

A graphic consisting of two overlapping circles is positioned on the left side of the slide. The circle on the left is white with a thin black outline and contains several wavy black lines. The circle on the right is a solid, vibrant red. The text 'TRAINING SERIES' is written in a large, bold, white sans-serif font across the middle of the red circle.

TRAINING SERIES

1

UNFCCC101:
Paris Agreement and its relevance to Malaysia

IMPORTANCE OF CLIMATE ACTION



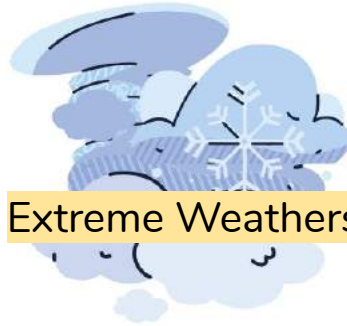
- ❑ Food security
- ❑ Habitat
- ❑ Public health
- ❑ Economy
- ❑ Minimise the loss and damages



Climate Impacts



Loss of Species

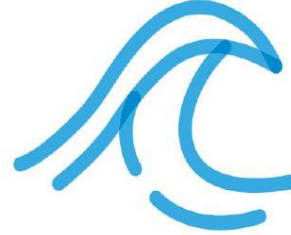


Extreme Weathers



Food Security

Rise of Sea Level



Water Availability

Migration



Health Implications



Overview

- ❑ Background
- ❑ Nationally Determined Contribution
- ❑ Carbon Market
- ❑ Capacity Building
- ❑ Climate Technology
- ❑ Conclusion



What is UNFCCC?

United Nations Framework Convention on Climate Change

An international environmental treaty that entered into force in 1994

- ❑ Aim: stabilise greenhouse gas (GHG) concentrations in the atmosphere
- ❑ Areas of focus include mitigation and adaptation measures, as well as aids from the developed countries

NO HARM PRINCIPLE

States may exploit its own resources, however, must not cause harm to areas beyond its jurisdiction.



PRECAUTIONARY PRINCIPLE

If an action or policy has a suspected risk of causing harm to the public or environment, the absence of scientific consensus should not prevent States from taking precaution regarding the threats of harm.

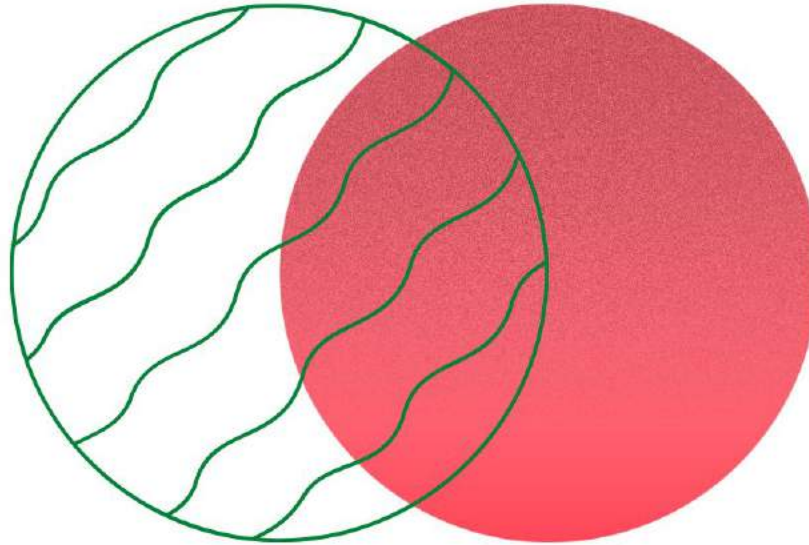


POLLUTER PAYS PRINCIPLE



Makes the party who is responsible for causing the pollution to pay for the damage caused by the pollution.

COMMON BY DIFFERENTIATED RESPONSIBILITIES



This concept is about all countries having the same responsibilities while consisting of differing capabilities regarding the protection of the environment.

SUSTAINABLE DEVELOPMENT



Development that meets the needs of the present generation without compromising the ability for future generations to be able to meet their needs.

Conferences of Parties

- ❑ the key negotiations happen here
- ❑ exchange of information and promotion of partnerships between countries
- ❑ 1997, Kyoto Protocol was a product of COP



The Kyoto Protocol

Developed countries felt it was unfair they were supplying funds and obligated to reduce GHG.

Developing countries have no commitments towards it.

Drop of carbon market, due to low demand of carbon credit.

Developed countries were subjected to a standardised emission reduction target.



Common by differentiated responsibilities.

Developing and developed countries have NDCs.

The commitments are voluntary.

The Paris Agreement

Paris Agreement

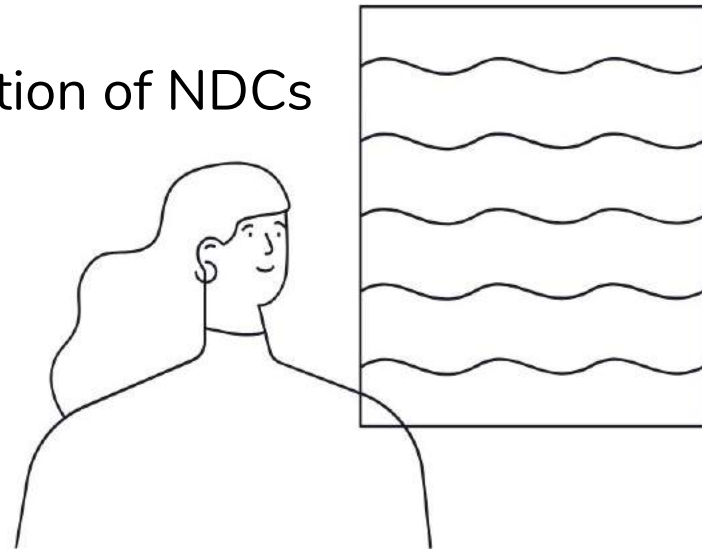
- ❑ Created after 4 years of negotiations at COP
- ❑ 195 Parties to the UNFCCC adopted Paris Agreement on 12 December 2015, entry into force 4 November 2016
- ❑ Goals:
 - ❑ Holding the increase in the global average temperature to well below 2°C, to limit the temperature increase to 1.5°C
 - ❑ Increasing the ability to adapt to the adverse impacts of climate change
 - ❑ Ensuring finance flows are consistent with a pathway towards low greenhouse gas emissions and climate- resilient development.



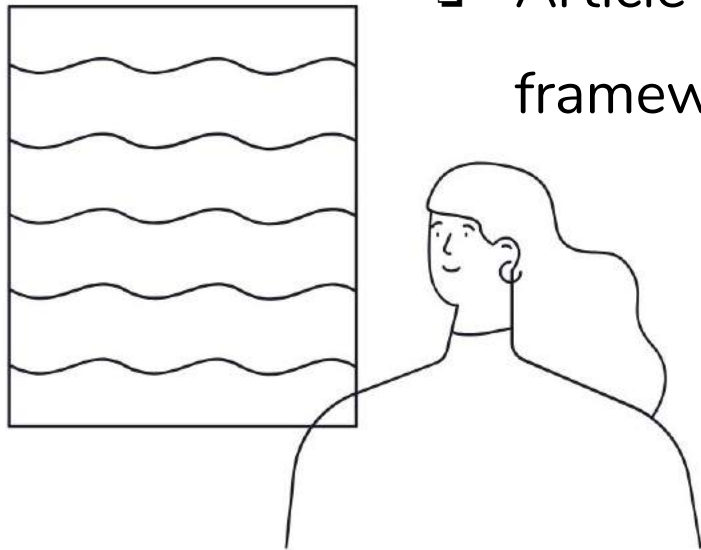
SUMMARY OF THE PERTINENT ARTICLES



- ❑ Article 1: Introduction of the Paris Agreement and UNFCCC
- ❑ Article 2: Objective of the Agreement
- ❑ Article 3: NDCs
- ❑ Article 4: Mitigation and Communication of NDCs
- ❑ Article 6: Carbon Market
- ❑ Article 7: Adaptation
- ❑ Article 8: Loss and Damage



- ❑ Article 9: Climate Finance
- ❑ Article 10: Technology Transfer
- ❑ Article 11: Capacity Building
- ❑ Article 13: Enhanced transparency framework



- ❑ Article 14: Global Stocktake
- ❑ Article 15: Compliance mechanism

ARTICLE 4

Nationally Determined Contributions (NDCs)

Climate Change Adaptation and Mitigation

Adaptation: Actions to cope with changing climate conditions and impacts



Extension of forest network



Drought resistant crops



Advanced flood/sea level rise projections

Mitigation: Actions to reduce or prevent emissions of greenhouse gases



Alternative forms of transport



Alternative energy sources



Retain forest reserves

Nationally Determined Contributions (NDCs)



Did you know?

Climate change is already hampering developing nations from achieving their Sustainable Development goals



What are NDCs?

Voluntary efforts and commitments by each country to **reduce** emissions and **adapt** to impacts of climate change.

What is the significance of NDCs?

- ☐ To determine whether the global long-term goals of the Paris Agreement can be achieved
- ☐ To reach global peaking of greenhouse gas (GHG) emissions as soon as possible
- ☐ To undertake rapid reductions in accordance with best available science



What is Malaysia's NDC?

Malaysia's NDC - Submitted November 2015

Malaysia intends to reduce its GHG emission intensity of GDP by 45% by 2030 relative to that in 2005.

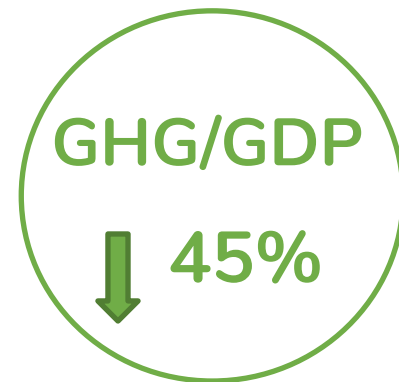
This consists of:

- ☐ 35% unconditional
- ☐ 10% conditional: upon receiving climate finance, technology transfer and capacity building

GHG include Carbon Dioxide (CO₂), Methane (CH₄) and Nitrous Oxide (N₂O)

Recent greenhouse gas (GHG) emissions

- Malaysia's total GHG emissions represented about 0.6% of global emissions in 2011.
- The GHG emission intensity was 0.531 tCO₂eq/RM1000 in 2005 and 0.41 tCO₂eq/RM1000 in 2011



What sectors play a role in Malaysia's 45% emission intensity reduction goal?



Energy

Energy industries, Transport, Manufacturing, Construction, Residential, Commercial

Industrial Processes and Product Use

Production in mineral, chemical and other industries (i.e. cement, limestone, glass, chemicals, metals and many more!)

Waste

Solid waste disposal, Incineration, Open Burning, Wastewater treatment

Agriculture

Manure management, biomass burning

Land Use, Land Use Change and Forestry (LULUCF)

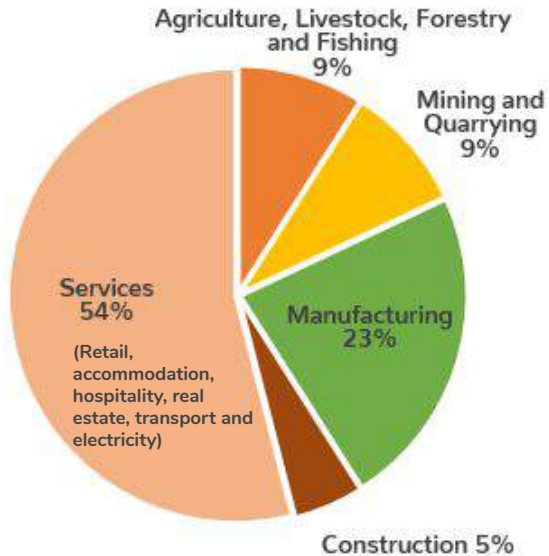
Forest land converted to settlement, cropland converted to settlement as well as grassland, cropland and forest land remaining as is



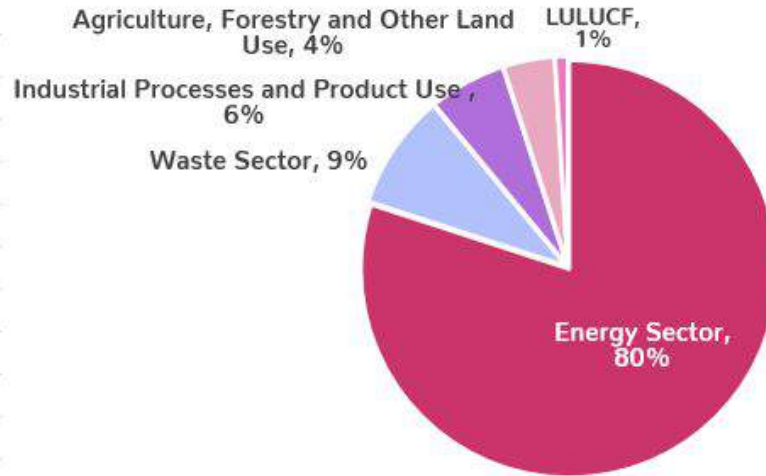
GDP vs GHG Emissions



Contributions to Gross Domestic Product in 2015



Contributions to Malaysia's Total Greenhouse Gas Emissions in 2014 (net emission: 50.48 million tonne CO₂ eq)



How can Malaysia achieve its NDC?



- Install natural gas power plants from 2025 using the best technology
- No deforestation should occur in the land use, land-use change and forestry sector (LULUCF) by 2030
- Implement energy efficiency in all sectors including transport
- Increase renewable energy adoption
- Reduce emissions from the waste sector via new technologies

Malaysia would be able to achieve the 45% GHG intensity reduction if additional mitigation measures (including the above) are implemented in addition to Malaysia's existing policies and plans leading up to 2030. Significant international assistance would be required to achieve this.



Resources, Constraints, Gaps and Needs



Resources and support received

1. Financial support has been received
2. Capacity building support received for GHG inventory and UNFCCC reporting

Constraints, Gaps and Needs

1. Finance

- Increasingly allocated to address losses caused by natural disasters
- Existing expenses for the restoration and rehabilitation of forests due to past poor management effects
- Competing needs with other development programmes
- Malaysia is exploring opportunities to access international funding especially from the Green Climate Fund (GCF) to overcome the financial barrier in achieving the NDCs



Resources, Constraints, Gaps and Needs



2. Technical Capacity

- Technical knowledge and expertise

3. Technology

- Technology transfer
- To implement mitigation and adaptation measures
(tune in to the next MYD Training Series to learn more!)

4. Public Awareness & Human Capacity

- You can contribute!



Malaysia's 2020 NDC update and 12th Malaysia Plan's Role



- Currently led by Ministry of Environment and Water (KASA)
- To be submitted for approval by Oct 2020 (as cabinet papers) before submission to UNFCCC

The 12th Malaysia Plan will be crucial in implementing the ambitions of the country's NDC

- Enhance the capacity and technical expertise on climate change
- Enhance mitigation modelling and climate change projection for the NDC
- Introduce economic instruments and market mechanisms which are in favour to the NDC (e.g. carbon tax)



What can you do to reduce emissions to achieve our NDC?

Yes, YOU!

Energy system

- ✓ What are our electrical product choices and electricity consumption?
- ✓ Our choice of energy system

Industrial process & product use

- ✓ How much does our purchasing drive the market & determine what needs to be produced in the first place?

Waste

- ✓ Are we being intentional with what we keep and dispose?
- ✓ Are we able to change our disposal methods?

Agriculture/food system

- ✓ How are our purchasing and consumption practices?
- ✓ Can we minimise or prevent deforestation that exacerbates destruction of natural habitats?

Land use system

- ✓ What are the long-term climate impacts caused by unsustainable urbanisation?



ARTICLE 6

CARBON MARKET



- ❑ Countries who struggle to meet their NDCs can purchase carbon credits from other countries to remain within quota.
- ❑ In exchange, the money paid can be used by the latter country to further improve infrastructure on reducing carbon emission.
- ❑ Highly problematic on determining the rules of the market





Pre-existing Issues

- ❑ Most of the Clean Development Mechanism (CDM) projects (KP) involved in development or positioning in RE technologies have been criticised for their negative impacts
- ❑ Ethical concern: the production of palm oil affects the environment, wildlife, and native communities.
- ❑ Strain between financial and environmental targets in fulfilling the carbon emissions projects.
- ❑ Unstable carbon markets



Current Issues

- ☐ Double counting
- ☐ Additionality
- ☐ Carry over of pre-2020 Kyoto Protocol proceeds
- ☐ Accounting integrity
- ☐ Share of Proceeds

Outcome of Negotiations

COP 25: San Jose Principles

(11 principles in total, benchmark by 32 countries)

- ❑ Prohibits the use of pre-2020 units, Kyoto units and allowances
- ❑ Ensures that double counting is avoided
- ❑ Uses centrally and publicly accessible infrastructure and systems for transparent accounting
- ❑ Incentives to progression



Our Potential

- ❑ The amount of biomass and palm oil production has been noted to increase from time to time
- ❑ The RE production from palm oil mill effluent (POME), biomass, composting, and bioenergy residues can prove beneficial for different sectors in moving forward to a new market mechanism.



BREAK TIME

Please be back in 5 minutes for more interesting content!





ARTICLE 11

Capacity Building

What is Capacity Building and why does Malaysia need it?

Capacity Building:

Building the capacity and ability of the parties/countries to take climate change action

How is it addressed in the Paris Agreement?

Developed countries/parties to provide support to developing countries to implement the agreement

Why does Malaysia need it?

- Implement climate change actions; and
- Carry out public awareness

The above is critical in achieving our NDC



Where does Malaysia need capacity? Do any of the below interest YOU?



What do we need?

- Technical and human capacity for preparation of GHG inventory
- Policies and programmes to enhance mitigation and adaptation measures
- More expertise in measurement, reporting and verification & vulnerability assessments for implementation of mitigation & adaptation

Who do we need?

- GHG inventory experts
- Mitigation experts
- Adaptation experts
- Climate modellers
- Data engineers/analysts



What are some of our successes in capacity building?

We have relevant authorities leading training programme and resource allocation:

- Energy audits and energy management were conducted by the Sustainable Energy Development Authority for government agencies
- Petronas has trained staff to operate plants with heat capture mechanisms in its refinery facilities throughout the country
- Since the 2014 floods, the government has dedicated more resources towards natural disaster related monitoring agencies
- Malaysia has made significant improvement in the preparation of its GHG inventory reporting



Where are we with educating our future leaders?

KASA are currently adding officers to implement formal curriculum on climate change

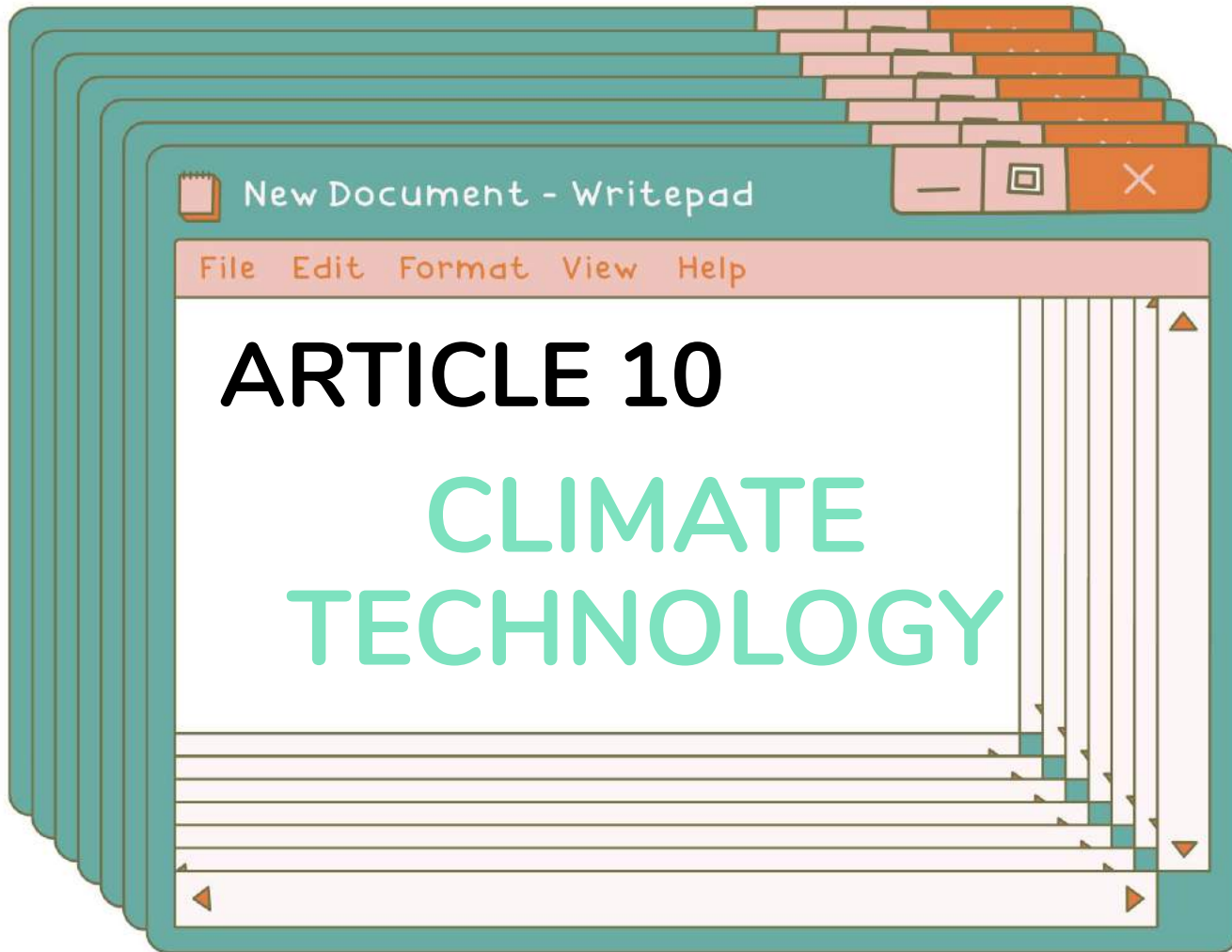
Informal Education: Sekolah Lestari - Anugerah Alam Sekitar competition, RIMBA

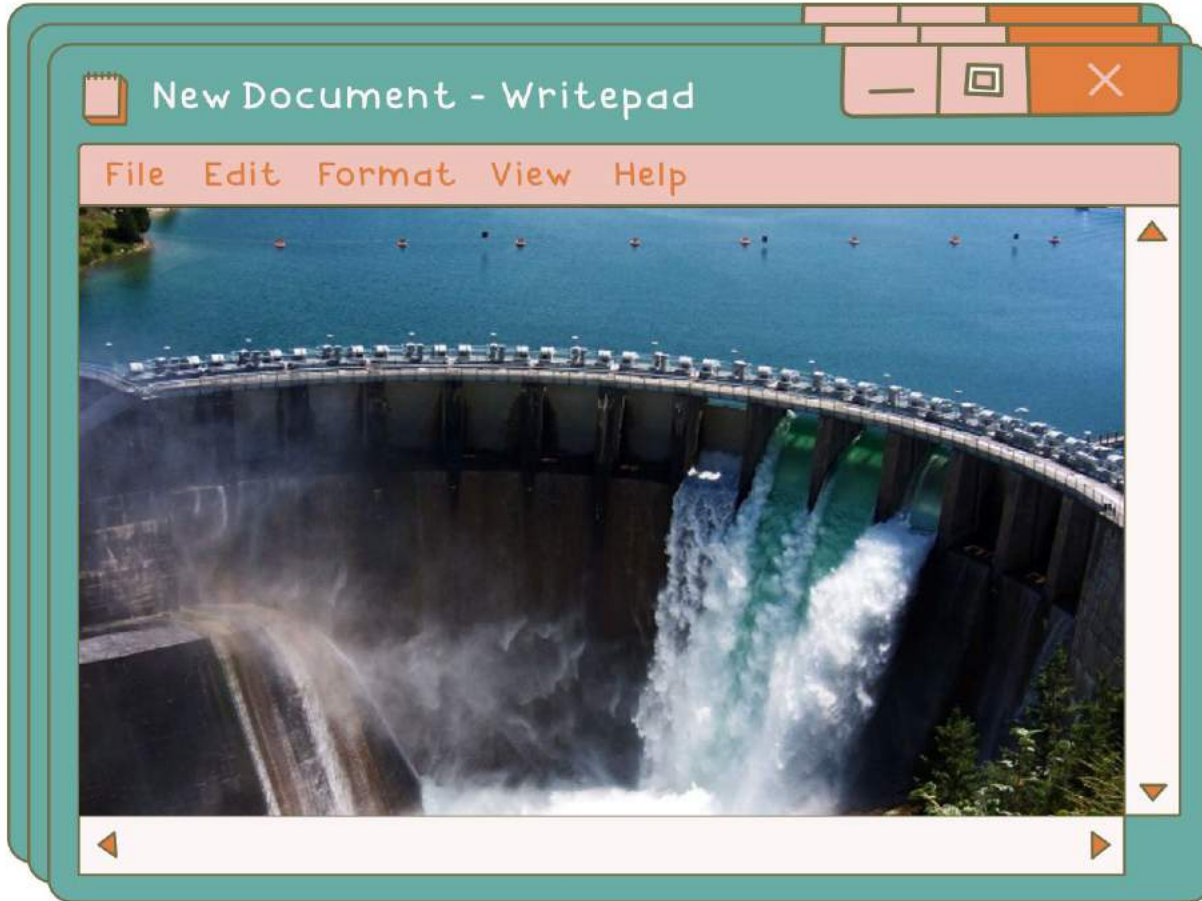
Tertiary Institutions that offer climate change and sustainable development courses:

- UKM: Institute of Climate Change, UKM-Sime Darby Foundation
- UPM: Carbon Reduction and Climate Change course
- UM
- USM
- Sunway University
- University of Nottingham

Public Awareness: NGOs and Civil Society Organisations (i.e. Malaysian Nature Society, Global Environment Centre, Jaringan Ekologi dan Iklim and MYD)







COAL

NATURAL GAS

LARGE HYDRO

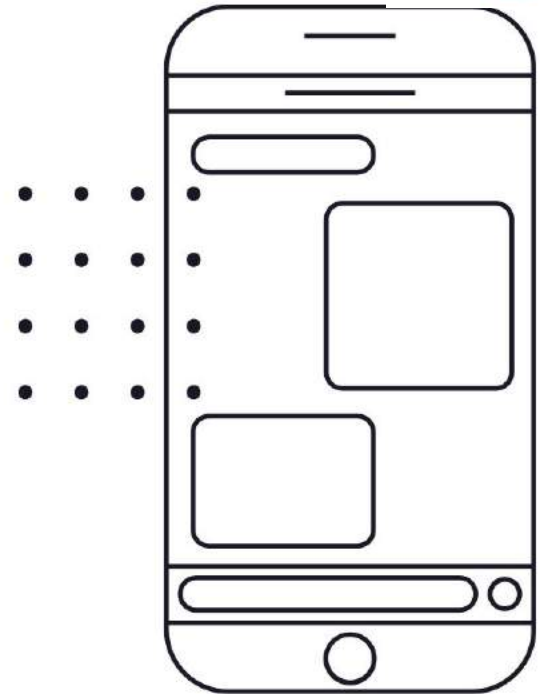
RENEWABLE ENERGY

SOLAR

- ❑ Large Scale Solar: most of the capacity is located in Perlis. Perlis is the highest state with the high solar irradiance.
- ❑ Rooftop solar (provides incentives)

WIND POWER

- ❑ In peninsular Malaysia, Mersing, Johor and Kuala Terengganu have been identified as high wind areas while in East Malaysia, Kudat, Sabah is the highest wind potential areas.





BIOGAS

- ❑ a system where it processes the organic material from waste to produce biogas that can be used to generate electricity.
- ❑ cattle manure, POME and landfill sources

SMALL HYDRO

- ❑ one of the cleanest RE, produces much lesser GHG as compared to large hydros



BIOMASS

- ❑ resources from palm oil waste, rice husks, coconut waste, sugar cane waste, municipal waste and forestry waste

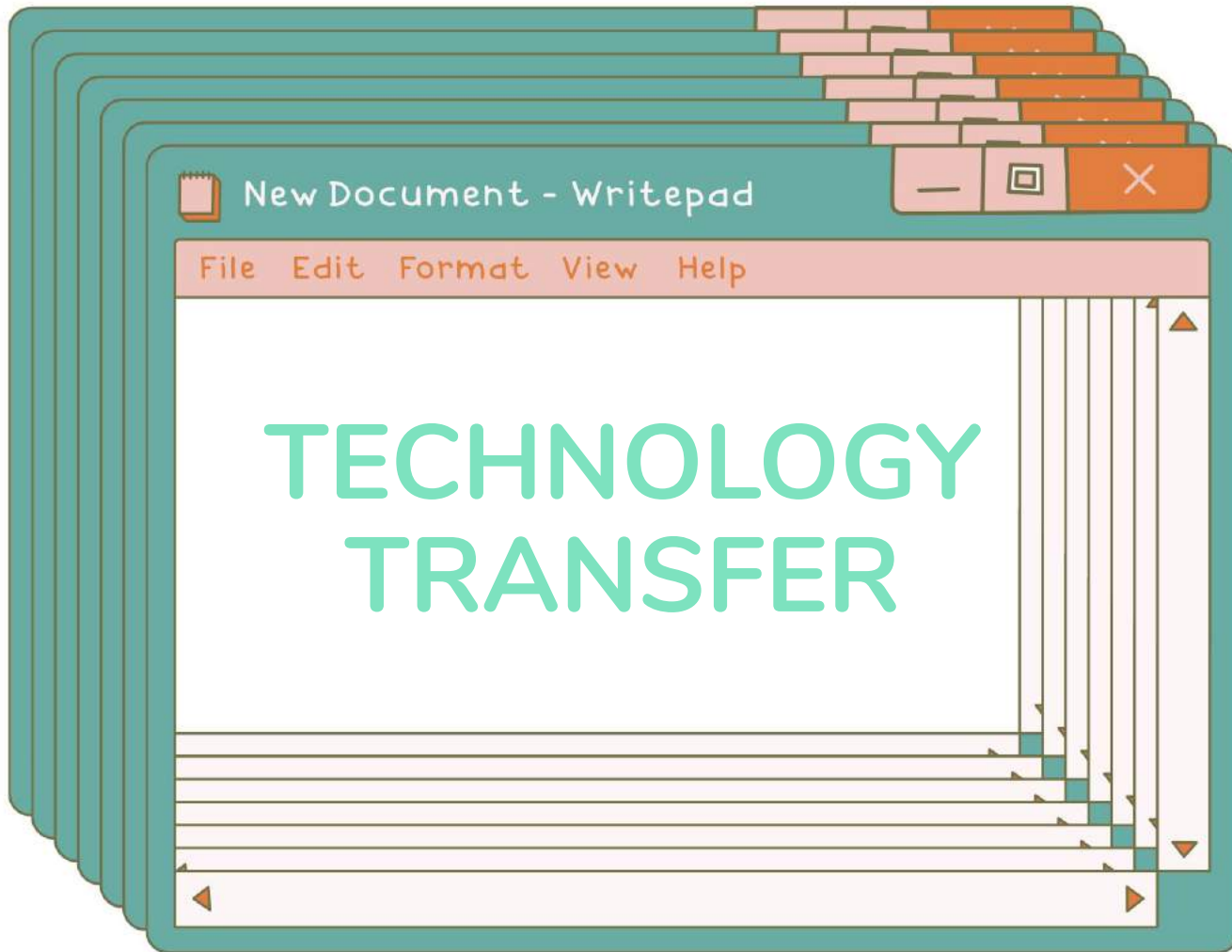
Renewable Energy Act 2011

- ❑ establishment and implementation of a Feed-in Tariff (FiT)
 - ❑ offers long-term agreements to renewable energy producers to sell electricity to the grid at premium prices.
-
- ❑ companies generating energy from renewable sources have a choice of applying for incentives (exemption of income tax exemption, investment tax allowance, import duty and sales tax exemption on equipment used)



National Renewable Energy Policy

- ❑ Goal to achieve 20% renewable energy capacity mix by 2025
- ❑ Implementing Enhanced Net Energy Metering (NEM) And Solar Leasing, Large Scale Solar Programme 3 (LSS3)
- ❑ Establishing RE Facilitation Programmes In Sustainable Energy Development Authority (SEDA) Malaysia
- ❑ Enabling Greater Access To Renewable Energy Sources
- ❑ 2019: Malaysia has approximately 2% of its energy coming from RE generation sources compared to the total generation mix and targets.



Green technology application for the development of low carbon cities

(USD4.3mil from GEF/UNDP)

- ❑ Policy support for the promotion of integrated low carbon urban development
- ❑ Creating awareness and institutional capacity development
- ❑ Ensure cities are aware of planning and implementing low carbon technology applications
- ❑ To encourage low carbon technology investments and green growth in Malaysian cities.



Low Carbon Cities

- ❑ Initiatives: capacity building, waste management, energy in buildings, low carbon transportation
- ❑ Participating cities: Putrajaya, Cyberjaya, Iskandar Malaysia, Petaling Jaya, Hang Tuah Jaya
- ❑ Cyberjaya, Putrajaya: office shared e-bicycle pilot program



Japan: Japan's annual Workshop on GHG Inventories in Asia (WGIA)

- ❑ assisting countries in Asia in developing and improving their GHG inventories
- ❑ providing opportunities to exchange information and to share their experiences



The United States: USAID Low Emissions Asian Development (LEAD) Training Programmes

- ❑ Help countries to properly measure their greenhouse gas emissions
- ❑ Use approaches to assess countries' mitigation options
- ❑ Identify and secure support for financing and implementation of specific measures
- ❑ Countries involved will then share their knowledge in the Asia LEDS Partnership programme

It's a wrap!



Significance of Climate Action

- Livelihood of people and the environment
- Assist with resource and funding allocations

Lots of opportunities for Malaysia!

- Renewable energy
- New technologies
- Education
- Required professions in the industry



How can the youth contribute towards climate action and the Paris Agreement goals?

- Everyday actions and choices we make
- Participate in conversations and ask questions
- Engage in activities and discussions hosted by NGOs and civil society organisations



References



1. NASA Global Climate Change
2. Ministry of Energy, Science, Technology, Environment and Climate Change Malaysia
Third National Communication and Second Biennial Update Report to the UNFCCC
2018
3. Ministry of Natural Resources and Environment Biennial Update Report to the UNFCCC
2015
4. <https://pic1112.wordpress.com/principles/>
5. Environmental Defense Fund
<http://blogs.edf.org/climate411/2019/12/02/what-you-need-to-know-about-article-6-of-the-paris-agreement/>



Q&A

Thank you and well done for making it through!