University Report on SDG 12

جامعة القصيم
Qassim University

SDGs
Sustainable Development Goals

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SDG12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Shaping Sustainable Consumption and Production: Qassim University's Contribution to SDG 12 in Saudi Arabia

Sustainable Development Goal 12 (SDG 12) emphasizes responsible consumption and production patterns to ensure the sustainable use of resources and reduce environmental impacts. This essay delves into Saudi Arabia's endeavors to achieve SDG 12, focusing on Qassim University's role in promoting responsible consumption and production practices.

SDG 12 in Saudi Arabia:

Saudi Arabia recognizes the significance of sustainable consumption and production in minimizing waste, conserving resources, and mitigating environmental degradation. The country has taken several initiatives aligned with SDG 12:

- Waste Management: Saudi Arabia has implemented waste management strategies to reduce the generation of waste and promote recycling and proper disposal practices.
- Circular Economy: The nation is exploring the concept of a circular economy, where resources are reused, recycled, or repurposed to minimize waste and resource depletion.
- Sustainable Agriculture: Saudi Arabia is investing in sustainable agricultural practices that optimize resource use, reduce chemical inputs, and promote eco-friendly farming methods.
- Energy Efficiency: The country is striving to improve energy efficiency across sectors, reducing consumption and associated environmental impacts.

Qassim University's Initiatives:

Qassim University actively contributes to SDG 12 by promoting responsible consumption and production practices:

- Sustainable Campus Operations: The university implements energy-efficient technologies, reduces water consumption, and practices waste segregation and recycling on campus, setting an example for responsible resource management.
- Curriculum Integration: Qassim University integrates sustainable consumption and production topics across disciplines. Students are educated about the environmental, social, and economic implications of their consumption choices.
- Research for Sustainability: Faculty and students engage in research related to sustainable consumption and production. This includes studies on waste reduction, renewable energy, and sustainable agriculture practices.
- Awareness Campaigns: The university conducts awareness campaigns and workshops to educate students and staff about responsible consumption habits, waste reduction, and sustainable lifestyles.
- Community Outreach: Qassim University collaborates with local communities to raise awareness about responsible consumption and production. It partners with NGOs, schools, and local authorities to promote sustainable practices.
- Innovation and Entrepreneurship: The university fosters innovation and entrepreneurship by supporting students' initiatives that contribute to responsible consumption and sustainable production.

Challenges and Future Prospects:

Achieving SDG 12 requires a shift in mindsets, consumer behavior, and industry practices. Challenges in Saudi Arabia might include addressing cultural norms, ensuring policy implementation, and tackling consumerism. However, with ongoing efforts, these challenges can be overcome.

Promoting responsible consumption and production is essential for the sustainable future of Saudi Arabia. By adhering to SDG 12, the country aims to reduce its ecological footprint and foster a greener economy. Qassim University, through its holistic approach encompassing education, research, and community engagement, plays a pivotal role in shaping responsible individuals who contribute to sustainable consumption and production patterns. Through these collaborative efforts, Saudi Arabia and Qassim University contribute to a more sustainable and balanced world for present and future generations.

12.2 Operations

Qassim University has launched several projects and initiatives to boost waste disposal activities, to improve recycling, reuse and energy recovery processes, and to operationalize the concept of circular economy. QU consume vital efforts on these issues to maintain Kingdom's natural resources.

12.2.4 Does your university as a body have policies around use minimisation - Of plastic?

Statistics about Plastic Usage

https://twitter.com/QassimUniv1?ref_src=twsrc%5Etfw%7Ctwcamp%5Eembeddedtimeline%7Ctwterm%5Escreen-name%3AQassimUniv1%7Ctwcon%5Es2 [1]

Qassim University announces the opening of applications for the "Promoting Innovation 2" scholarship.

https://www.sayidaty.net/node/1423111/%D8%A8%D9%84%D8%B3/%D8%A3%D8%AE%D8%A8%D8%A7%D8%B1/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A7%D9%84%D9%82%D8%B5%D9%8A%D9%85-%D8%AA%D8%B9%D9%84%D9%86-%D9%81%D8%AA%D8%AD-%D8%A8%D8%A7%D8%A8-%D8%A7%D9%84%D8%AA%D9%82%D8%AF%D9%8A%D9%85-%D8%B9%D9%84%D9%89-%D9%85%D9%86%D8%AD%D8%A9-%D8%AA%D8%B9%D8%B2%D9%8A%D8%B2-%D8%A7%D9%84%D8%A7%D8%A8%D8%AA%D9%83%D8%A7%D8%B1-2-%D8%A7%D9%84%D8%B4%D8%B1%D9%88%D8%B7-%D9%88%D8%B1%D8%A7%D8%A8%D8%B7 [2]

The Deanship of Scientific Research atQassim University announced on Thursday the opening of applications for the "Promoting Innovation 2" grant, in cooperation with the Center for Innovation and Intellectual Property.

The Deanship of Scientific Research at the University, through its account on the social networking site "Twitter", said that the grant "Promoting Innovation 2" aims to activate the research and innovation system, and direct scientific research towards building a knowledge economy, in addition to transforming research ideas into economic values and linking them to national development indicators.

Link and date of application for the "Promoting Innovation 2" scholarship

Applications for the "Promoting Innovation 2" scholarship will begin on Thursday and continue until mid-September, via the following link: https://forms.qu.edu.sa/srd/innovation-grant-request/

Conditions for applying for the "Promoting Innovation 2" scholarship

The Deanship of Scientific Research explained that the conditions for applying for the grant include the following: "The principal investigator must be a faculty member at the university, and the proposal has not previously submitted a request for support from another side and will not be submitted for support to another party until after approval, and the main researcher or a member of the research team should not be in trouble in previous projects in accordance with the regulations and laws followed in the Deanship of Scientific Research."

She noted that priority in support would be for proposals that fell within the following areas: national research priority areas (energy and water, mining and minerals, education and training, technology, health care and life sciences, tourism, heritage and recreation, chemicals and manufacturing, industry and manufacturing, transport and logistics), and areas of sustainable development (environmentally friendly alternative industry, green buildings, water rationing in the agricultural sector, organic agriculture and integrated agriculture, Internet of Things and remote sensors in resources). Natural and agricultural production, waste recycling, handling medical and hazardous waste).

The University Launches an Awareness Campaign by Publishing Posters and on Containers Compressors

https://www.qu.edu.sa/content/news/1524 [3]

The University, represented by the College of Engineering, on Thursday, 3/3/1441 AH, held an awareness campaign at the level of the Qassim region by placing posters with awareness phrases about waste on cleaning carts, as part of the preparations for the first international conference on the sustainability of natural resources "Sustainable management of solid waste", which will be organized by the University next Tuesday and Wednesday.

Awareness posters were placed on the 30 mobile vehicles "compressors" inside and outside the university city, and these posters contained a number of awareness and guidance phrases, including: "The earth does not have a tongue that speaks environmental injustice. Be her tongue," and "Sustainability is meeting our own needs. And who comes after us", "Keep the place to stay for your children, be environmentally friendly, your positive environmental behavior is a charity from you to yourself", "Desertification is the cancer of the environment; contribute to its treatment, awareness and behavior", "Balance by consuming resources gives the environment opportunities for sustainability and growth", and other awareness phrases.

Through this conference, the University seeks to contribute to the preparation of a comprehensive vision on solid waste management at the national and global level, the demonstration of the magnitude of natural and economic resources wasted and the estimation of the environmental cost of waste, with the participation of a number of speakers who will review the latest developments of modern science in this field, as well as discuss many relevant research and scientific papers.

The conference includes a number of themes, including: sustainable practices of waste management at all stages "from generation and separation from the source, collection, transportation, conversion, and ending with disposal", and at all levels "planning, management, operation, maintenance, and investment", while the second axis deals with how to manage food loss and food waste at the level of production and consumption, the third axis discusses the topic of investment in waste recycling and manufacturing industries, while the fourth axis deals with the rational management of waste from a legal and cultural perspective.

Environmental and Health Hazards Unit

https://hr.qu.edu.sa/laravel-filemanager/files/shares/pdf/Policies/En/13.pdf [4]

Specialized in the safety management of medical and health hazards, hazardous chemicals, biological, and radiological materials, infrastructure and operational risks, facility

maintenance and project management, and may include:

• Chemical spills in laboratories.

• Radioactive material leakage.

• Hazardous and radioactive and biological waste.

• Project disruption.

• Cracking and cracking of buildings.

• Waterproofing or sewage.

• Disconnection of the air condition.

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• The dangers of electric elevators.

• The dangers of electrical connections and installations.

• Suffocations.

• Infectious diseases and epidemics.

• Food poisoning.

• Chronic diseases.

• Medical mistakes.

• Medication errors.

Hazardous Waste Disposal Mechanisms

https://hr.qu.edu.sa/laravel-filemanager/files/shares/pdf/Policies/En/13.pdf [4]

With the increasing awareness and understanding of the environmental and health of the seriousness of medical and chemical waste generated by health care institutions and laboratories on the environment and human beings, the University, represented in the management of projects and maintenance, applies safe mechanisms for the disposal of hazardous waste. This waste coming from the use of laboratories and health units of the university. The awareness takes into consideration the people surrounded by medical waste who are at risk of injury and persons abroad responsible for the transport and disposal of such waste. Where the project and maintenance management contracts with a number of companies specialized in hazardous waste of all kinds, whether medical or non-medical, and in the contracts concluded with those companies mechanisms used in how to deal with the waste and the disposal process of these hazardous waste. The most important processes followed is the use of incinerators, ovens, sterilization and others.

The university also applies specific mechanisms to prevent this danger through applying a classification system for medical and non-medical waste, the use of bags dedicated to each type of waste and oblige all workers (males/females) to put bags of appropriate weight in the garbage baskets within the scientific departments of the university and avoid the transfer of waste bags by hand through the corridors in order for them not to get ripped. The bags have to be transferred normally in small vehicles designated for this purpose to the place of temporary collection. As well as the use of small containers or plastic containers with a sign of hazardous biological waste and collect the remains of needles and injections immediately after use. Such needles are not allowed to be thrown directly

in garbage bags they should be sterilized and disposed inside the containers. Those containers should not be filled with more than three-quarters of them.

Scientific sessions of the first International Conference on Natural Resource Sustainability: Sustainable Solid Waste Management concludes at the University

https://www.qu.edu.sa/content/news/1552 [5]

The University, represented by the College of Engineering, concluded on Wednesday, 9/3/1441 AH, the scientific sessions of the First International Conference on the Sustainability of Natural Resources: Sustainable Management of Solid Waste, which was organized by the College over two days in the University City, under the patronage of His Excellency Prof. Dr. Abdulrahman bin Hamad Al-Daoud, Rector of the University, and with the participation of 36 speakers in all axes of this scientific meeting, which aims to discuss the necessary measures to transform into sustainable solid waste systems, where the specialized scientific sessions of the conference discussed a number of the latest scientific papers and researches. And studies related to all the themes of the conference and how to benefit from them.

Eng. Mohammed bin Mazzam Al-Mutairi, Executive Master in Municipal Policy and Urban Development at King Saud University, and Dr. Waleed bin Saad Al-Zamil, Assistant Professor at the Department of Urban Planning at King Saud University, presented a research paper on the mechanisms of rationalizing food consumption for Saudi families as an entry point for food waste management in the Kingdom, which discussed the pursuit of the national vision to improve the urban structure of Saudi cities and improve the quality of municipal services through the development of management policies and control of urban development, where the management of municipal solid waste is one of the challenges Facing the administrations of major cities in Saudi Arabia, social transformations and economic and population growth over the past three decades have affected the food consumption patterns of Saudi households, accompanied by a rise in the volume of waste generated.

A research paper on effective waste management through the promotion of reusable packaging, presented by Dr. Ahmed bin Babader, consultant at Responsible Performance Company (SARP), during which he spoke that waste is an old dilemma for the environment and societies, where it is necessary to deal with packaging waste as part of all waste, this paper aimed to propose an integrated way to reduce the amount of packaging waste by promoting reusable packaging in societies and industries, and a framework was designed. Conceptual through proper literature review.

The scientific sessions also discussed a scientific paper entitled "A Pyramidal Strategic Approach to Food Loss and Waste Management to Transform the Kingdom into a Circular Economy", presented by Dr. Noah Moaz from the Faculty of Engineering at Imam Abdulrahman Bin Faisal University, who said that the concept of bioeconomics in recent decades is a global trend that applies to an appropriate and sustainable approach to solid waste management, with a special focus on organic and food components, noting that food losses and waste management globally have been a problem that arises Significant challenges to sustainable development in many countries, particularly in Saudi Arabia, a large number of social and economic factors have been largely responsible for the enormous volume of losses caused by food and waste (FLW) posing a challenge to achieving the Sustainable Development Goals.

A research paper entitled "Environmental and Financial Analysis of Waste Management Options in Madinah", presented by Dr. Abdul Qader, Associate Professor at the Faculty of Engineering at the Islamic University of Madinah, in which he addressed solid waste management options that require the integration of economic and environmental principles in order to choose the best way to manage, was also reviewed, where this study analyzed how solid waste (MSW) is managed, formed and collected in the Medina region, as one of the largest cities in the Kingdom of Saudi Arabia with the aim of finding Management method at the lowest cost.

Dr. Mohammad Sharjah, Assistant Professor at the Department of Civil Engineering, Faculty of Engineering and Technology, Alegra Muslim University, Alegarh, India, Ashray Saxena, Master's Student, Department of Civil Engineering, Indian Institute of Technology, and Sarosh Suleiman, University Student, Department of Civil Engineering, Faculty of Engineering and Technology, University of Hannover, presented a paper on the age-dependent mechanical properties of recycled assembly concrete containing industrial waste: A clean and sustainable solution, in which they stressed that concrete has become one of the most consumed materials after water due to its widespread use in the construction industry globally and is estimated at about 25 billion tons of concrete used annually in construction, in India alone generates 165-175 million waste demolitions per year, most of this waste goes to landfills and creates problems in their disposal, and the use of recycled rubble in concrete construction can lead to the saving of natural resources, The use of recycled gross and industrial waste in concrete construction not only solves disposal problems, but also solves the environmental problems associated with them.

A scientific paper entitled Assessment of the Economic Efficiency of Canadian Solid Waste Management Systems, presented by Dr. Ghulam Kabir, Assistant Professor of Industrial Systems Engineering at the University of Regina, Canada, and Dr. Kelvin T.W.J., Professor of Ecosystem Engineering at the University of Regina, Canada, who spoke about sustainable and integrated solid waste management which has become a critical issue in societies around the world due to rapid urbanization and population growth, aimed to evaluate the performance of non-hazardous waste diversion systems while considering the outputs. Economic, expenses, profits and business volumes for both public and private waste services.

A paper entitled Mandatory Aspects of Sustainable Waste Management in the MENA Region, presented by Aber Mohammed, Safwat Hamidat, Abdullah Nassour, Wassim Shaaban and Michael Niels, addressed solid waste management (SWM) as one of the main challenges facing developing countries, where the provision of adequate waste management services is critical due to the potential impact on public health and the environment. With a number of major obstacles facing municipal solid waste management in the MENA region, including population growth in urban centers, lack of planning, lack of proper disposal, limited collection service, use of inappropriate technology and inadequate financing.

Dr. Faisal Ahmed Asra, Assistant Professor at the Faculty of Engineering and Islamic Architecture at um Al-Qura University, presented a paper entitled Solid Waste Characterization in Makkah, in which he said that a characterization of the current municipal solid waste in Makkah has been carried out to assess its suitability for various waste treatment techniques, explaining that the dominance of open dumping and the absence of reliable data on waste generation and characterization have created a difficult situation for local urban bodies responsible for managing solid waste generated in the city, and in this study was analyzed Municipal solid waste samples collected from the streets of different locations at different times throughout the year to know their physical properties, whose physical characteristics indicated that municipal solid waste is rich in biodegradable materials in the form of,

on average, organic matter by 47%, plastic by 25%, paper and cardboard by 20%, metals by 4%, glass by 2%, textiles by 1%, and wood by 1%.

As well as a study on the characteristics of household waste in Buraidah city: the first entrance to good waste management, by Prof. Ibrahim bin Saleh Al-Rabadi, Director of the Center for Sustainable Development at the University, and Dr. Adel Al-Tayeb Abdul Nour, Assistant Professor at the Department of Plant Production at the Faculty of Agriculture and Veterinary Medicine at the University, which discussed solid household waste, which varies in its characteristics and components according to many circumstances, including the number of family members, the nature of consumption, the size of the house and the level of income, and concluded to determine the fingerprint of waste.

A paper on assessing the potential of natural zeolite and biocharcoal in the bioconversion of the organic part of solid waste into organic fertilizers was presented, and the research dealt with the assessment of the addition of natural zeolites found in Saudi Arabia and waste weed waste and biocharcoal (10 and 15%) to food waste for the purpose of compost production, and the quality of manure was evaluated in terms of typical stability indicators such as moisture contents, degradation of organic matter, change in total carbon and difference in nitrogen components, and the results showed that both modifications had Positive effect on the fertilizer of food waste in terms of all ripening criteria.

Radwan Al-Masri, Professor of Engineering at the University, Hussein Haidar, Assistant Professor at the Faculty of Engineering at the University, Mohammed Raad, and Aber Mohammed from the Faculty of Mechanical and Electrical Engineering at Al-Baath University in Syria, presented a scientific paper on the evaluation of a hybrid solar thermal energy and biomass system as a source of hot water supply in light of the high per capita electricity consumption in Saudi Arabia from 6.11 MW in 2004 to 9.41 MW in 2014.

A research paper on sludge-based activated carbon production: a study of characterization, optimization and absorption, presented by Mohammed Daoud and Mohammed Al-Malak from the Department of Civil and Environmental Engineering at King Fahd University of Petroleum and Minerals, was also reviewed, and the paper discussed the use of sewage sludge to produce activated carbon using the chemical activation method with various chemical agents that include, zinc chloride, potassium hydroxide and phosphoric acid.

As well as a paper on the use of organic solid waste in the production of activated carbon and its application in the absorption of dyes and heavy metals, presented by Abdullah Ba Saleh, and Mohammed Al-Malak from the Department of Civil and Environmental Engineering at King Fahd University of Petroleum and Minerals, the paper addressed the problem of producing large quantities of solid waste (MSW) annually, where a total of local solid waste of about 17 million metric tons per year, containing two main components; plastic and organic waste, organic waste accounts for about 79%, and food waste constitutes the main source For the organic part, a common practice of organic solid waste management is to combustion or dumping at landfill sites causing many environmental problems, so converting it into activated carbon in an alternative way can be practical.

Through the Sustainable Approaches to Restoring Clean, Renewable Energy from Solid Waste presented by Aruba Waqar, Lecturer at the Department of Civil Engineering at the Capital University of Science and Technology in Islamabad, and Ashtiaq Hassan, Assistant Professor at the Department of Civil Engineering at Capital University of Science and Technology in Islamabad, on integrated solid waste management and the need to mitigate the harmful environmental burden and associated social

and health risks, waste reduction, recycling and recovery are key components of integrated waste management. Solid.

A research paper on the treatment of solid waste by anaerobic decomposition (digestion) for the production of compost and biogas, which talked about that local (municipal) solid waste such as food waste, livestock dung and sewage sludge that require proper and environmentally acceptable management before final disposal, are a major source of air and water pollution, and we can invest the energy generated as biogas and produce high-quality fertilizer, the aim of this study was to study the feasibility of producing biogas and methane from food waste and livestock dung in The first and second experiment is the production of biogas and methane from sludge and cattle dung by means of a common decomposition (digestion) system under moderate climatic conditions.

A scientific paper on the impact of rubber scrap recycling on sustainable development and environmental improvement was discussed, which explained that waste management is a major concern in improving the environment and sustainable development of any country, however, critics of waste management are moving towards the fact that recycling may have little benefit to the environment, noting that some amount of energy may be used to obtain materials to be recycled more than the recycling process provides, despite the fact that Waste from old rubber, especially old tires (scrap), is beginning to appear in many waste streams, but the available data show the reasonable environmental performance of recycling in relation to energy demand, depletion of natural resources, and economic perspective.

A geophysical study on the impact of the Me'aisem landfill on groundwater was also presented to develop the options available for the construction of its engineering cover, presented by Turki Mesfer Al-Aboud, Associate Professor at the Faculty of Engineering and Islamic Architecture, Department of Civil Engineering, um Al-Qura University, who spoke as in order to preserve the environment, protect groundwater and manage waste, the Municipality of the Holy Capital intends to cover the old landfill in the Me'aisem area and close it with an engineering cover that prevents rainwater from reaching the subsoil of the landfill, mixing with its components, and affecting the quality of groundwater in the Valleys near it. To preserve the aerobic environment, it plans to establish a gas collection network and consider the possibility of using it for energy production. Therefore, this research is concerned with studying the impact of the landfill on the groundwater in the region and identifying the extent to which the pollution area extends in the valleys near it.

The University Announces the Timeline of the Conference on Sustainable Management of Natural Resources and Solid Waste

https://www.qu.edu.sa/content/news/1238 [6]

The University announced the timetable of the work of the «First International Conference on the Sustainability of Natural Resources: Sustainable Management of Solid Waste», which is organized by the Faculty of Engineering at the University, during the period from 6-9 Rabi Al-Awwal of next year 1441 AH, with the aim of contributing to the preparation of a vision on the sustainable management of solid waste at the national and global level, indicating the volume of natural and economic resources wasted and estimating the environmental cost of waste.

Where the reception of research abstracts wishing to participate in the work of the conference will begin on the 26th of Shaaban, through registration on the university's website at the link: https://events.qu.edu.sa/ sdc2019/, and on the tenth of next Ramadan the acceptance of abstracts will be announced, provided that the door for early registration will be closed on 12 Shawwal 1440 AH, and the reception of full research papers will begin on the fourth of Dhu al-Hijjah, and the announcement of their acceptance on 16 Muharram 1441 AH, This is before the conference is held in the month of Rabi I.

For his part, Prof. Dr. Khalid bin Bani Al-Harbi, Vice President for Development and Quality and Chairman of the Organizing Committee, stressed that this international conference came at this time in line with the Kingdom's vision, which promotes the concepts of sustainability, especially with natural resources to preserve them, and invest them in the right way that ensures their sustainability and survival for future generations, God willing, pointing out that the rates of per capita consumption globally in general, and in the Kingdom in particular for some goods and services come within the highest rates, which in turn generates a huge volume of Solid waste, which in turn drains these important resources.

Al-Harbi added that the concept of sustainable development comes to frame this handling of resources in a moderate way to ensure their sustainability and preservation for future generations, hence the importance of applying sustainable management of solid waste to achieve the optimal exploitation of natural resources and make the most of them, and from this point of view comes the importance of encouraging these initiatives aimed at improving sustainable waste management, optimizing the application of modern technologies in this field, and raising community awareness of the nature of risks resulting from their mismanagement.

The Chairman of the Organizing Committee of the Conference believes that raising the level of performance in waste management achieves the sustainability of natural resources and the optimal exploitation of them, and reduce their depletion, stressing the importance of holding such specialized scientific meetings aimed at highlighting everything new in this vital field, where Qassim University sensed the importance of this topic and adopted the establishment of the first international conference on the sustainability of natural resources and highlight the sustainable management of

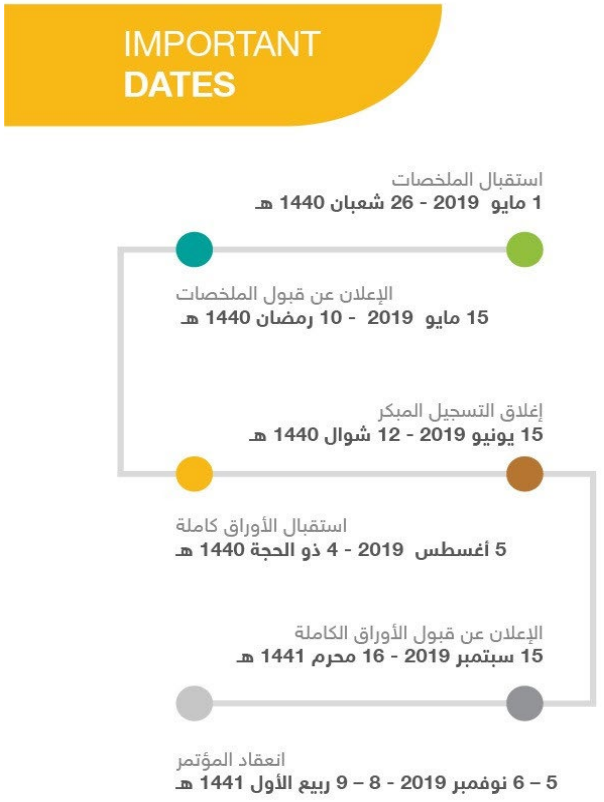
solid waste from the standpoint of its leading societal role to contribute to raising the efficiency of natural resources management to achieve Optimal community development.

The conference will discuss the necessary measures to transform into sustainable food systems in which waste is reduced and food waste is reduced, stimulate integration between partners from different disciplines to manage waste in a sustainable manner, in addition to studying opportunities to stimulate investment in the development of waste recycling technologies in the Kingdom, studying the obstacles to investment in the field of waste manufacturing industries, as well as building and establishing a system of awareness, education and environmental training with the participation of individuals and communities, and linking research and studies in Saudi and international universities to the requirements of development and facing challenges. National.

The conference includes several axes, where the first axis deals with sustainable practices of waste management at all stages "from generation and separation from the source, collection, transportation, conversion, and ending with disposal", and at all levels "planning, management, operation, maintenance, and investment", while the second axis deals with how to manage food loss and food waste at the level of production and consumption, the third axis discusses the topic of investment in waste recycling and manufacturing industries, while the fourth axis deals with the rational management of waste from a legal and cultural perspective.

The University sought to organize this conference due to the high rates of per capita consumption in the Kingdom of Saudi Arabia of some goods and services, which come within the highest rates globally, which increased the volume of solid waste generated, and the natural resources in the Kingdom are exposed to depletion and deterioration due to high consumption rates that contradict the application of the concepts of sustainable development, in addition to the need to transfer and localize modern global technologies in the field of waste management in accordance with the conditions of the Kingdom, and the need to address the challenges caused by waste, which is the responsibility of each A member of the community.

The University also aims to raise community awareness of the risks posed by waste generation, encourage initiatives aimed at improving sustainable waste management, and provide an opportunity to exchange experiences and knowledge among specialists in waste management and sustainable development.


IMPORTANT
DATES
استقبال الملخصات
1 مايو 2019 - 26 شعبان 1440 هـ
الإعلان عن قبول الملخصات
15 مايو 2019 - 10 رمضان 1440 هـ
إغلاق التسجيل المبكر
15 يونيو 2019 - 12 شوال 1440 هـ
استقبال الأوراق كاملة
5 أغسطس 2019 - 4 ذو الحجة 1440 هـ
الإعلان عن قبول الأوراق الكاملة
15 سبتمبر 2019 - 16 محرم 1441 هـ
انعقاد المؤتمر
5 – 6 نوفمبر 2019 - 8 – 9 ربيع الأول 1441 هـ


المـؤتـمـر الدولـي الأول
لاستدامة الموارد الطبيعية
الإدارة المستدامة للنفايات الصلبة
خلال الفترة
5 – 6 نوفمبر 2019
8 – 9 ربيع الأول 1441

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[2] [Online]. Available: https://www.sayidaty.net/node/1423111/%D8%A8%D9%84%D8%B3/%D8%A3%D8%AE%D8%A8%D8%A7%D8%B1/%D8%AC%D8%A7%D9%85%D8%B9%D8%A9-%D8%A7%D9%84%D9%82%D8%B5%D9%8A%D9%85-%D8%AA%D8%B9%D9%84%D9%86-%D9%81%D8%AA%D8%AD-%D8%A8%D8%A7%D8%A8-%D8%A7%D9%84%D8%AA%D9%82%D8%AF%D9%8A.

[3] [Online]. Available: https://www.qu.edu.sa/content/news/1524.

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[6] [Online]. Available: https://www.qu.edu.sa/content/news/1238.