Template for Evidence

University : Al-Mustaqbal University (formerly name: Al-Mustaqbal University College)
Country : Iraq
Web Address : https://uomus.edu.iq/en/default.aspx

Climate Action plan for Al-Mustaqbal University

13.3.2 Have a university Climate Action plan, shared with local government and local community groups

Climate change is considering one of the biggest problems that affect our environment in addition it reduces the productivity of the persons which make it a threat to the economy of the country. So, if there is no serious solution for the climate change, it may be push 100 million people into the poverty by 2030. There are some goals that the university seeks to achieve during the coming period:

1. Preparation to include programs in energy conversion and management in educational institutions, universities, and boards in the syllabus.
2. Organization of training of academic staffs and experts in the field of energy and buildings construction for bettering utilization of sustainable energy in buildings.
3. Encouragement of scientific research and progress in the field of energy and buildings.
4. Support the construction of the sustainable buildings through consultants
5. Promotion of innovative funding of energy efficiency, transition and consumption projects
6. Using energy efficient of equipment, processes, systems, and devices such as LED lighting, renewable energy, solar powered air conditioning.

In addition to many workshops in this part, for example HVAC Department organized workshop on utilizing LPG as an alternative to the conventional fuel which reduces the pollution

Al-Mustaqbal University is the first universities in Iraq to reduce emission and try to reduce the green house and the global worming which they are both affecting on the climate change

There are many steps and actions the Mustaqbal University take it to reduce emission and the global warming by reducing the electricity demand and the other sources of the CO_2 emissions.

- taking serious steps to transfer the university energy sources from fossil fuel to renewable energy by three steps

➢ Al-mustaqbal University started to install the PV models over the university building depending on the building electrical demand only.

➢ by 2026 instal about 5 MW of PV models to meet all the University energy demand (Electricity, cooling and heating) to be the first university in Iraq to be 100% green and zero emissions.

➢ by 2027 connecting the university local electrical grid with National Grid to export the surplus of electrical power generated by the PV models to it to reduces amounts of the emissions of electricity per kwh

However, the CO2 emission per kWh in Iraq is about 2.5kg

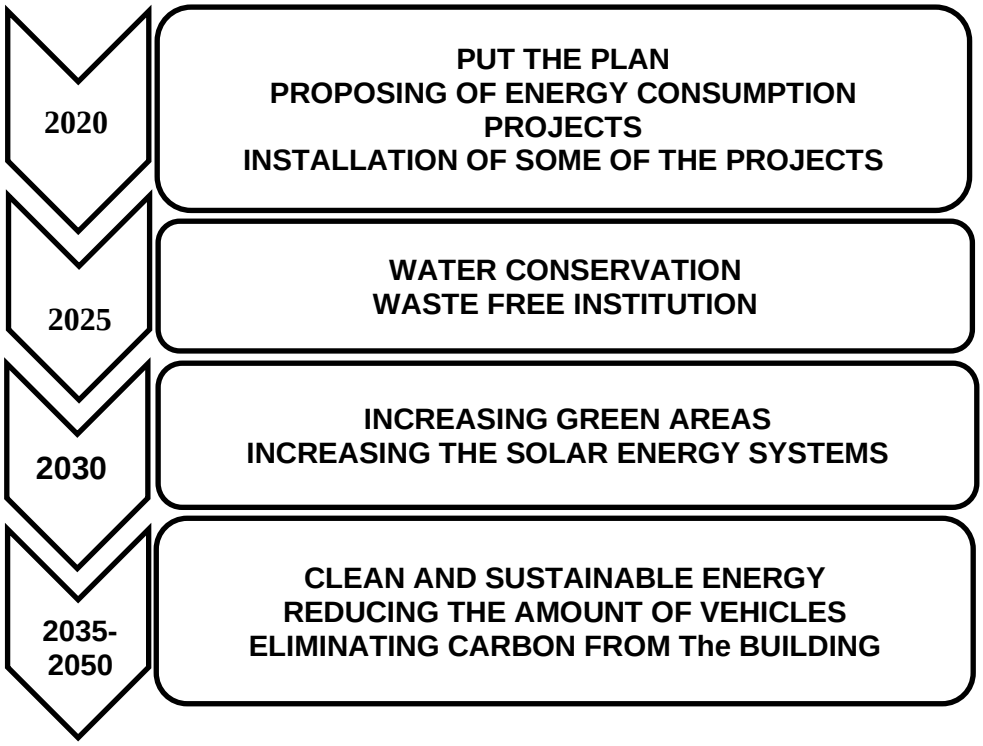
- One of the main sources of emissions is the street lighting system. Mustaqbal University one of the first universities in the world started changed the street lighting and all the outside lighting by using 3 in 1 system which is working by sun solar with zero emissions. This step will complete by the 2024.
- Iraq is one of the hottest countries in the world in the summer seasons and very cold at the winter. For that one of the main energy demands in Iraq generally and the universities especially is the cooling and heating. To reduce the energy for heating and cooling university buildings took some actions, initially using double glass for all the university windows which is reduce about 70% of wasting energy. secondly, using the cooling and heating systems with very high efficiency called (inverter system) which using less than 20% of ordinary system and gives same efficiency. finally, for the internal lighting system using LED lighting sources to reduce amount the electrical losses through it and decrease amount of heating generated by the ordinary lighting sources which need a lot of cooling energy to get rid of it.
- one of the most important is the university working and cooperation with national and international organizations to reduce the emissions and improve the lifestyle of the community by support the people with new technology working with Photovoltaics like (Water filtration and desalination, systems with heating and cooling systems that operate by solar radiation)
- support the scientist and the researcher to innovate the new technologies working to reduce the greenhouse.
- Establishing a laboratory for renewable energies within the university. Conducting many practical experiments to support researchers and discover real and realistic solutions for society.
- Conducting several awareness campaigns at the university and community level about the importance of planting and caring for trees because of their importance in climate change.

Target of The Plan

The major target of the plan is can be summarized in the following points;

- Reduction of carbon dioxide emission by half by 2030.
- Towards sustainable energy.
- Towards zero-carbon building by 2050

The milestone would be prepared to be within three years starting from 1-10-2023 – 1-1-2030.



FUNDEMENTAL ONE: CLEAN AND SUSTAINABLE ENERGY

- By 2030, 80% of the energy consumed by Al-Mustaqbal University is sourced from alternative sources other than the national electrical grid. Al-Mustaqbal University has already started its path towards depending on sustainable energy sources such as solar and wind energy.
- Increase research on renewable energy sources and increase their output in order to meet energy demands.
- Leading the campaign to increase awareness on sustainable energy sources and help communities to get a grasp on such alternatives.
- Implementation of the roof green that contribute in reduction of cooling load leading to energy saving.

FUNDEMENTAL TWO: WASTE FREE INSTITUTION

- By 2025, all produced waste within the campus facilities should be reduced and recycled.
- By 2025, all formal correspondence letters within the campus are paperless and should be made via softcopy documentation.
- Plastic bags are prohibited from use within the campus by 2025.
- Increasing research in the field of waste management and cleaner production.

FUNDEMENTAL THREE: WATER CONSERVATION

- By 2025, all water dispensing faucets should be sensor motion faucets for water conservation.
- By 2025, parking areas and walkways are made from permeable asphalt or concrete to ease rain harvesting.
- Watering the green areas within the campus area is controlled by sensors to provide water efficiently with the least amount possible.
- Used water inside toilets and sinks is recycled by gathering the water and recycling it to be used in plant watering.
- Installation of rain water collection / Harvesting in order to collect the rain water and then reuse it leads to both water and energy conservation. For example, it can be used in landscape irrigation, cooling towers of HVAC systems, drinking, cooking and Toilets flushing based upon the Iraqi Governorate policy.
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FUNDEMENTAL FOUR: INCREASING GREEN AREAS

- By 2030, green areas should be maximized in order to create a cleaner, cooler and sustained environment.
- Growing vegetables for using them in the student restaurants within the campus.
- Increasing the number of fruitful trees that are drought resistant.
- Increasing the number of trees on the sides of walkways and near buildings within the campus.
- Including the green roofs on our institution.

FUNDEMENTAL FIVE: REDUCING THE AMOUNT OF VEHICLES

- By 2030, vehicles used by staff member as well as students should be minimized to the half.
- By 2030, the university will provide shuttle buses to transport staff members as well as students back and forth to the campus.
- Encouragement on utilizing low emission fuel.
- Speeding and unnecessary acceleration reduce mileage by up to 33%, waste gas and money, and increase your carbon footprint.
- Aerodynamically, Speeding and unnecessary acceleration reduce mileage by up to 33%, waste gas and money, and increase your carbon footprint.

FUNDEMENTAL SIX: A TOBACCO, SMOKE AND NICOTINE FREE CAMPUS

- By 2025, Al-Mustaqbal University is planned to be a nicotine free campus. This fundamental is developed to enhance the wellbeing and health of both staff and students.

All the above fundamentals are necessary to pave the path towards creating a sustainable environmentally friendly campus. This requires that all of us, both staff and students, to work hand in hand to achieve these fundamentals.

Additional evidence link:

https://doi.org/10.1007/s40032-021-00787-4
https://uomus.edu.iq/NewDep.aspx?depid=2&newid=5031
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