KUWAIT UNIVERSITY

Integrating SDGs in Education, Research, and Practice at Kuwait University

Success Stories in Incorporating SDGs in Education, Research, and Practices
ANDD Third Annual Meeting – Qatar University

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- SDG 6 – Clean Water and Sanitation
- SDG 7 – Affordable and Clean Energy
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Kuwait Vision for 2035

KU is committed to integrating SDGs into its campus operations, student engagement, research and community activities.

- **Kuwait University (KU) is a national pioneering university with outstanding qualifications in higher education and scientific research.**

- KU is an essential partner in achieving the development plan of **Kuwait Vision 2035**.
- KU cooperated with different sectors to adopt the SDGs in line with the seven pillars of “New Kuwait”:
  - Global positioning
  - High quality health care
  - Creative human capital
  - Sustainable living environment
  - Developed infrastructure
  - Sustainable diversified economy
  - Effective government administration

KU Strategic Plan

- Kuwait University is eager to provide a pioneering educational experience in which the strategic goals of the state and its future aspirations are embodied in building an informed and responsible generation.
- Through various and competitive scientific programs, the university encourages intellectual creativity and the creation of developmental skills across many and varied fields and experiences.

VISION

Kuwait University is a center for innovation with an international reputation for excellence

MISSION

Kuwait University is a major source of human capital that initiate the highest quality of knowledge - based economy, through embracing innovative learning and research, and contributing to the community by addressing its most contemporary challenges

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KU Strategic Plan

- Main Directions

First objective

Encourage a healthy sustainable environment

Goal 1

Develop ways of enhancing KU contribution to sustainability

Goal 2

Sustainable design and construction for KU facilities

Second objective

Establish a sustainable institutional system

Goal 1

Build a complete institutional system that supports administrative sustainability

Goal 2

Maintain financial and economic sustainability systems

Innovation

Stimulating and embracing innovative initiatives from the entire KU community (students – academic staff- administrative staff) are the key for new ideas that can be translated into discoveries and inventions

Quality

Kuwait University is committed to setting up the highest- quality criteria in all practices to meet international standards of excellence in education, research and community services

Global Visibility

Building international reputation for Kuwait University is fundamental to becoming a globally recognized institution. This strategy is adopted in the plan to actively build Kuwait university's name and ensure it is synonymous worldwide.

Sustainability

Kuwait University aims to inhibit sustainability in its systems and practices by fully understanding and building a sustainable growth and development through an effective utilization of all the available resources, to preserve them and ensure its continuation for future generations

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SDGs in Kuwait University

- Kuwait University Administration perspective
  - Strategic plan
  - Quality assurance
  - Word University Rankings
  - Accreditation
- Colleges and Academic Departments perspective
  - Academic courses
  - Students' activities
  - Research projects

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Sabah Al-Salem University City - Kuwait University

- Sabah Al-Salem University City Kuwait University

- 557 Hectares of Land
- 40,000 Students and Faculty
- 50,000 Population
- Close to 100 Buildings and 100 Parking Lots
- World Class Learning Facilities

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KUWAIT UNIVERSITY

Sabah Al-Salem University City - Kuwait University

- Sabah Al-Salem University City Kuwait University

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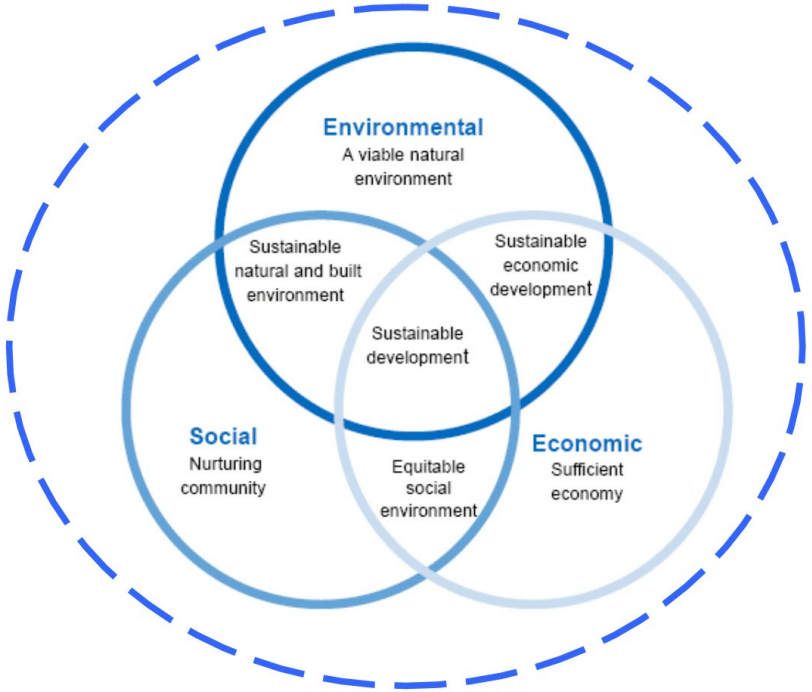
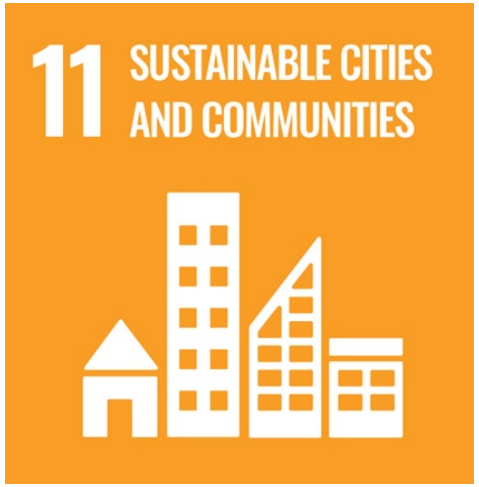
Sabah Al-Salem University City - Kuwait University

- Sustainability Aims
  - Promote sustainable practices in campus development with sensitivity to the natural environment
  - Promote sustainable practices in campus operations: including recycling, energy conservation, mass transportation systems, water conservations
  - Encourage sustainability initiatives: by education and awareness programs, in use of water and energy



New Campus

- Sabah Al-Salem University City Kuwait University
  - Environmental Sustainability Objectives
    - Water
    - Global Atmospheric Impacts and Local Air Quality
    - Energy
    - Outdoor Environments
    - Indoor Environments
    - Land Use and Ecology
    - Materials and Waste



SDGs in Academic Courses

College of Engineering & Petroleum

Engineering Design Projects

Industry and Building:

It focuses on the innovation in the field of Industrial Revolution, by increasing the industry processes , the building materials and their methods.

Clean energy and natural resources:

Having plenty of Innovative Engineering Solutions, towards a clean renewable energy and to create methods of achieving the maximum benefits from the natural resources.

Infrastructure:

To achieve the sustainability, related to the infrastructure, roads, transportation, facilities and basic services, integrated with all the details of life.

The technical and digital sciences & communications:

The digital computing techniques and safe linking to communication networks and establishing a safe environment in the data centers and digital applications, serving the life.

Artificial intelligence and robots:

Perceptual techniques of Artificial Intelligence for increasing the welfare and living level, in order to reach to an organized mechanism through the developed robots.

Mechanization and Engineering Productivity:

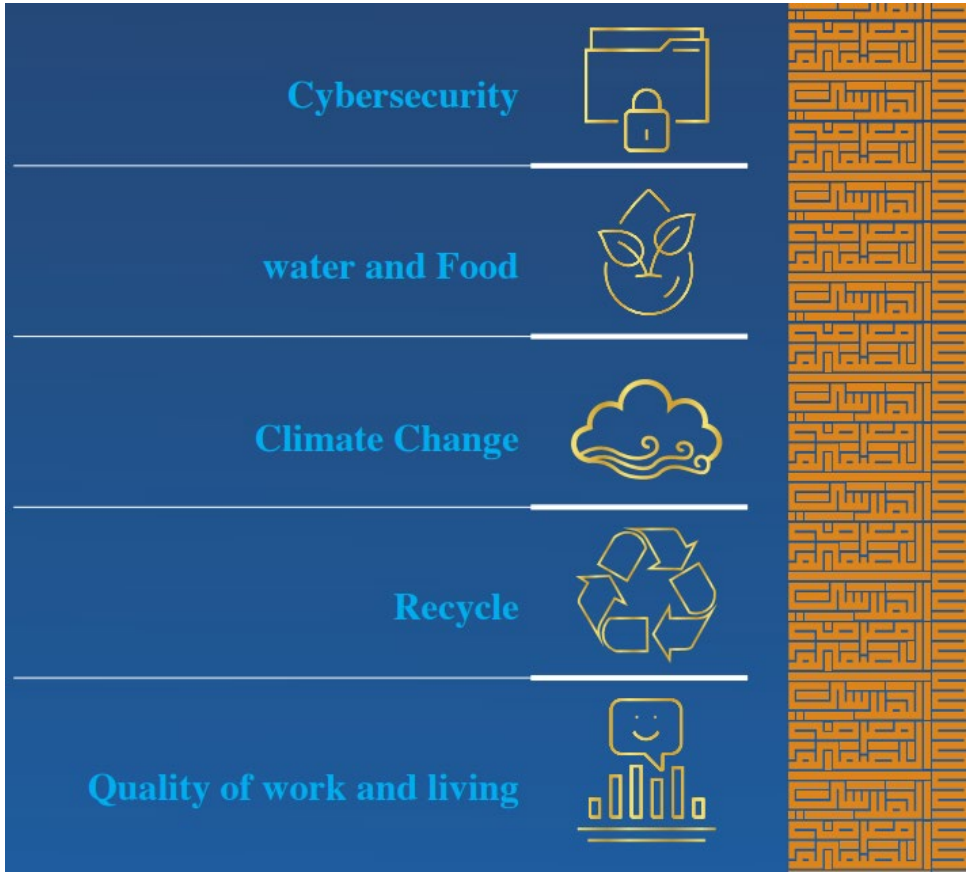
To produce new scene and build a distinct and intelligent future, through the accurate mechanizations and machines.

The sustainable environment:

To use the processes for a achieving a distinguished living for the human being in conformity with the sustainability, by engineering solutions and restoring the original relationship between the man and the nature, seeking for the good health and welfare.

College of Engineering & Petroleum

Priorities



Engineering Design Projects

Chemical

Chemical

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Kuwait Foundation for the Advancement of Sciences

Polyeyhylene

Eng. Dana saif Alotaibi
Eng. Rabab Ali Alsayegh
Eng. Fatma yousef Almuhanna

Supervised by
Dr. Sami Ali
Dr. Hala Alfulaij

Polyethylene is a very environmentally friendly material. It is manufactured by fermenting algae and extracting glucose from it. It can be combined with food residues such as date kernels to produce a polymer. It is recycled and burned without any residue. It is the most widely used type of plastic in the world, used in everything from clear food wrap and shopping bags to detergent bottles and car fuel tanks.

البولي إيثيلين مادة صديقة للبيئة للغاية ويتم تصنيعها عن طريق تخمير الطحالب واستخراج الجلكوز منه ويمكن دمجه مع بقايا الطعام كنواة التمر لانتاج البولمير، ويعاد تدويره ويحترق بدون أي بقايا. إنه أكثر أنواع البلاستيك استخدامًا في العالم ، حيث يُستخدم في منتجات كثيرة منها أغلفة الطعام الشفافة وأكياس التسوق إلى زجاجات المنظفات وخزانات وقود السيارات.

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Chemical

Chemical

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Kuwait Foundation for the Advancement of Sciences

Chemical

MED-ERGY

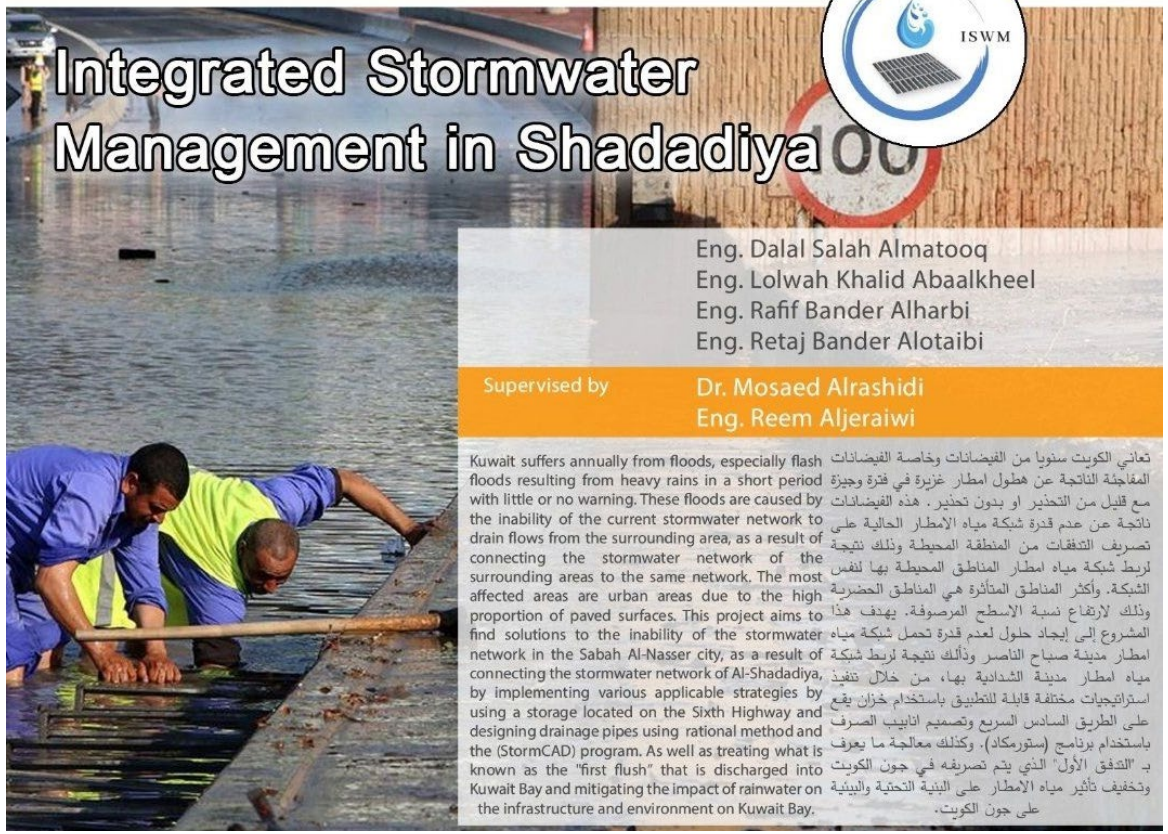
Eng. Duha Boland
Eng. Sara Al-Ajmi
Eng. Fay Mane
Eng. Rema Al-Mubarak

Supervised by
Prof. Amir Al-Haddad
Dr. Ghanima Al-Sharrah

The percentage of medical waste in Kuwait increases annually due to the increase in health precautions. Medical waste in Kuwait is disposed of by incineration or landfill, which leads to air and soil pollution. This project aims to convert medical waste into energy sources, including synthetic natural gas and methanol instead of burning them.

تـزداد نسـبة المخلفـات الطبيـة بالكويـت سـنوياً نظـراً لزيـادة الاحتـرازات الصحية.يتـم التخلـص مـن المخلفـات الطبيـة فـي الكويـت عـن طريـق الحـرق أو الـردم ممـا يـؤدي إلـى تلـوث الهـواء و التربة.يهـدف هـذا المشـروع إلـى تحويـل المخلفـات الطبيـة إلـى مصـادر للطاقـة منهـا الغـاز الطبيعـي المصنـع و الميثانول بدلاً من حرقها

Civil



Integrated Stormwater Management in Shadadiya

Eng. Dalal Salah Almatooq
Eng. Lolwah Khalid Abaalkheel
Eng. Rafif Bander Alharbi
Eng. Retaj Bander Alotaibi

Supervised by
Dr. Mosaed Alrashidi
Eng. Reem Aljeraiwi

Kuwait suffers annually from floods, especially flash floods resulting from heavy rains in a short period with little or no warning. These floods are caused by the inability of the current stormwater network to drain flows from the surrounding area, as a result of connecting the stormwater network of the surrounding areas to the same network. The most affected areas are urban areas due to the high proportion of paved surfaces. This project aims to find solutions to the inability of the stormwater network in the Sabah Al-Nasser city, as a result of connecting the stormwater network of Al-Shadadiya, by implementing various applicable strategies by using a storage located on the Sixth Highway and designing drainage pipes using rational method and the (StormCAD) program. As well as treating what is known as the "first flush" that is discharged into Kuwait Bay and mitigating the impact of rainwater on the infrastructure and environment on Kuwait Bay.

تعاني الكويت سنويا من الفيضانات وخاصة الفيضانات المفاجئة الناتجة عن هطول امطار غزيرة في فترة وجيزة مع قليل من التحذير او بدون تحذير . هذه الفيضانات ناتجة عن عدم قدرة شبكة مياه الامطار الحالية على تصريف التدفقات من المنطقة المحيطة وذلك نتيجة لربط شبكة مياه امطار المناطق المحيطة بها لنفس الشبكة. وأكثر المناطق المتأثرة هي المناطق الحضرية وذلك لارتفاع نسبة الاسطح المرصوفة. يهدف هذا المشروع إلى إيجاد حلول لعدم قدرة تحمل شبكة مياه امطار مدينة صباح الناصر وذلك نتيجة لربط شبكة مياه امطار مدينة الشدادية بها، من خلال تنفيذ استراتيجيات مختلفة قابلة للتطبيق باستخدام خزان يقع على الطريق السادس السريع وتصميم انابيب الصرف باستخدام برنامج (ستورمكاد). وكذلك معالجة ما يعرف بـ "التدفق الأول" الذي يتم تصريفه في جون الكويت وتخفيف تأثير مياه الامطار على البنية التحتية والبيئة على جون الكويت.

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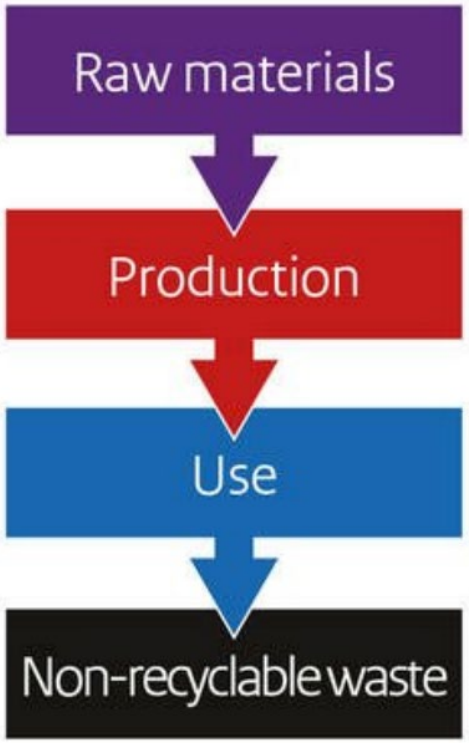
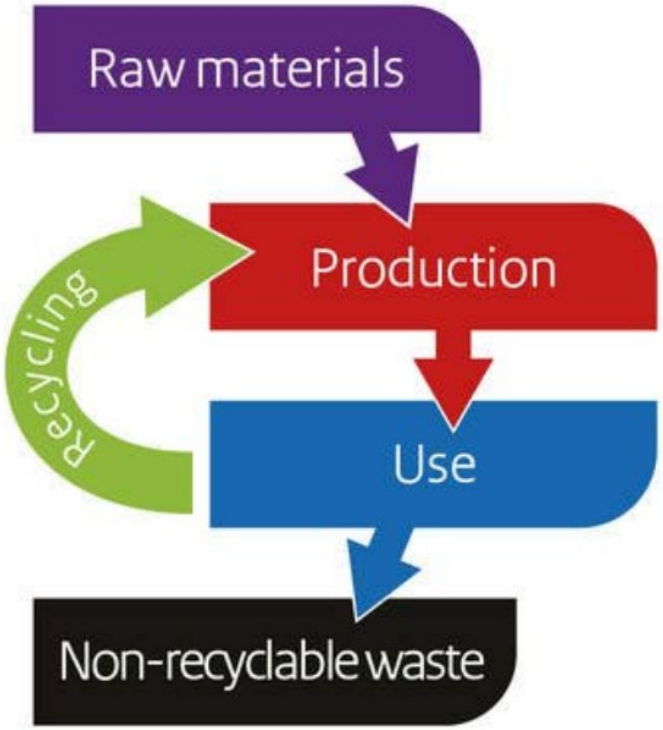
Circular Economy

Linear Economy



Reuse Economy



Circular Economy

Conclusion

- KU is committed to integrating SDGs into its campus operations, student engagement, research and community activities
- KU is cooperating with different sectors in Kuwait, such as General Secretariat of the Supreme Council for Planning and Development, and United Nations to adopt SDGs.
- The elements and practices are well established – what is needed is closing the communication gap between KU Administration and Academic Colleges
- Resources in Sabah Al-Salem University City will be utilized in academic courses and research projects.

Thank You

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