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CHALLENGES IN TRANSFORMATION INTO GREEN AND SUSTAINABLE CAMPUS: UMP'S EXPERIENCE

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INTRODUCTION







Established on February 16, 2002



Gambang & Pekan Campus



Located on the east coast state of Pahang



1,767 staff



Rainforest endowed with a wide range of biodiversities and natural resources

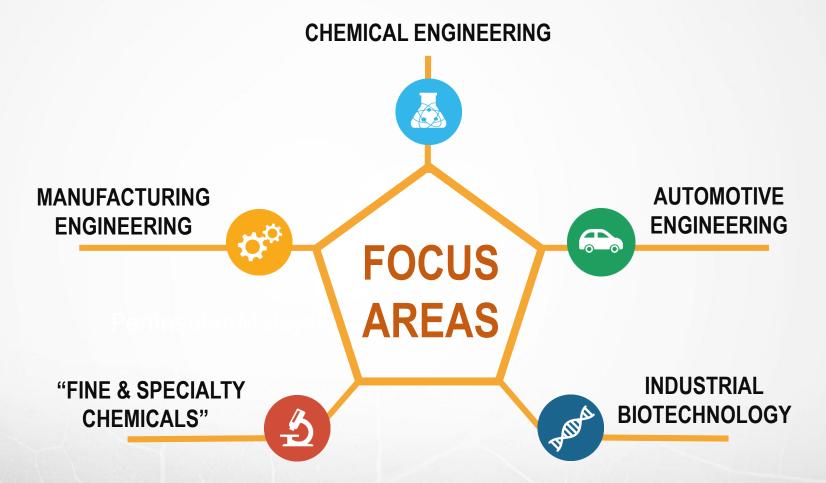


13,697 students

FOCUS AREA







Competency based technical university specialises in engineering and technology

TREES PLANTING BENEFITS





1

AMELIORATE CLIMATE CHANGE

0.4 hectare of land can absorb equal amount of CO₂ produced by one car travelling a distance of 41,842 km

4

PREVENT WATER POLLUTION

Trees also absorb and degrade pollutions and contaminants through green and sustainable process called phytoremediation. Large trees can clean the environment with a net annual uptake capacity of about 1-2 kg of air pollutions.

2

CONSERVE ENERGY CONSUMPTION

Placing 3 trees around a single-family home can cut summer air conditioning needs by up to 50 percent.

5

PROVIDE SHADES TO COOL THE ENVIRONMENT

Trees cool the city from "urban heat islands" by absorbing CO₂, shading city environment from direct sunlight through its canopy and releasing moisture to the environment through evapotranspiration process.

7

HABITAT FOR WILDLIFE

Trees provide shelter and food for wildlife and enhance diversity, create healthy and stable ecosystem.

PROVIDE OXYGEN AND CLEAN THE AIR

Trees absorb CO₂ and release O₂ (0.4 hectare of mature trees can provide enough oxygen for 18 people) absorb pollutant gases and filter particulates from the air.

6

3

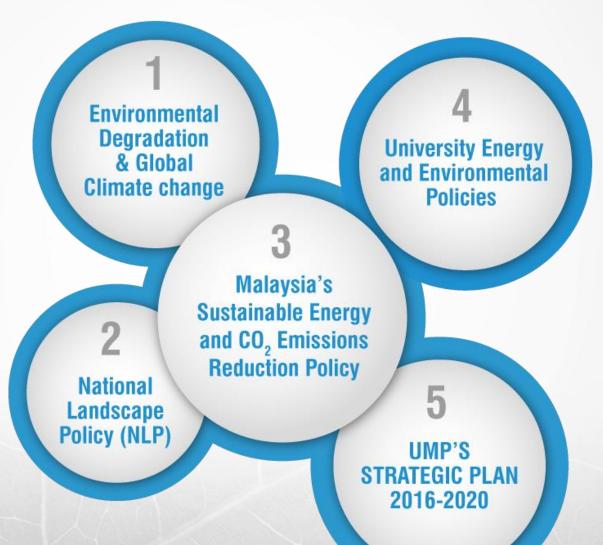
SOCIO-ECONOMIC BENEFITS

Provide aesthetic, reduce stress and fatigue, provide therapeutic effect and reduce crime within urban environment. Trees also generate income to the community.

GREEN & SUSTAINABLE CAMPUS: WHY DOES IT MATTER







UMP'S STRATEGIC PLAN 2016-2020







CHALLENGES TOWARDS GREEN & SUSTAINABLE CAMPUS: SITE CONSTRAINS





SWAMPY AREA

- Constant water logging
- Poor drainage
- Limit root depth

- Low soil fertility
- Low water retention
- Poor drainage
- High moisture loss
- High salinity

RECLAIMED LAND



- Low permeability
- Poor water drainage
- Limit root penetration
- Poor root depth





TRANSFORMATION INTO GREEN & SUSTAINABLE CAMPUS: OUR STRATEGIES







INITIATIVES & PROGRAMME









- 7% university budget for sustainable effort
- Wind breaker project
- UMP trees planting
- Fruit orchard
- Bio aromatic arboretum
- Greening programme with Pahang Forestry Department
- Rimbunan Cendekia greenery programme
- Rare fruits trees arboretum



ENERGY & CLIMATE CHANGE

- Renewable energy usage policy (Bio diesel, Clean biomass, Solar power, Wind power)
- Elements of green building implementation as reflected in all construction and renovation policy
- Green Building



WASTE

- Program to reduce the use of paper and plastic
- Double sided printing policy
- Recycle container
- Recycling program for university waste
- Toxic waste management

INITIATIVES & PROGRAMME







WATER

- Water conservation program implementation (Rain Harvesting System, Ground Water Tank, Lake or Pond)
- Water recycling program



TRANSPORTATION

- Biodiesel using recycling oil
- Bicycle track
- Bicycle and pedestrian policy on campus



EDUCATION

- 20 Students Association related to environment and sustainability
- Collaboration with Sultan Ahmad Shah Environment Trust (SASET)
- Pahang State Forestry
 Department

COMMUNITIZING TECHNOLOGY

























Ul's GreenMetric University Sustainability Ranking (GreenMetric) is a world university ranking for universities to assess and compare campus sustainability efforts. It was launched by Universitas Indonesia in 2010.

- 1. Setting and Infrastructure (15%)
- 2. Energy and Climate Change (21%)
- 3. Waste (18%)
- 4. Water (10%)
- 5. Transportation (18%)
- 6. Education (18%)

WORLD RANKING

Ranking by Indicators

14	Setting & Infrastructure	3
145	Energy & Climate Change	4
284	Waste	6
74	Water	2
157	Transportation	4
23	Education	1

WAY FORWARD





FIVE YEAR STRATEGIC PLAN (2011-2015)

We have blended campus greening and sustainability in our Five Year Strategic Plan (2011-2015).

RESEARCH

UMP is entrusted with actively frontier research to ensure the long-term sustainability of our beloved country and the world.



GREEN SUSTAINABLE CAMPUS



CORPORATE SOCIAL RESPONSIBILITY

To ensure that all graduates that we train will become new breed of professionals with far-reaching conscience and responsibility to continue the strife and struggle to make the Earth a beautiful and comfortable home to live.



FIVE YEAR STRATEGIC PLAN (2016-2020)

This holistic effort is continued and further strengthened in our Strategic Plan 2016-2020 with five thrusts, namely; Academic Excellence, Financial Sustainability, Research and Innovation Sustainability, Socio-Economic and Environmental Sustainability and its own UMP Prime Branding.



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