of the **SAE Editorial Board** on June 7, 2021, 9:00 pm ET, Professor Wardak was nominated by the President of the Society and his nomination was also approved unanimously by the member of the Editorial Board; Prof. Ghulam Muhtaba Khan, Prof. Wahed Hassany, and Ustad Manan Khalid. **Congratulations to Ustad Hafizullah Wardak**



Our Dear Professor Ghulam Mujtaba Khan, who served with honor as the SAE Editor-in-Chief and SAE Electronic-Newsletter Subcommittee Chairperson since January 2011 (over 10 years) and previously as SAE Managing Editor since July 2004 resigned due to health reasons. We are thankful for his excellent service and his dedication to SAE's goals and objectives.

Ustad Hafizullah Wardak worked with Boeing Aerospace Company for 30 years as Technical Fellow in structures. During the 30 years with Boeing, he worked as technical leader on the International Space Station, (NASA programs) and every new model airplane (737, 747, 767, 777, 787) at the Boeing Company. Prior to joining Boeing, he worked for two years with the United Technologies on the Space Transportation System (another NASA program), and six years as a structural engineer specialist on nuclear energy projects with Sargent & Lundy in Chicago.

In Afghanistan, he was a professor of the civil engineering department at the Faculty of Engineering of Kabul University, and deputy-chairman of the Afghan Seismological Center Kabul.

His recent book "Structural Analysis" in Pushto language was published and released in Kabul, Afghanistan and will be used as a textbook at Afghan universities. His co-author with this book was Dr. Z. Baha.

He has been a member of the SAE Board of Directors for the past six years.

Najim Azadzoi, AIA

President

June 22, 2021

Resignation of Professor Ghulam Mujtaba from the post of SAE Editor-in-Chief and SAE Electronic Newsletter Subcommittee Chairperson.

Our Dear Professor Ghulam Mujtaba Khan, who served with honor as the SAE Editor-in-Chief and SAE Electronic-Newsletter Subcommittee Chairperson since January 2011 (over 10 years) and previously as SAE Managing Editor since July 2004 resigned due to health reasons. We are thankful for his excellent service and his dedication to SAE's goals and objectives.

On June 2, 2021, Professor Mujtaba Khan officially submitted his resignation with an email to the Society due his recent hospitalization and surgery that took place at UF Shands Hospital in Florida. The surgery was performed with success, and he was discharged from the hospital. He is recovering from the surgery that may take many weeks and possibly months.



He stated that during his recovery period he will not be able to perform his SAE services as the Subcommittee Chairman of the SAE eNewsletter and as the Editor-In-Chief responsibilities. Accordingly, he requested that another member or members should be assigned to serve in the positions, starting with publication of the July 2021 issue of the newsletter.

In a SAE Board Meeting on June 10, 2021, the appointment of Prof. Hafizullah Wardak as the new SAE Editor-in-Chief and SAE Electronic-Newsletter Subcommittee Chairperson was approved unanimously.

Professor. Mujtaba has a B. S. in Civil Engineering from Kabul University, January 1969. He received his Master of Science in Civil Engineering, University of Cincinnati, Ohio in August of 1972. He received a Public Manager certificate from the Florida Center for Public Management at the Florida State University, June 2002. The certificate of Completion of Leadership Academy offered by the American Association of State Highway and Transportation Officials (AASHTO), June 2004.

National Highway Institute Certificate of Training, Engineering Concepts for Bridge Inspectors, April 2005.

In *Afghanistan* from 1969- 1981 Served as:

- Professor, Faculty Engineering of Kabul University.
- Director of Center for Consulting Engineering Services and Applied Research (CECSAR).
- Geotechnical Engineer of SAUTI, Italian Consulting Company.
- Geotechnical Engineer of Water and Power Company of Afghanistan (WAPECA).

In the *United States* from 1982 to present served as:

- Environmental Specialist with Florida Department of Environmental Protection.
- Civil Engineer with Wingerter Engineering Testing Laboratory.
- Worked with Florida Department of Transportation (FDOT), as:
- District Concrete Engineer; Construction Project Manager/Engineer; Concrete Materials Engineer; State Prestressed Concrete Engineer; State Field Operations Concrete Engineer; and currently working as Concrete Materials Technologist.

Professor Ghulam Mujtaba served honorably as the President of the Society and a Member of the Board of Directors in the past. His hard work, commitment, dedication, and efforts in the building of the Society and particularly in the uninterrupted publication of the SAE eNewsletter in the past two decades will always be remembered and appreciated.

Najim Azadzoi, AIA

President

SAE Executive Action No. 2 SAE REPRESENTATIVE IN KABUL, AFGHANISTAN

May 1, 2021

I am pleased to announce that the Society of Afghan Engineers has a Representative in Kabul, Afghanistan.

We received a total of eight (8) applications for the position. A screening committee was formed to review the eight qualifications. The screening committee consisted of the following SAE members:

1. Professor Bashir Kazimee (Chairman of the Committee)
2. Professor Zarjon Baha, PhD
3. Professor Hafizullah Wardak
4. Mr. Rafaat Ludin
5. Professor Mujtaba Khan.

After careful reviews of the applicants' resumes and qualifications statements, a short list of four individuals was submitted for final consideration.

We found Mr. Habib Rahman Rahmat's background, experience, education and qualification match closely to the needs and job description of the SAE Representative in Afghanistan.



Biography of Eng. Habib Rahman Rahmat Mayar

Mission: To serve the human being in the best of my ability & respect everyone

Habib Rahman Rahmat Mayar graduated from the Electrical Department of the Faculty of Engineering, Kabul University in 1984. He graduated from Afghanistan institute of Technology (AIT) in 1978.

He has received training in Strategic Planning, Rural Development Planning, Disaster Management, General Management, Projects Management, and Procurement.

He is Currently working as an Electro-Mechanical Engineer at the National Water Affairs Regulation Authority of Afghanistan (NWARA), since December 2020 up to date.

A QUARTERLY UPDATE FROM THE SOCIETY OF AFGHAN ENGINEERS

Prior to that he had worked as a Senior Electrical Engineer at Inter-Ministerial Commission for Energy. Also, he worked with Asian Development Bank (ADB) as an Inter-Ministerial Coordinator and with the World Bank as an Evaluation Specialist. He worked as a Deputy Program Manager with the United Nations Development Program (UNDP) in Afghanistan.

Habib Rahmat has developed and contributed to compilation and translation of some Scientific Documents and regulations guidelines and manuals. Also, attended International Conferences and Workshops at global level and participated in 18 different important regional events in Afghanistan.

His contribution in the Standards Development in the Energy Sector of Afghanistan is recorded at Afghan National Standard Authority (ANSA) in Afghanistan.

He speaks Dari, Pushto, Uzbek and English. Dari is his mother language.

He was born on May 15,1959 in Kunduz Province of Afghanistan.

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Working Plans of SAE Committees

SAE Board of Directors have approved the working plans of the following subcommittees:

ARCHITECTURE AND URBAN PLANNING SUBCOMMITTEES WORKPLAN

Memo – 1-A

Date: March, 9, 2021

Bashir Kazimee, AIA

Chairperson: SAE Architecture/Urban Design committee.

Goal-setting and task identification for Architecture/Urban Design Committee.

Mission statement: the mission of the Architecture/Urban Design Committee is to improve, educate, and sustain the practice of the architecture and urban design in Afghanistan.



The following key objectives may be the focus of the committee.

1. Providing advice and support to the Faculty of Engineering and Architecture in establishing a “Applied Research and Design Innovation Center,” so the faculty and students can enhance, contribute and develop knowledge in their own field of study, and seek new opportunities in their profession.
 - Objective and scope: collaboration/interdisciplinary networking – resource allocations – training and education – support interactions between research, education and learning – promote members skills and knowledge.
 - Funding and administration structure: funding may be internal, international donors, and government of Afghanistan.
 - Expected outcome: coordinate resources, research activities and strategic planning – enhance knowledge, reputation and skills of its members – transfer knowledge for the benefit of the society.
 - Governance and approval agent: universities/ Ministry of Higher Education, and partnership with local industries.
2. Provide guidance and support on “curriculum development,” to Afghan universities and colleges in the fields of architecture and urban design – realizing that the practice of architecture and design is changing every day, and new discoveries need to be supplemented into their education curricula.
 - Objective and scope: identify and integrate innovations in design education into the curriculum - recognize technological advancements/global trends in design – integrate the ecological and sustainable principals in design education (global warming) - shelter availability, affordability and vernacular practices in design - social and cultural influences in the built environment.

- Accreditation: launching an accreditation and evaluation of the architecture education programs, based on an acceptable national/international standards.
 - Expected outcome: maintaining and improving the quality of education – promoting acceptable national/international standards.
 - Funding: universities, international donor organization, and Ministry of Higher education.
 - Governance and approval agent: the universities, and Ministry of Higher Education.
3. Encouraging and partnering with Afghan practitioners, Kabul University Department of Architecture, and the Ministry of Urban and Land Development, in launching the professional licensing program for the architects and urban designers, and help establishing the “AIA - Afghan Institute of Architects,” in Afghanistan. (This may be a long-term goal, will need government policymakers, institutional partnership and needed resources).
- Objective and scope: launch continued professional development/learning programs for architects - establish internship development process - establish architectural exam/examination board – initiate licensing and certification process – launch and manage AIA membership program.
 - Expected outcome: professional competency and accountability – promoting acceptable national/international standards.
 - Funding and administrative structure: international donor organizations, Ministry of Urban and Land, and Ministry of Public Works, and partnership with local architectural organizations.
 - Governance and approval agents: Ministry of Urban and Land Development/ or Ministry of Public Works.
4. Securing a SAE office in the Kabul University, with a part time personal.
- Job description is posted on the SAE and Darrisha sites -applications are in progress – reviews of the applicant will resume shortly.
5. Managing scholarship for the architecture students in Kabul University. A donor is already identifies – we are looking into legal and technical issues.
- Donation amount of \$ 5,000 annually is identified by the donor.
 - Memorandum of Understanding, about the goals and objectives of the scholarship, methods of awarding, and review process is prepared.
 - Approval process: the Memorandum of Understanding will be forwarded to the donor and the Kabul University for approval.

By identifying the above tasks, I must also state that we should be vigilant about the timelines, expectations and the complexity of the job that is naturally expected. But at this stage, I believe this document is in a goal setting stage by identifying the essential areas of the architecture/urban design profession that needs to progress forward in the country. The short-term, and long-term tasks and goals will be identified as we explore the necessary funding and administration resources, and other contingent possibilities in our country.

Best regards,

Bashir Kazimee Chairperson of the Architecture and City Planning Subcommittees

Strategic Direction of SAE's Afghan Government Agencies Subcommittee and other related subcommittees

March 1, 2021



Overview:

This document is a high-level strategic plan for managing the responsibilities of the SAE's Afghan Government Agencies Subcommittee, hereinafter referred to as AGAS. The intent is to identify the objectives, activities and sub-activities associated in support of SAE's intent to have a robust and effective collaboration with Afghan government entities as well as others organizations that are closely working with the Afghan government or are regulated by them. The objectives and activities are further elaborated with objectively verifiable indicators and associated timelines. In effect, two key forms are created, the PPM or Project Planning Matrix and the OP or the Operations Plan. The PPM provides information on general direction of the strategy, while the OP operationalizes the PPM.

Afghan Government Agencies (AGA):

The following agencies are the focus of the AGAS activities:

- 1) The President's office
- 2) The Ministry of Commerce and Industries (MOCI)
- 3) Ministry of Education (MOE)
- 4) Ministry of Higher Education (MOHE)
- 5) Ministry of Communication and Information Technology (MOCIT)
- 6) Ministry of Agriculture, irrigation and Livestock (MAIL)
- 7) Ministry of Transport and Civil Aviation (MTCA)
- 8) Ministry of Mines and Petroleum (MOMP)
- 9) Ministry of Public Works (MOPW)
- 10) Ministry of Rural Rehabilitation and Development (MRRD)
- 11) Ministry of Energy and Water (MEW)
- 12) Ministry of Urban Development and Land (MUDL)
- 13) National Environmental Protection Agency (NEPA)
- 14) Afghanistan National Standards Authority (ANSA)
- 15) Afghanistan National Disaster Management Authority (ANDMA)
- 16) General Office of Geodesy and Cartography (GOGC)
- 17) Capital Region Development Authority (CRIDA)
- 18) Municipalities in major cities of all 34 provinces
- 19) Government run Universities in all major cities, including Kabul

Non-Government Agencies (NAGA):

- 1) All private Universities offering engineering programs
- 2) All associations and Unions working in engineering sectors, including
 - a. Afghan Builders Association (ADA)
 - b. Afghan Renewable Energy Union (AREU)
 - c. Afghan Union of Engineers
 - d. Afghan Unions of Architects

The Project Planning Matrix (PPM) – a.k.a. Logical Framework

Objectives/Activities	Objectively Verifiable Indicators (OVI)	Means of Verification (MOV)	Assumptions
<p>Overall Objective:</p> <p>Contribution is made towards the development of Afghanistan in a sustainable, efficient and effective manner.</p>	<p>By December 31, 2023, SAE’s AGAS has launched a series of initiatives in inside and outside Afghanistan in support of its 4 critical objectives, including noticeably enhancing the quality of norms and standards in every engineering sub-sector, delivered educational services to enhance the capacity of engineering students and active engineers in their respective fields and has completed soft project in support of the engineering works in the country.</p>	<p>Annual reports, project, travel and meeting records, financial records, project reports, MOUs and other related documents.</p>	<p>SAE is willing and able to dedicate human and institutional capabilities to enable undertake the types of activities that are stipulated in this document.</p>
<p>Objective 1:</p> <p>Cooperation framework agreements are signed with all relevant government and non-government agencies</p>	<p>By December 31, 2022, SAE’s AGAS has signed memorandum of Understanding with all relevant government agencies in Afghanistan to</p>	<p>MoUs signed with various AGA and non-AGA entities.</p>	<p>AGAs and non-AGA entities are interested in working with SAE.</p>

Objectives/Activities	Objectively Verifiable Indicators (OVI)	Means of Verification (MOV)	Assumptions
	initiate collaboration and deliver soft services in areas of technical cooperation, educational cooperation and project service delivery.		
<p>Activity 1.1:</p> <p>Relevant government agencies and non-government entities are identified</p>	<p>By June 1, 2021, a list of all relevant government agencies and non-government entities working in the engineering sectors in Afghanistan are prepared, prioritized based on their degree of importance, relevant contact information are identified and first contact is established to facilitate possible cooperation with SAE.</p>	<p>A list with associated contact information.</p>	<p>SAE is able to dedicate professional capabilities to undertake such activities.</p>
<p>Activity 1.2:</p> <p>MoUs are signed with relevant government and non-government entities</p>	<p>By December 31, 2021 a minimum of 10 MoUs have been signed with relevant government and non-government agencies in Afghanistan that describe the modality of cooperation and collaboration with SAE in enhancing engineering service delivery in Afghanistan.</p>	<p>MoUs with relevant AGAs and non-AGA entities.</p>	<p>SAE is able to dedicate professional capabilities to undertake such activities.</p>
	<p>By December 31, 2023 a minimum of 30 MoUs have been signed with relevant government and non-government agencies in</p>	<p>MoUs with relevant AGAs and non-AGA entities.</p>	<p>SAE is able to dedicate professional capabilities to</p>

Objectives/Activities	Objectively Verifiable Indicators (OVI)	Means of Verification (MOV)	Assumptions
	Afghanistan that describe the modality of cooperation and collaboration with SAE in enhancing engineering service delivery in Afghanistan.		undertake such activities.
<p>Objective 2:</p> <p>Norms and standards are created to ensure sustainable, systematic and effective engineering works</p>	<p>By December 31, 2023, SAE has provided technical support to a minimum of ten different sectors and industries in Afghanistan to create, enhance or support their development and enactment of norms, standards and regulatory guidelines and requirements for their respective industry or sector.</p>	<p>Agreements signed, instructional documents provided, norm and standards documents</p>	<p>SAE is able to mobilize technical resources among its membership to undertake such activities.</p>
<p>Activity 2.1:</p> <p>Collaboration opportunities are identified to support development and enhancement of norms and standards in Afghanistan</p>	<p>By July 30, 2021, a detailed list of potential norms and standards that are either in development, already developed or need to be developed are prepared and prioritized based on their importance and realistic early realization in Afghanistan and relevant contact points identified to facilitate potential involvement of SAE in these activities.</p>	<p>List of potential norms and standards</p>	<p>SAE is able to dedicate professional capabilities to undertake such activities.</p>
<p>Activity 2.2:</p>	<p>By December 31, 2021, a minimum of three initiatives are launched to</p>	<p>Agreements signed, instructional documents provided,</p>	<p>SAE is able to mobilize technical resources among</p>

Objectives/Activities	Objectively Verifiable Indicators (OVI)	Means of Verification (MOV)	Assumptions
Projects are launched to support development and enhancement of norms and standards in Afghanistan	support development or enhancement of norms and standards in Afghanistan.	norm and standards documents	its membership to undertake such activities.
	By December 31, 2023, a minimum of ten initiatives are launched to support development or enhancement of norms and standards in Afghanistan.	Agreements signed, instructional documents provided, norm and standards documents	SAE is able to mobilize technical resources among its membership to undertake such activities.
<p>Objective 3:</p> <p>Education opportunities are provided to engineering students and engineers to enhance their capacities</p>	By December 31, 2023, a minimum of ten annual educational programs have been launched and actively pursued to enhance the quality of education at Afghan Universities and capacity of active engineers in various engineering sectors.	Detailed information on programs, curriculum, training material, agreements, and other related documents.	<p>SAE is able to mobilize technical resources among its membership to undertake such activities.</p> <p>Funding is available for such activities</p>
<p>Activity 3.1:</p> <p>Collaboration opportunities for delivery of educational support services are identified.</p>	By August 31, 2021, a minimum of ten educational opportunities have been identified to deliver capacity building services to engineers and engineering students in various parts of Afghanistan.	List of educational opportunities	SAE is able to mobilize technical resources among its membership to undertake such activities.
<p>Activity 3.2:</p> <p>Projects are launched to deliver capacity</p>	By December 31, 2023, minimum of ten educational and capacity building programs are delivered per annum to	Detailed information on programs, curriculum, training material, agreements,	SAE is able to mobilize technical resources among its membership to

Objectives/Activities	Objectively Verifiable Indicators (OVI)	Means of Verification (MOV)	Assumptions
development support to engineers in Afghanistan.	engineers and engineering students in various parts of Afghanistan to enhance their skills for better service delivery in Afghanistan.	and other related documents.	undertake such activities. Funding is available for such activities.
<p>Objective 4:</p> <p>Services are delivered to donors, government agencies and private sector organizations in engineering fields</p>	By December 31, 2023 SAE minimum of ten independent projects are implemented to deliver soft engineering services to the government of Afghanistan, international donors and the private sector reflecting the full scope of capabilities represented by its members and network in USA.	Project agreements, project interim and final reports, project financial records, other related project documents	Funding is available for such activities. SAE is able to prepare and submit winning proposals that secure funding or contract award.
<p>Activity 4.1:</p> <p>Project sectors and associated funding opportunities are identified</p>	By December 31, 2021 and on an ongoing basis, project funding opportunities are identified for various sectors and industries as they relate to SAE membership’s capabilities and are shortlisted for further consideration for submission of applications.	List of project funding opportunities	SAE is able to dedicate professional capabilities to undertake such activities.
<p>Activity 4.2:</p> <p>Projects are identified and funded to provide soft services to the engineering industry in Afghanistan</p>	On an ongoing basis, projects are selected for application and adequate funding applications are prepared and submitted for undertaking a minimum of	Project applications, Project agreements, project interim and final reports, project financial records,	Funding is available for such activities.

A QUARTERLY UPDATE FROM THE SOCIETY OF AFGHAN ENGINEERS

Objectives/Activities	Objectively Verifiable Indicators (OVI)	Means of Verification (MOV)	Assumptions
	ten projects by December 31, 2023.	other related project documents	SAE is able to prepare and submit winning proposals that secure funding or contract award.

Note: Refer to the SAE Website for the details of the Plan of Operation

Rafaat Ludin Chairperson of the SAE/AGA Liaison Subcommittee

Renewable Energy

By

Ghulam M. Feda

Abstract:

Energy is the primary and most universal measure of all kinds of work by human beings and nature. Energy is a crucial input in the process of economic, social, and industrial development. As conventional energy sources are depleting day by day, utilization of alternative energy sources is the only solution. The increased power demand, depleting fossil fuel resources and growing environmental pollution have led the world to think seriously for other alternative sources of energy. Basic concepts of alternative energy resources are related to the issues of sustainability, renewability, and pollution reduction. This article includes discussions about various alternative energy resources and their usability for future demands of Afghanistan, solar energy, wind energy, hydroelectric energy, and geothermal energy.

Description of Traditional and Renewable Energy

Fossil fuels, sometimes known as traditional energy resources or nonrenewable energy resources, are formed over millions of years by decayed animal and plant matter buried under rock layers. Three main types of fossil fuels are coal, oil, and natural gas. These fuels are formed depending on the amount of animal and plant matter, how long it has been underground, and the temperature and pressure applied to the matter over time. Fossil fuels are combustible and release energy when they are burned. They are reformulated into gasoline, diesel fuel, and heating oil. Additionally, they are burned to generate electricity.

Renewable energy uses energy sources that are continually replenished by nature—the sun, the wind, water, the Earth’s heat, and plants. Renewable energy technologies turn these fuels into usable forms of energy—most often electricity, but also heat, chemicals, or mechanical power. Traditional energy sources, like coal and oil, are finite and when burned, release carbon in the form of carbon dioxide and methane, two greenhouse gases that significantly contribute to the acceleration of global climate change. Renewable energy, on the other hand, either does not emit carbon or is carbon neutral, meaning it absorbs as much carbon as it emits.

The Benefits of the Use Renewable Energy

The fossil fuels are primarily used today to provide heat and power for homes and fuel for cars. It is convenient to use coal, oil, and natural gas for meeting our energy needs, but a limited supply of these fuels is available on the Earth. They are used much more rapidly than they are being created. Even if an unlimited supply of fossil fuels would be available, using renewable energy is better for the environment. The renewable energy technologies are called “clean” or “green” because they produce few if any pollutants. Burning fossil fuels, however, sends greenhouse gases into the atmosphere, trapping the sun’s heat and contributing to global warming.

Types of Renewable Energy

Here are some of the most common sources of renewable energy, and some concerns about them:

Solar Energy

Solar Energy tap directly into the infinite power of the sun and use that energy to produce heat, light, and power. This can be achieved with photovoltaic solar panels or by concentrating solar-thermal power, which enables solar-generated heat to be stored until energy is needed.

Although solar energy is free, it's not always available — the sun doesn't shine at night, which often coincides with peak energy demand, For this reason, the fate of renewable energies such as solar and wind relies on the development of efficient battery storage.



Figure 1: Solar Panels

The Solar Panel Power Generation Method

Solar panels use the photons produced by sunlight to generate direct current (DC) electricity. When the photons hit the panel, they are absorbed by the panel's semiconducting silicon material. During this process electrons separate from the atoms and move around the solar cell. This movement of the electrons is what generates Direct Current (DC) electricity. The DC electricity then flows to the systems inverter where it is converted to alternating current (AC) electricity. AC is the type of electricity needed to supply the property with power.

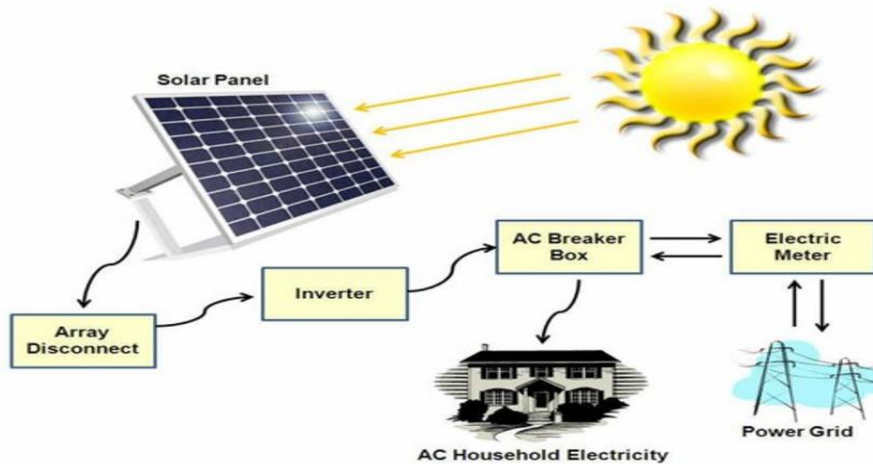


Figure 2: Solar Energy Diagram

Wind Energy

The people have used windmills to harness the wind's energy. Today's wind turbines, which operate differently from windmills, are a much more efficient technology. Wind turbines are giant windmills with huge blades that get pushed around by the wind. As the blades rotate, they spin a generator, which creates electricity. However, environmental groups and scientists are concerned about the impact of wind turbines on local bird and bat populations.

In a wind turbine, a spinning drive shaft is connected to a gearbox that increases the speed of the rotation by a factor of 100 — which in turn spins a generator. Therefore, the gears end up spinning much faster than the blades being pushed by the wind. Once these gears reach sufficient speed, they can power a generator that produces electricity.

The United States is home to one of the largest and fastest growing wind markets in the world. To stay competitive in this sector, the Energy Department invests in wind research and development projects, both on land and offshore, to advance technology innovations, create job opportunities and boost economic growth.



Figure 3 Wind power generation using wind energy.

The preliminary findings from the supply side confirm that 2020 was an incredible year for the wind industry. Chinese and American turbine manufacturers had a record of new installations that saw most of them moving up in global turbine OEM market rankings.

Table:1 Manufactural of most wind turbine in the world

2020 Preliminary Ranking	Turbine OEM	Installations in 2020*	Change	Commentary
1	Vestas	16,186 MW	-	Remains in lead for fifth year in a row
2	GE Renewable Energy	14,135 MW	+2	Moving up two positions from 4th position in 2019
3	Goldwind	13,606 MW	-	Remains in 3rd position for second year running
4	Envision	10,717 MW	+1	Up from 5th position in 2019

Source: GWEC Globe Energy Concl, Brussel, March 23,2021

Hydropower Energy

Hydropower, or hydro energy, is a form of renewable energy that uses the water stored in dams, as well as flowing in rivers to create electricity in hydropower plants. The falling water rotates blades of a turbine, which then spins a generator that converts the mechanical energy of the spinning turbine into electrical energy. Pumped storage is another method of hydropower that involves pumping water into a dam at a higher altitude during off-peak periods and then releasing it to transfer energy to the electricity grid when there is high demand. Hydroelectric power is a significant component of electricity production worldwide. Large dams and reservoirs, however, come with environmental concerns of their own, as these large-scale pieces of infrastructure drastically change water flow and affect local ecosystems. Flooding land for a hydroelectric reservoir has an extreme environmental impact: it destroys forest, wildlife habitat, agricultural land, and scenic lands.

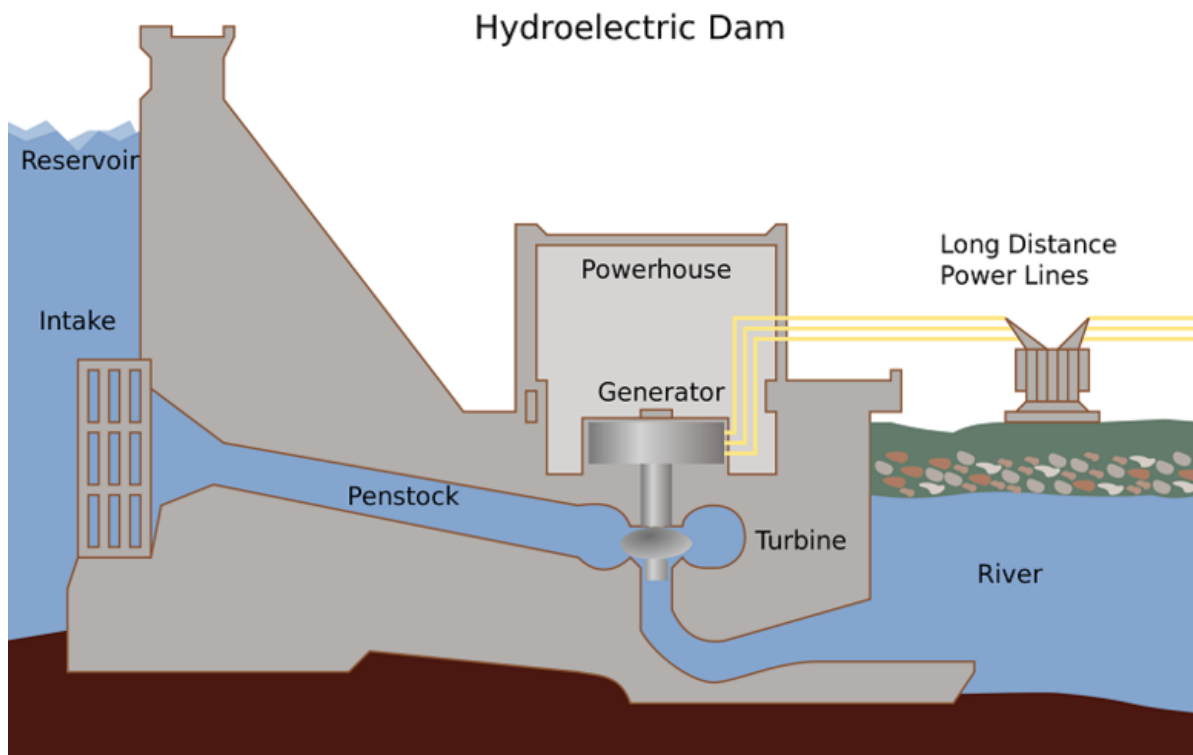


Figure 4: Falling water produces hydroelectric power.

Source: Energy Education, Hydroelectric Facility June 28, 2018

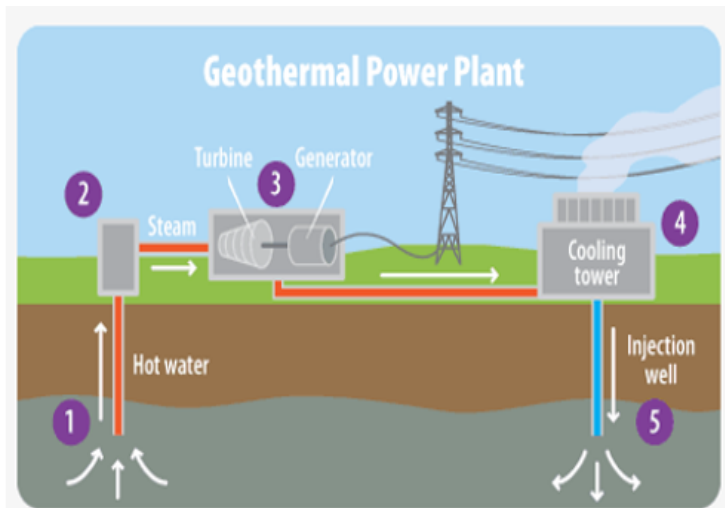
The Three Gorges Dam in Hubei, China, has the world's largest instantaneous generating capacity (22,500 MW), with the Itaipu Dam in Paraguay/Brazil in second place (14,000 MW). Despite the large difference in installed capacity, these two power stations generate nearly equal amounts of electrical energy during the course of an entire year - Itaipu 103 TWh in 2016 and Three Gorges 98.8 TWh in 2014, because the Three Gorges experiences six months per year when there is very little water available to generate power, while the Paraná River that feeds the Itaipu has a much lower seasonal variance in flow. Energy output of the Three Gorges reaches 125 TWh in years of high feed availability.

Source: *List of largest hydroelectric power stations, Wikipedia*

Geothermal Energy

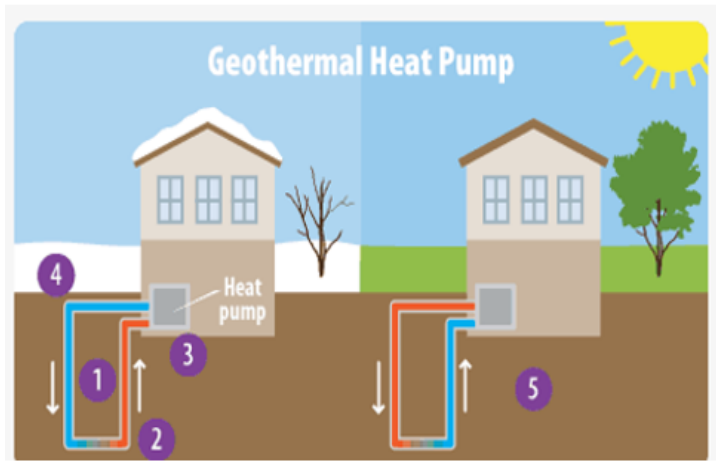
Geothermal energy is heat derived below the earth's surface which can be harnessed to generate clean, renewable energy. This vital, clean energy resource supplies renewable power around the clock and emits little or no greenhouse gases -- all while requiring a small environmental footprint to develop. Geothermal energy is a renewable "green" source of energy because the heat of the Earth is practically unlimited and, mostly, environmentally friendly.

Geothermal resources are reservoirs of hot water that exist at varying temperatures and depths below the Earth's surface. Mile-or-more-deep wells can be drilled into underground reservoirs to tap steam and very hot water that can be brought to the surface for use in a variety of applications, including electricity generation, direct use, and heating and cooling. In the United States, most geothermal reservoirs are in the western states.



- 1- Hot water is pumped from deep underground through a well under high pressure.
- 2- When the water reaches the surface, the pressure is dropped, which causes the water to turn into steam.
- 3- The steam spins a turbine, which is connected to a generator produces electricity.
- 4- The steam cools off in a cooling tower and condenses back to water.

Figure 5: Geothermal Power Plant



- 1- The water or refrigerant moves through a loop of pipe.
- 2- When the weather is cold, the water or refrigerant heats up as it travels through the part of the loop that is buried underground.
- 3- Once it gets back above ground, the warmed water, or refrigerant transfers heat into the building.
- 4- The water or refrigerant cools down after its heat is transferred. It is pumped back underground where it heats up once more, starting the process again.
- 5- On a hot day, the system can run in reverse. The water or refrigerant cools the building.

Figure 6: Geothermal Heat Pump

Renewable energy in Afghanistan

Afghanistan has a good solar resource that can be harnessed for electricity generation and for thermal applications.

The country enjoys particularly long sunny days with high irradiation, ranging from 4.5 - 7 kWh/m²/day.

Technologies that convert solar energy into electric energy and usable heat are classified into two types:

Solar and wind energy resources of Afghanistan are excellent for applications such as water pumping, water heating, and power generation through centralized schemes, miniguides, and stand-alone systems.

Afghanistan is a "sunbelt country" like latitude equal parts of the United States.

Based on solar resource characteristics, Afghanistan receives on average about 5.3 kWh per square meter of horizontal surface on a clear day with a standard deviation of 0.42 kWh. This corresponds to an average annual Global Horizontal Irradiance (GHI) of 1,935 kWh/m². National average seasonal maximum and minimum GHI are 7.84 kWh/m²/day and 2.38 kWh/m²/day. Annual GHI for Herat and Balkh provinces are 1,726 kWh/m² and 1,967 kWh/m², respectively. Figure 6 show resource map of GHI for Afghanistan.

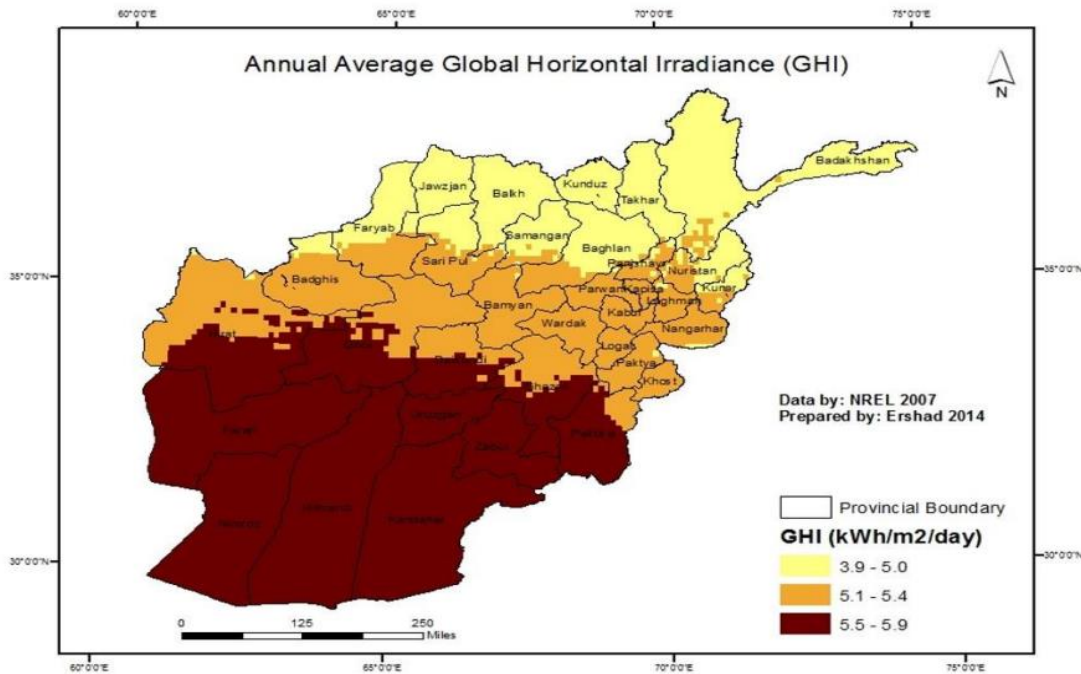


Figure 7: Annual Average Global Horizontal Irradiance (GHI) in Afghanistan.

Source: *University of Dayton eCommons, 1-2016, Analysis of Solar Photovoltaic and Wind Power Potential in Afghanistan (Ahmad Murtaza Ershad1, Robert J. Brech , Kevin Hallinan)*

In the meantime, maximum theoretical potential of wind power is estimated to be 158 GW mainly from Herat province in the west and Balkh and Parwan provinces in the north out of which only about 1000 MW of installed capacity is economically feasible. Although it is unclear how much in KW of wind power is installed in Afghanistan due to lack of any industry reporting mechanism, it is estimated that total installed capacity of wind power is about 300 kW with the largest wind power system of 100 kW in the mountainous province of Panjshir.

Average wind speeds at 50 m in Uljato and Hotel Safid (Herat) reach 6.34 m/s and 9.11 m/s. Average power densities at 70 m wind turbine hub height reach 426 W/m² and 879 W/m² in Uljato (Mazar-e Sharif) and Hotel Safid respectively. Sites with power densities greater than 400 W/m² are considered commercially viable for wind farm development. Wind power plants in Uljato and Hotel Safid yield annual net capacity factors of 27.6% and 42.3% respectively. Typical onshore wind power plants around the world achieve capacity factors in the range of 20% to 35% with exceptional plants achieving 45% (3).



Figure 8: Afghanistan's first wind farm in Panjshir Province

Afghanistan unfortunately has not yet taken advantage of its vast resources of renewable energies such as solar radiation and wind on a scale large enough to meet a significant fraction of its electricity demand. Two of the most promising provinces for renewable energy deployment are Balkh and Herat provinces. Fixed axis solar power plants tilted at angles equal to the latitudes achieve 14% and 17% annual net capacity factors including modest losses in Balkh and Herat, respectively. Typical global capacity factors of solar power plants are in the range of 10% to 20%.

Average wind speeds at 50 m in Uljato and Hotel Safid (Herat) reach 6.34 m/s and 9.11 m/s. Average power densities at 70 m wind turbine hub height reach 426 W/m² and 879 W/m² in Uljato (Mazar-e Sharif) and Hotel Safid respectively. Sites with power densities greater than 400 W/m² are considered commercially viable for wind farm development. Wind power plants in Uljato and Hotel Safid yield annual net capacity factors of 27.6% and 42.3% respectively. Typical onshore wind power plants around the world achieve capacity factors in the range of 20% to 35% with exceptional plants achieving 45% (3).

Afghanistan's renewable energy potential is estimated to be over 300,000 MW, consisting of solar (222,849 MW), wind (66,726 MW), hydro (23,310 MW) and biomass (4,000 MW). Geothermal needs more detailed assessments to ascertain realizable potential (4).

Table 2 provides a summary of the total potential for RE resources in different provinces in Afghanistan.

Table 2: Region-wise RE technical potential in Afghanistan

S. No.	Province/ Capital	RE resource technical potential					
		Solar (MW)	Wind (MW)	Hydro (MW) (River basin)	Biomass- Electrical Energy Production potential (MWhr/ year)		
					MSW	Animal Manure	Crop Residue
1	Kabul (Kabul)	432	41	1,941 (Kabul)	126,884	69,089	465,372
2	Kapisa (Mahmud-e-Raqi)	183	81		13,848	171,438	442,103
3	Parwan (Charikar)	548	127		20,287	160,281	565,369
4	Wardak (Meydan Shahr)	1,043	18		18,231	84,917	529,715
5	Lowgar (Pol-e Alam)	451	-		11,984	72,713	842,423
6	Ghazni (Ghazni)	5,802	48		37,542	227,860	1,343,574
7	Paktia (Gardez)	5,042	99		13,291	144,569	475,755
8	Khost (Khost)	364			17,563	367,769	376,509
9	Nangarhar (Jalalabad)	1,687	146		46,124	626,687	1,749,774
10	Konar (Asadabad)	447	81		13,773	313,913	449,026
11	Laghman (Mehtar Lam)	842	255		13,622	269,201	654,148
12	Nuristan (Nuristan)	888	-		4,526	156,503	93,491
13	Badakhshan (Faizabad)	3,736	331	29,029	452,658	598,604	
14	Bamian (Bamian)	1,863	24	13,667	143,149	286,562	

S. No.	Province/ Capital	RE resource technical potential					
		Solar (MW)	Wind (MW)	Hydro (MW) (River basin)	Biomass- Electrical Energy Production potential (MWhr/ year)		
					MSW	Animal Manure	Crop Residue
15	Takhar (Taloqan)	2,543	1,199	20,137 (Panj-Amu)	29,990	269,732	1,524,344
16	Baghlan (Pol-e Khomri)	1,536	208		27,742	296,943	1,442,236
17	Kunduz (Kunduz)	1,279	7		30,636	388,437	1,863,114
18	Samangan (Aybak)	2,912	266	760 (Northern)	11,846	53,134	416,541
19	Balkh (Mazar-e Shariff)	2,900	786		39,993	196,478	1,731,926
20	Jowzjan (Sheberghan)	2,230	43		16,449	75,809	906,725
21	Sar-i Pol (Sar-i Pol)	4,131	182		17,086	124,985	616,743
22	Faryab (Maymana)	4,679	252		30,450	182,703	1,350,830
23	Badghis (Qaleh-ye Now)	5,328	191	202 (Harirod-Murghab)	15,157	148,016	577,837
24	Herat (Herat)	28,539	18,473		28,250	382,275	2,013,776
25	Farah (Farah)	27,137	30,677		15,495	162,717	375,425
26	Ghownr (Chaghcharan)	10,539	84		21,109	232,387	406,450
27	Helmand (Lashkar Gah)	33,282	936		57,174	424,513	1,732,510
28	Nimruz (Zaranj)	22,618	10,725	270 (Helmand)	5,030	47,449	299,114
29	Kandahar (Kandahar)	31,079	117		36,973	406,866	1,111,055
30	Zabol (Qalat)	9,464	816		9,292	70,405	261,469
31	Uruzgan (Tarin Kowt)	6,530	495		10,712	159,410	584,592
32	Daikondi (Nili)	1,911	-		14,085	209,599	194,405
33	Panjshir (Bazarak)	510	-	-	16,863	237,601	616,076
34	Paktika (Sharan)	374	18	-	4,693	37,076	185,815
Total		222,849	66,726	23,310	819,396	7,367,282	27,083,408

Source: IT Power Consulting, Renewable Energy Development in Afghanistan” (September 2015- June 2017)

Energy access and energy security are two key requisites for the socio-economic growth of Afghan societies. Renewable energy resource with their enormous potential in Afghanistan, can successfully be harnessed to meet these two requirements.

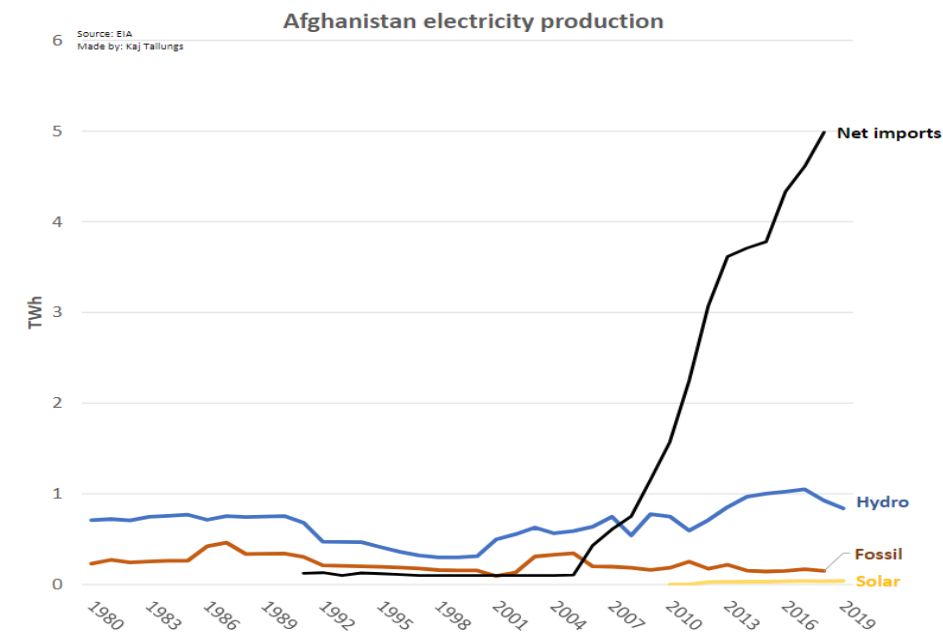


Figure 9: Afghanistan Electricity Production in TWh

Source: en.m.wikipedia.org/wiki/Afghanistan

Conclusion

As discussed, there are number of different alternative energy sources that are more than capable to replace currently dominant fossil fuels, of course given enough resources for their further development. The main advantage of these alternative energy sources is that they are ecologically acceptable and unlike fossil fuels do not release large quantities of CO₂ and other harmful greenhouse gases into the atmosphere, causing global warming and climate change. This is really the advantage that should drive development of different alternative energy technologies because the alternative is not sustainable, and the world will lose the battle against climate change. Even politicians are aware of this fact, and world looks ready to embrace new rules that should reduce current emission levels. For a country like Afghanistan, alternative energy could be an effective and sustainable path to energy self-sufficiency. Additionally, investment in this sector will have far reaching economic and social consequences, which can free Afghanistan out of its dependency on recurrent foreign aid.

References:

- 1-: *GWEC Globe Energy Council, Brussel, March 23,2021*
- 2- *U.S. Geological Survey/Hydroelectric Power Water Use (Source: Environment Canada)*
- 3- *University of Dayton eCommons, 1-2016, Analysis of Solar Photovoltaic and Wind Power Potential in Afghanistan (Ahmad Murtaza Ershad1, Robert J. Brech , Kevin Hallinan)*
- 4- *IT Power Consulting, Renewable Energy Development in Afghanistan” (September 2015- June 2017) page 21*
- 5- *Source:/en.m.wikipedia.org/wiki/Afghanistan*
- 6-*EPA web archive/ a student’s guide to global climate change*
- 7-*Journal of Renewable Energy/Volume 2017 |Article ID 5723152*
- 8-*GeothermalGenius*
- 9-*Encyclopedia of engineering Geology*
- 10-*Energy Efficiency and Renewable Energy /DOE/GO-102001-110*
- 11-*Ballotpedia, fossil fuels, public policy on Energy. Contributors: Scott Rasmussen*
- 12-*Energy Education, Hydroelectric Facility June 4,2018*

About the Author:

Ghulam M Fedá

Mr. Fedá has graduated from the University of Cincinnati with a master's degree in electrical and computer engineering. He has more than 35 years of leadership experience in industrial R&D projects, including but not limited to organizational efficiency. He has also served on the advisory boards of several state colleges and universities. He is co-founder and the president/CEO of Afghan Education for a Better Tomorrow, an organization at the forefront of developing and delivering educational resources to war-torn Afghanistan.



Mr. Fedá is the recipient of a patent award in "Glass Technology" and a Congressional award for his work in the implementation of innovative energy efficiency projects. He is a certified Lean Six Sigma Black Belt (CLSSBB).

Engineer Fedá is passionate about projects that make promising uses of technology to transform education (e.g., tele-education) primarily to foster deeper learning in underserved and under-resourced communities in parts of the world where the need is greatest.

An avid traveler, Mr. Fedá has written several articles on the architectural techniques of ancient civilizations and about Afghan history and culture. He is co-founder and the president/CEO of Afghan Education for a Better Tomorrow, an organization at the forefront of developing and delivering educational resources to war-torn Afghanistan.

Membership News



انجمن مهندسان و انجمنیان افغان
Society of Afghan Architects and Engineers
Kabul, Afghanistan

SAE New Members 2021

SAE is pleased to announce that many professional engineers and architects in the United States, Canada and Afghanistan have shown their interests becoming SAE team members since January 2021. SAE has received most of new members' membership applications and fees as required by the SAE bylaw. We welcome everybody and looking forward working together in future projects by providing professional services to Afghan Government and agencies. We publish new members' names and their short biography in each SAE quarterly eNewsletter as provided the information.

We welcome our newest high quality members and look forward to their contribution to the purpose and mission of the Society of Afghan Engineers as set forth in the bylaw of the society.

Our newest members in the US are **Najib Farooqi, Qaseem Naimi and Abdul Rauf Qayum**

New members from Afghanistan are **Hasibullah Zahid, Safi Saberi, Arif Asim, Kazim Naimi, Shar Hmadard, Ahmad Walid Howaida, Regina Maihan and Mohammad Azim Alizoi**

Membership Fees and Donations

We thankful most of the new members who already sent their membership applications, annual membership fees and donations. However, we have not yet received the 2021 annual membership fees of some active members.

Note: The membership fee for SAE members living in Afghanistan is **FREE**.

The SAE management and treasury department would like to remind all members living in the USA and other countries that the 2021 membership renewal and annual fee of \$60.00 are due. Your collectively membership fees would enable us to pay for some basic needed services.

Members, who have not sent their membership fees, please sent the due amount and donation to the SAE bank account.

SAE Bank Account Information:

Account Name: **Society of Afghan Engineers**

Bank Name: **BB&T**

Routing # **051404260**

Account # **0005139262982**

Bank Address:

7915 HENESKA LOOP

ALEXANDRIA, VA 22315-0000

SAE New Mailing Address

The SAE president, Najim Azadzo and the Afghan Academy President Mr. Hassan Shirdle, met in Virginia on January 7, 2021, to discuss the possibility of future activities between the two non-profit organizations. As part of mutual relationships, the Afghan Academy provides an office for SAE and sharing the mail address.

As of June 1, 2021, the Society of Afghan Engineers will have a new physical address. The new SAE address is:

**The Society of Afghan Engineers
6265 Franconia Road
Alexandria, VA 22310**

Note: The SAE Post Office Box address is not use anymore.

Please make changes to the address of the SAE in all correspondences including by not limited to the SAE Application Forms, Bylaws, and Stationeries.

Achievements and Awards

Profound Appreciations

Our Dear Colleague and one of the most valuable contributors to SAE, Professor Ghulam Mujtaba Khan, who founded the SAE eNewsletter in 2010 and served with honor as its Editor-in-Chief and the Subcommittee Chairperson resigned for health reasons. He served with unsurpassed dedication and integrity. During his tenure, the SAE eNewsletter was always promptly published on the first day of the month of each quarter and was never late.

As is his natural demeanor, he politely followed up with the contributors and ensured that the promised material was submitted in a timely manner. He edited every submitted article, responded to every email he received, and included those in the newsletter. Ustad graciously and painstakingly compiled and formatted the newsletter and released it promptly on the first day of the month of each quarter.



Professor Ghulam Mujtaba also served honorably as Chairman of the Board of Directors and several times as a member of the board of directors. He has been a patient and valuable consultant to everything related to the Society and has authored the Society's Manual and the SAE eNewsletter's guidelines. His hard work, commitment, dedication, and efforts in advancing the Society and particularly in the uninterrupted publication of the SAE eNewsletter will always be remembered and appreciated.

We extend our profound appreciations for his tireless service and pray for his speedy recovery.

The Society of Afghan Engineers (SAE)

The newsletter will inform their readers of winners of awards or any other successes of Afghan professionals and students, especially, their Society members. You can help the SAE eNewsletter editors by providing the news of the achievements, award winners, promotions, retirement, and any other success stories.

"Advise us of success stories or achievements of the Society members, any Afghan professionals, and Afghan students."

Announcements:

(1) The 2021 SAE General Assembly Meeting

BOD unanimously approved that the General Assembly meeting will be held in the month of **October, 2021** with a specific date to be determined and announced later.

(2) The 2021 SAE Membership Renewal

Dear Members of the Society:

The Management of the Society of Afghan Engineers (SAE) would like to remind all members that 2021 membership renewal and Annual fee of \$60 are due. Your membership fee collectively would enable us to pay for some basic needed services of the Society such as Website security monitoring, updating, and maintenance. Also, your membership fee would provide SAE's management, the financial means to organize and host events and seminars on relevant technical topics. The membership renewal application is attached to the Newsletter and also can be downloaded from our website at www.afghanengineers.org

Please visit the SAE Face book when you get the opportunity. We appreciate your kind attention to the membership due request.

Sincerely,

Najim M. Azadzoi, AIA, President

The Society of Afghan Engineers

(3) SAE eNewsletter Regional Representatives

The positions of the SAE eNewsletter Regional Representatives are open. Please let us know if you are interested to volunteer for one of these positions or if you want to nominate other qualified members to serve in these positions. The representatives will inform the newsletter Editorial Board of any technical news in their regions and contact authors for their contributions in the activities of newsletter. For additional information please send an email to SAE eNewsletter Editorial Board: Ghulam Mujtaba, E-Mail: mujtabaghulam@bellsouth.net; A. Wahed Hassani, Email: awhassani@gmail.com; A. Manan Khalid, E-Mail: manank10@gmail.com; and Hafizullah Wardak, Email: hwardak@comcast.net

The attached form includes application for the new members and membership renewal.

The application forms may be viewed at SAE website. The members are requested to take a few minutes of their time to inform the Society by sending their updated contact information.

The completed application/renewal forms may be mailed to:

THE SOCIETY OF AFGHAN ENGINEERS
6265 Franconia Road Alexandria, VA 22310

Thanks to members who have updated their membership renewal and have paid their annual membership fees.

Thanks for their generosity.

(4) Kabul Polytechnic University International Journal of Engineering and Technology

Congratulations to the Press Department of Kabul Polytechnic University for publication of International Journal of Engineering and Technology.

Assistant Professor, Dr. Ahmad Jawad Niazi is serving as the Editor-In-Chief of the Journal and he has submitted the following email to Mr. Azadzoi, the SAE President regarding the need for the reviewers of Journal's articles:

From: International Journal of Engineering & Technology <ijet@kpu.edu.af>
To: azadarch@aol.com
Sent: Mon, Apr 12, 2021 9:09 am
Subject: CALL FOR REVIEWER -

Reviewers of the Journal:

There are needs for editorial and technical related expert reviewers of the articles.

Details of the journal:

Publisher: Kabul Polytechnic University (Governmental)

Journal Language: English

Kabul Polytechnic University (KPU) International Journal of Engineering and Technology (KPU-iJET) is an open access peer-reviewed international forum for scientist and engineers involved in research to publish high quality and refereed papers. The Journal ensures a wide indexing policy to make published papers highly visible to the scientific community.

KPU-iJET publishes articles Quarterly describing contributions in the general field of engineering and technology.

KPU-iJET welcomes theoretical and practical papers aimed at innovation and further understanding of engineering and technology, including, but not restricted to, Civil and Industrial Engineering, Architectural Science, Urban Planning and Designing, Transportation Engineering, Construction Management, Chemical Technology, Petroleum Engineering, Water Resource and Environmental Engineering, Hydraulics Engineering, Electrical and Power Engineering, Auto Mechanic Engineering, Computer Science Engineering, Geomatics, General Science and Mining Engineering.

The details for the **reviewers' qualifications** as per regulations of Ministry of Higher Education of Afghanistan are as follow:

BENEFITS AND PRIVILEGES:

- Reviewer's name and affiliation will be listed on the Journal's website.
 - Reviewers get a certificate as Reviewer.
 - Reviewers can publish papers in Journal issues free of charge after getting acceptance.
 - Reviewers collaboration with the Journal gives an international academic/research profile.
-

REVIEWER CRITERIA

- Must have published articles as first author or correspondent author in peer-reviewed journals at a level commensurate with career paths in the past five years.
-
- Minimum education of having master's degree or equivalent, in the engineering and technology disciplines.
-

I would be grateful if you could share this email with all readers of the SAE eNewsletter. The interested reviewers can contact me by email or phone.

Assist. Prof. A.J. Niazi, PhD.

Kabul Polytechnic University (KPU)

KPU-International Journal of Engineering & Technology (KPU-iJET)

Editor-in-Chief KPU 5th Dist. Kabul City, Afghanistan.

Cell: +93-781-151-152

Email: ijet@kpu.edu.af

dr.ajniazi@gmail.com

Comments and Suggestions

The Editorial Board of the SAE eNewsletter has received comments and suggestions from the respected Society members and readers of the Newsletter after the distribution of the April 2021 issue of the newsletter.

The Editor has responded to the readers' comments and suggestions individually by emails upon their receipt; and would like to take this opportunity to thank them again for their comments, suggestions, and kind words. The comments and responses are included for information of all readers of the SAE eNewsletter.

The following are the comments/suggestions and Editor's responses:

1. Comment from Dr. S. Sharif Hossainy

Dear Ustad Mohtaram Eng. Saheb G.Mujtaba, Editor-In-Chief SAE eNewsletter, Asallam-o-Alaikom,

I have acknowledged receiving your email, regarding the second quarterly issue of the 2021 SAE eNewsletter .

Thank you, and all Editorial Board Members of the SAE eNewsletter, again for your kind efforts and volunteering.

This time, by writing this comment, I would like to thank you and Mohtaram Dr. Sahib Abdul Wahed Hassani for the excellent and comprehensive interview with Honorable Professor Abdul Salam Azimi, former Chief Justice of the Supreme Court of the Islamic Republic of Afghanistan and former President of Kabul University.

I know Pohand Sahib Azimi closely, while he was working as Chief Justice of the Supreme Court in our homeland of Afghanistan, I was working as a Deputy Minister of Urban Development and Housing, I must honestly admit that Pohand Sahib Azimi is one of the unique personalities of our country.

Honestly, Dr. Sahib Hassani has worked hard to prepare this incredibly beautiful interview.

Best Regards

Dr. Said Sharif HOSSAINY

E-mail: sharifhossainy@hotmail.com

Tel: + 604 477 1232

iPhone + (778) 840 8280

Editor's Response:

Dear Dr. Sahib Hossainy Walaikum Salam,

Thanks for your email and comment about Dr. Sahib Hassani's interview with Professor Abdul Salam Azimi Sahib, which was published in April 2021 issue of the SAE eNewsletter.

Thanks for your kind words about the activities of the Editorial Board of the SAE eNewsltter, especially Dr. Sahib Hassani's interview with Pohand Azimi Sahib. I agree that it was an exceptional article. His effort in performing the interview is greatly appreciated.

Best regards,
Ghulam Mujtaba,

Engineering/Technology News from Afghanistan

The construction of several national projects in Afghanistan are reported being complete and ready for usage. Few of these national projects and aviation news are as follows:

1. **Pashdan Dam in Herat Province:** The construction of the Pashdan dam is complete and has started water retaining process. Pashdan dam is in the Karokh district, 20 km east of the city of Herat. It has a capacity of retaining 40 million cubic meter water and generating 5 MW of electricity. It can irrigate 1300 hectar land. The Afghan government is funding this project.
2. **Shah-wa-Arus Dam in Kabul Province:** The construction of Shah-wa-Arus Dam is complete. Shah-wa-Arus dam is in Shaker Dara district north of Kabul. It took 11 years, with a budget of around \$50 million provided by the government of Afghanistan, to get complete. The dam has capacity of storing 9 million cubic meters of water in its reservoir that can produce 1.2 MW electricity. Water retention process has started.
3. **Khost International Airport:** The first international flight landed in the recently completed airport in the eastern province of Khost last week. An Ariana Afghan Airlines' flight landed at this airport arriving from Dubai, in the United Arab Emirates (UAE).
The completion of Khost International Airport has taken 10 years with a budget of \$11.5M provided by the government of Afghanistan. It is built to international standards.
4. **Direct Flight from Kabul to Washington DC:** Kam Air a private Afghan Airline for the first time in the aviation history of Afghanistan made a direct flight from Kabul to Washington DC, USA. The 14 hours non-stop flight (Flight distance of 6,938 miles or 11,166 km) was operated by Airbus A340 carrying President Mohammad Ashraf Ghani and several high Afghan delegations to Washington DC for a meeting with the U.S President, Joe Biden. The non-stop flight from Kabul to Washington DC was flown by Afghan pilots, Jamal Wardak and Waheed Zhuwandun.

THE SOCIETY OF AFGHAN ENGINEERS ORGANIZATION

SAE E-Executive Committee Members: **President:** Najim Azadzoi **Vice President:** Hamayon Ibrahim,
Treasurer: Mahmoud Samizay, **Secretary:** TBA **Manager:** TBA **Note:** TBA is acronym for (to be announced)

SAE Board of Directors-Officers: **Chairman:** A. Manan Khalid, M.S., P.E., LEED AP , **Vice-Chairman:** Jalal Masumi; **Executive Director:** Gul Afghan Saleh

Members SAE Board of Directors: Wahed Hassani, Sharif Hossainy, Manan Khalid, Jalal Masumi, Amanullah Mommandi, Hadi Rakin, Gul Afghan Saleh, Masood Sattari, and Zabi Zaca

SAE Past Presidents: Atiq Panjshiri, Ghulam Mujtaba, Abdul Hadi Rakin, M. Quasem Kadir, Abdul Hadi Rakin, Mohammed Hashim Rayek, Ahmad Wali Shairzay, Sohaila Sanie Shekib, and Malik Mortaza

SAE Chairpersons of Committees/Subcommittees:

- Hafizullah Wardak, Chairman -SAE eNewsletter Subcommittee,
- Wali Shairzay for Chairperson of the Capacity Building and Academic Development Subcommittee.
- Bashir Kazimee for the Chairperson of the Architecture and City Planning Subcommittees.
- Rafaat Ludin for the Chairperson of the SAE/AGA Liaison Subcommittee.
- Amin Mahmood, P.E., Chairperson of the SAE Student Subcommittee.
- Mohammad Jan Mehrzai, Chairperson of SAE Corporation Committee.

SAE Local Chapter Coordinators: A. Hamid Layan – Kabul, Afghanistan; M. Qaseem Naimi – Toronto, Canada; Najim Azadzoi – Massachusetts, Mohammad Najib Poya - Northern California; TBA - Southern California; A. Manan Khalid – New York and New Jersey, Amanullah Mommandi – Colorado; Atiq Panjshiri – Virginia and Washington DC

SAE eNewsletter Subcommittee: Subcommittee Chairman: Hafizullah Wardak

Members: A. Wahed Hassani, Ph.D.,P.E. ; A. Manan Khalid, M.S., P.E., LEED AP; Abdul Hamid Layan.

SAE eNewsletter Editorial Board: Editor –In –Chief: *Hafizullah Wardak*

Editorial Board Members: A. Wahed Hassani, Ph.D.,P.E. ; A. Manan Khalid, M.S., P.E., LEED AP; and Hafizullah Wardak.

SAE eNewsletter Regional Representatives: Abdul Hamid Layan -Kabul:

Subscribe/Unsubscribe: The subscription to the SAE eNewsletter is free. If you are not receiving the SAE eNewsletter directly and would like to subscribe, please send a note to: hwardak@comcast.net with the subject “Subscribe: SAE eNewsletter”. To unsubscribe, send a note with the subject “Unsubscribe: SAE eNewsletter”.

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THE SOCIETY OF AFGHAN ENGINEERS MEMBERSHIP APPLICATION

Full Name: _____

Address: _____

Phone: Home: _____ Office: _____

Email: _____

Degree Level: _____ Field of Expertise: _____ Years of Experience: _____

The active members of the Society of Afghan Engineers (SAE): Please mark (X) the appropriate box related to your address and other contact information.

- Yes, the above is a change in address or contact information.
- No, the above address is the same as recorded on the SAE's current membership list

Please mark (X) the appropriate box if you are submitting this application to join as a new member.

- A Regular member: I have at least four (4) years of architectural or engineering education.
- Associate member: I have at least two (2) years of architectural or engineering education

The SAE is a 501(c) (3) non-profit organization.

Amount of Annual 2021 Membership: \$60.00

Donation: _____

Total: _____

Suggestion and comments: _____

Please send your check or money order payable to the Society of Afghan Engineers.

THE SOCIETY OF AFGHAN ENGINEERS

6265 Franconia Road

Alexandria, VA 22310

SAE Bank Account Information:

Account Name: **Society of Afghan Engineers**

Bank Name: **BB&T**

Routing # **051404260**

Account # **0005139262982**

Bank Address:

7915 HENESKA LOOP

ALEXANDRIA, VA 22315-0000

MEMBERSHIP APPLICATION
(SAE Members Living in Afghanistan)

Full Name: _____

Address: _____

Occupation: _____

Place of Work: _____

Phone: Work: _____ WhatsApp: _____

Email: _____

Degree Level: _____ Field of Expertise: _____ Years of Experience: _____

The active members of the Society of Afghan Engineers (SAE): Please mark (X) the appropriate box related to your address and other contact information.

Yes, the above is a change in address or contact information.

No, the above address is the same as recorded on the SAE's current membership list

Please mark (X) the appropriate box if you are submitting this application to join as a new member.

A Regular member: I have at least four (4) years of architectural or engineering education.

Associate member: I have at least two (2) years of architectural or engineering education

The SAE is a 501(c) (3) non-profit organization.

Annual Membership: SAE Members Living inside Afghanistan are exempt of annual membership (**FREE Membership**).

Suggestion and comments:

THE SOCIETY OF AFGHAN ENGINEERS

6265 Franconia Road

Alexandria, VA 22310

USA

Website: www.afghanengineers.org