



SDGs IN HIGHER EDUCATION IN MALAYSIA

GOALS #
7, 12 & 13

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7 AFFORDABLE AND CLEAN ENERGY



GOAL 7

**ENSURE ACCESS TO
AFFORDABLE, RELIABLE,
SUSTAINABLE AND MODERN
ENERGY FOR ALL**



Targets

By 2030,

7.1) Ensure universal access to **affordable, reliable** and **modern** energy services.

7.2) Increase substantially the share of **renewable** energy in the global energy mix.

7.3) Double the global rate of improvement in energy **efficiency**.

7.a) Enhance international cooperation to facilitate access to **clean energy research and technology**, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.

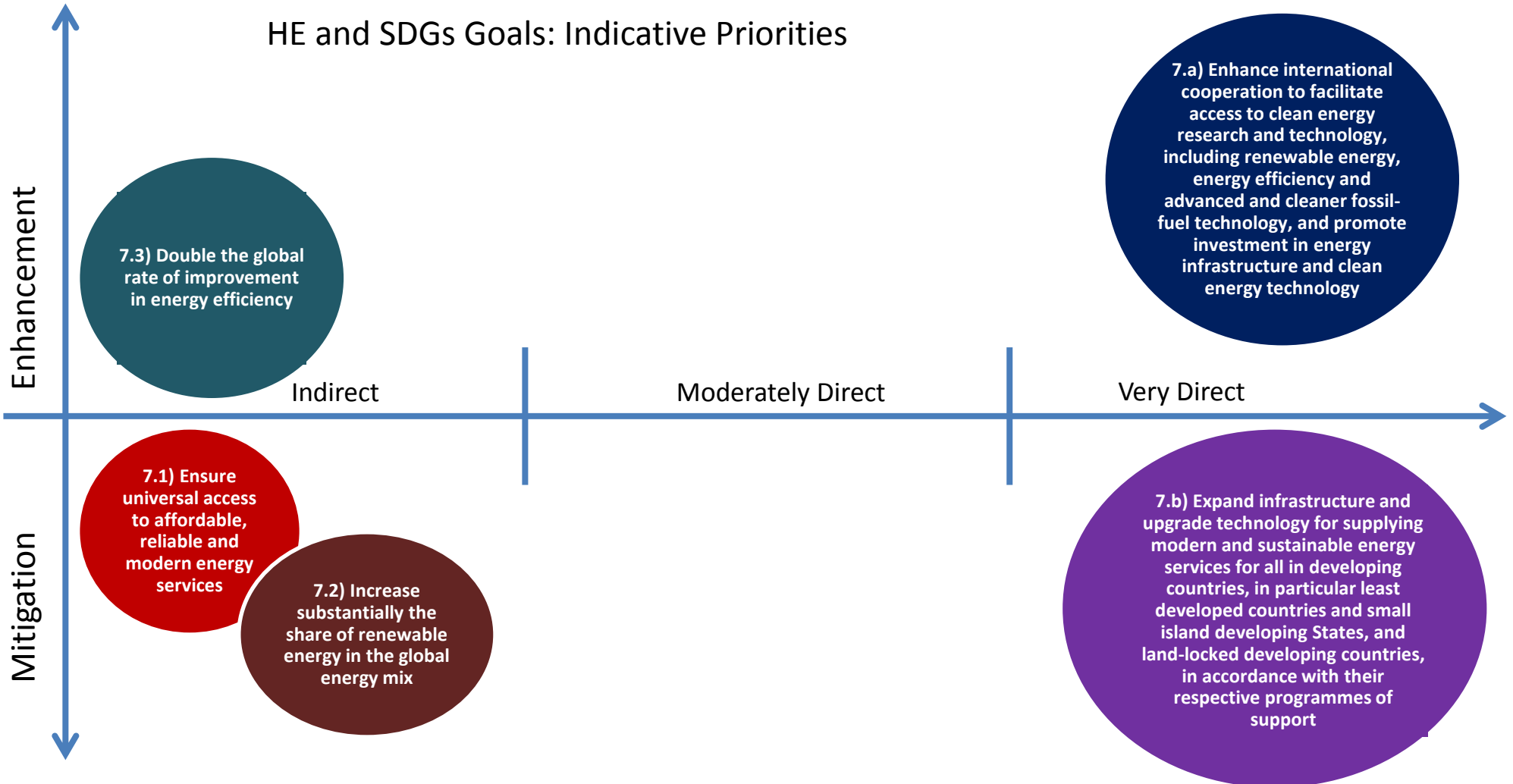
7.b) Expand **infrastructure and upgrade technology** for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries and small island developing States, and land-locked developing countries, in accordance with their respective programmes of support





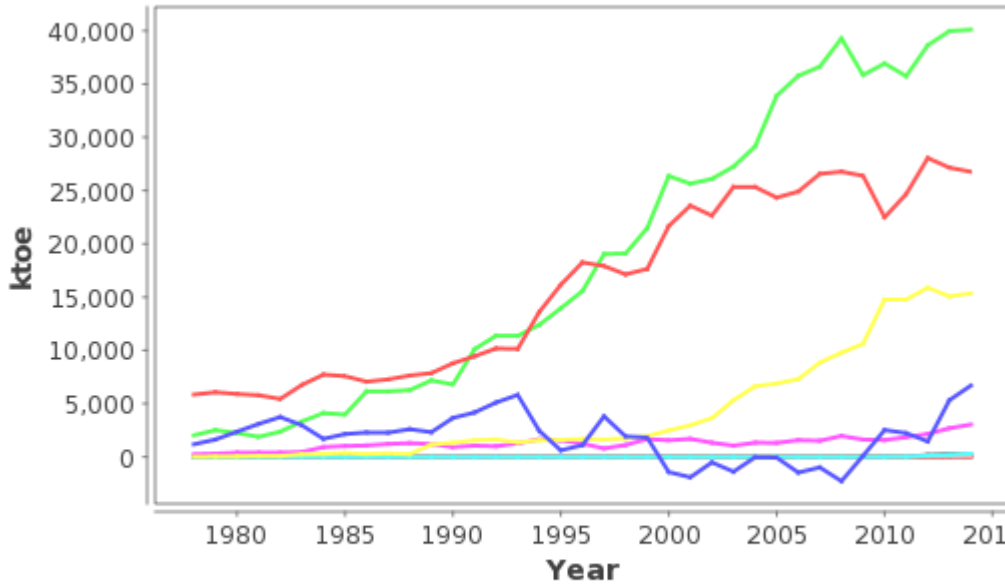
Ensure access to affordable, reliable, sustainable and modern energy for all

HE and SDGs Goals: Indicative Priorities

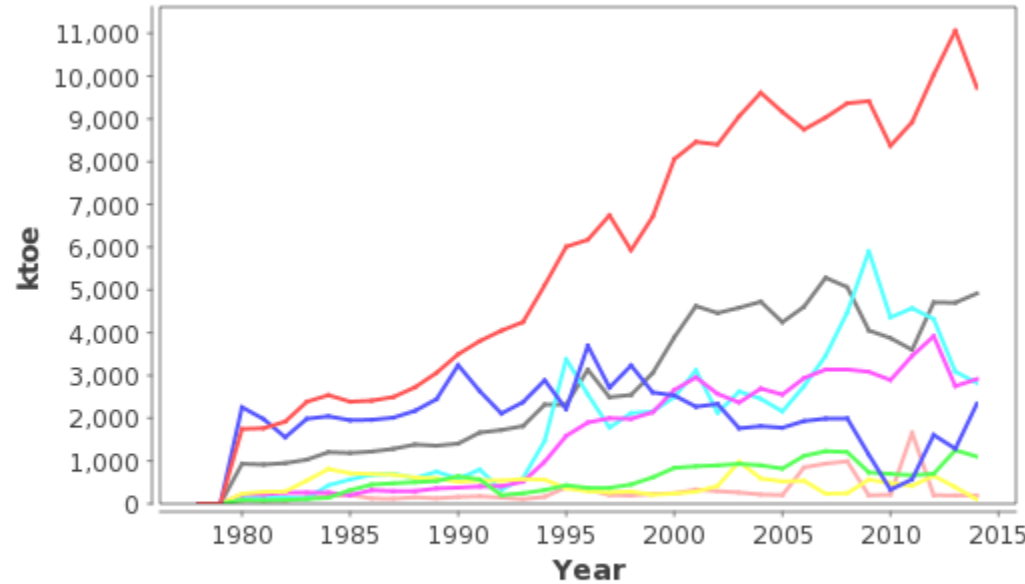


Summary

Summary - Primary Energy Supply



**Summary – Transformation Process
Types : Oil (Refinery Output)**



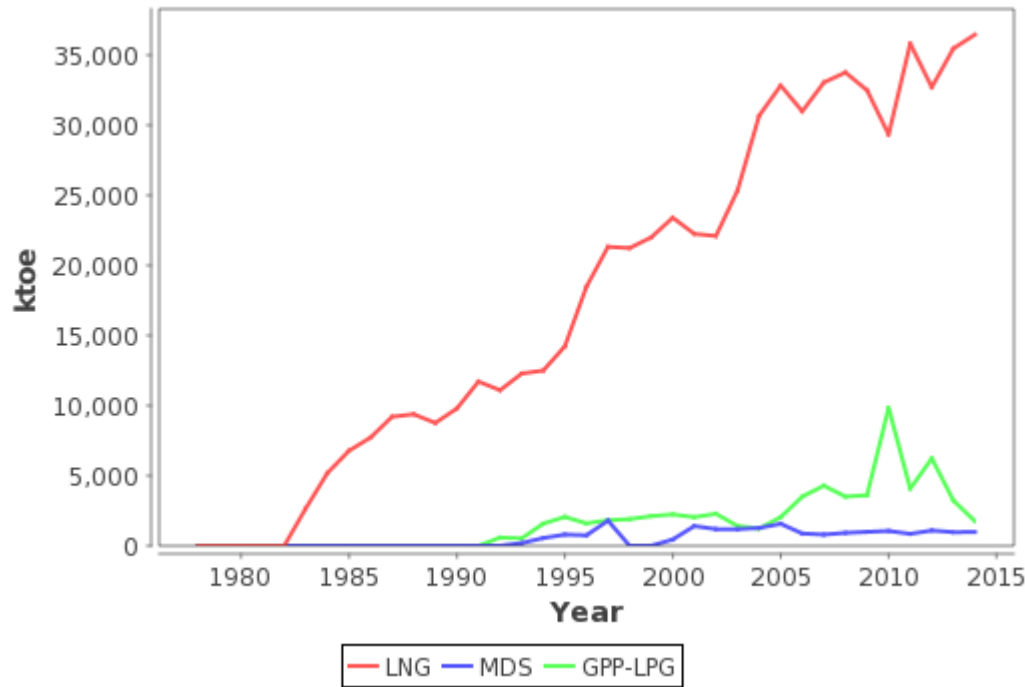
— Crude Oil — Petroleum Products — Natural Gas — Coal and Coke
— Hydropower — Biodiesel — Solar — Biomass — Biogas

— Diesel — Fuel Oil — LPG — Kerosene — ATF and AV Gas — Non-Energy
— Refinery Gas — Motor Oil

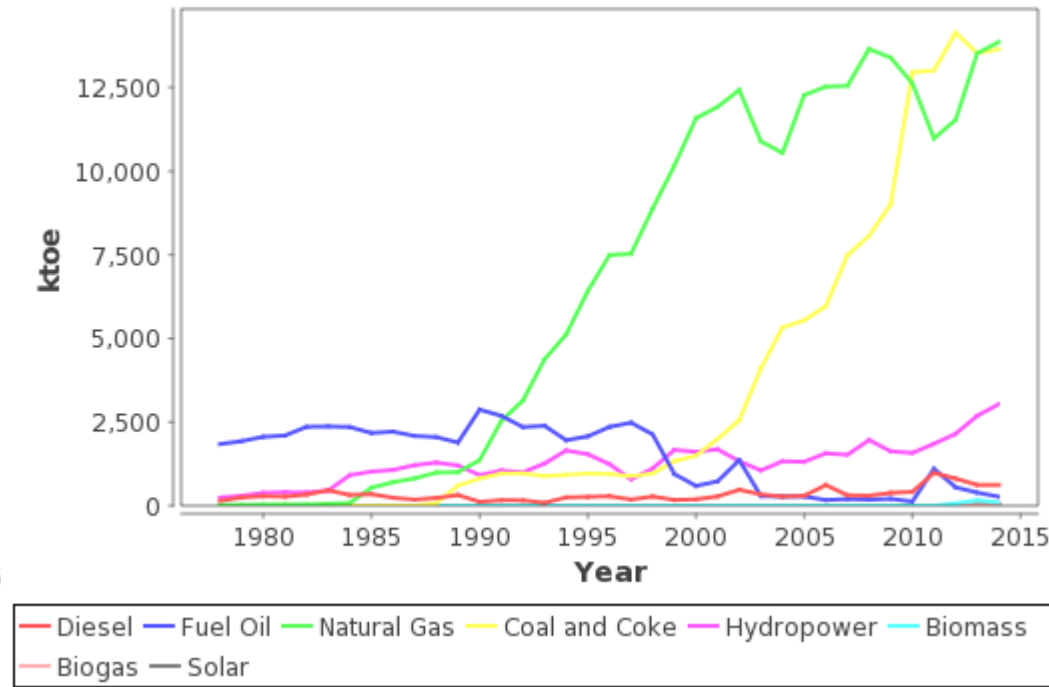


Summary

**Summary – Transformation Process
Types : Gas**

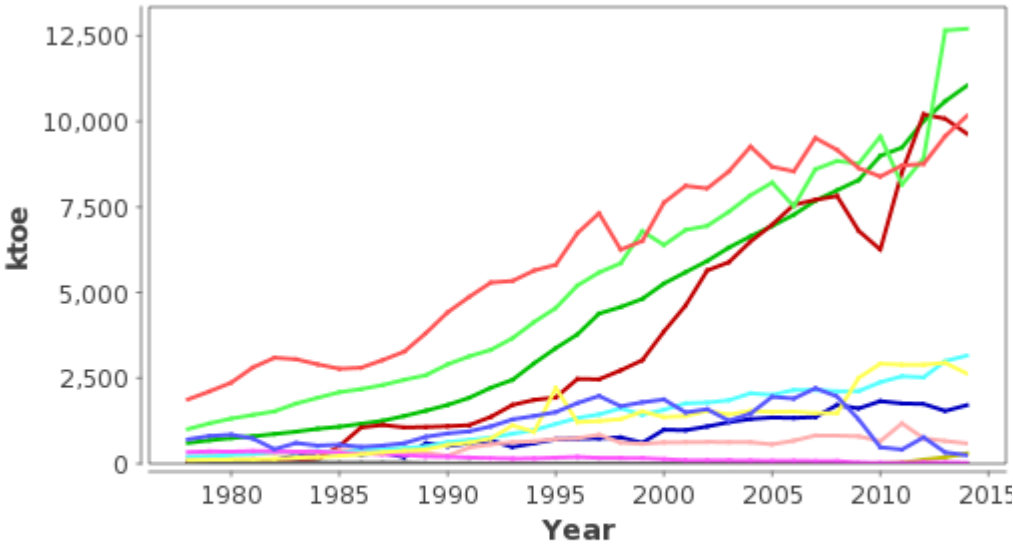


**Summary – Transformation Process
Types : Electricity**



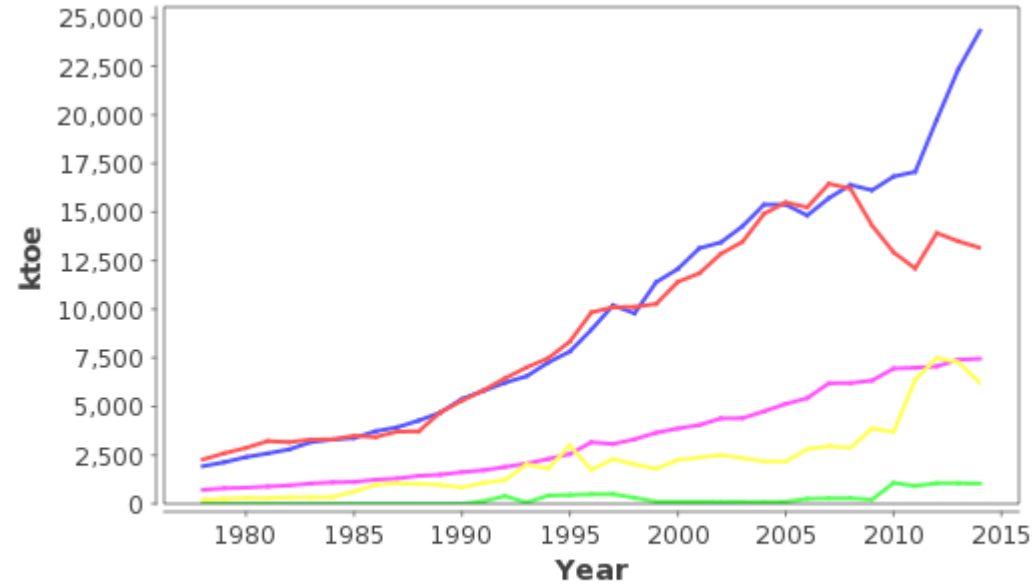
Summary

Summary – Final Energy Demand by Fuel Type



- Diesel — Fuel Oil — Motor Petrol — LPG — Kerosene — ATF and AV Gas
- Non-Energy — Refinery Gas — Natural Gas — Coal and Coke — Electricity
- Biodiesel

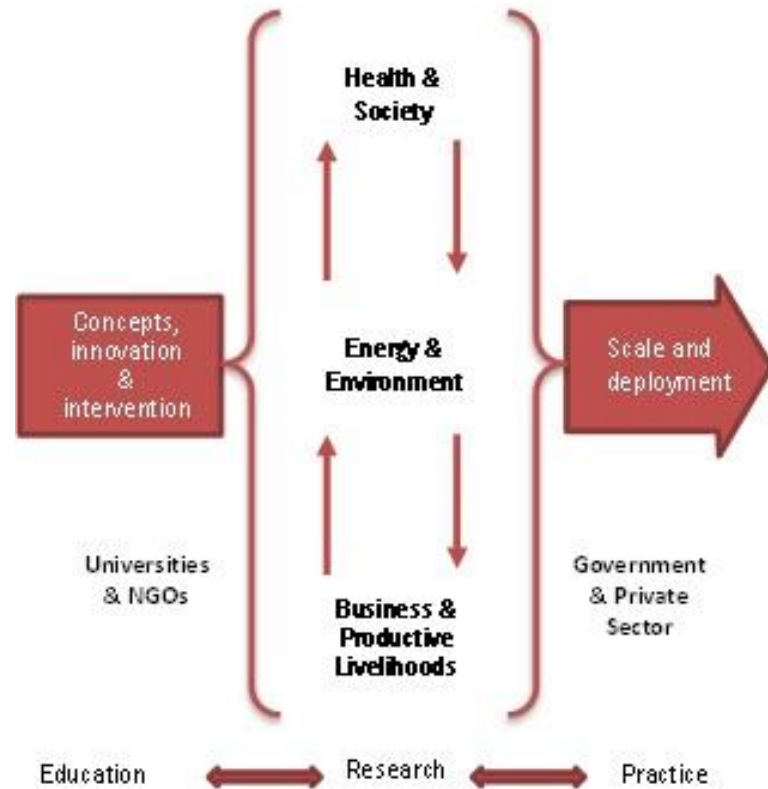
Summary – Final Energy Demand by Sectors



- Industrial — Transport — Agriculture — Non-Energy
- Residential and Commercial



Challenges



- Sustainable energy is the prime driver and key enabler of sustainable development
 - holds high significance in terms of development challenges and environmental impacts such as climate change
- However, long-term sustainable energy security for all remains a concern for developing countries even though the challenges may vary with regard to geography, economic capacities and requirements and other relevant parameters.
- How to reach the goal?
 - Education as strategic means of implementation to achieve sustainable energy for all
 - From **Education** to **Practice** in managing the energy

ENPOWERH [Energy & Environment, Population Wellbeing, and Rural Health]. (n.d.). Retrieved February 4, 2017, from <https://energy.uq.edu.au/project/energy-and-poverty-research-group>



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



GOAL 12

ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS



Targets

12.1) Implement the 10-year **framework of programmes** on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

12.2) By 2030, achieve the **sustainable management and efficient** use of natural resources

12.3) By 2030, halve per capita global **food waste** at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12.4) By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their **life cycle**, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment



Targets (cont.)

12.5) By 2030, substantially reduce waste generation through **prevention, reduction, recycling and reuse**

12.6) Encourage **companies**, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

12.7) Promote **public procurement** practices that are sustainable, in accordance with national policies and priorities

12.8) Ensure that people everywhere have the relevant **information and awareness** for sustainable development and lifestyles in harmony with nature

12.a) Support developing countries to strengthen their **scientific and technological capacity** to move towards more sustainable patterns of consumption and production



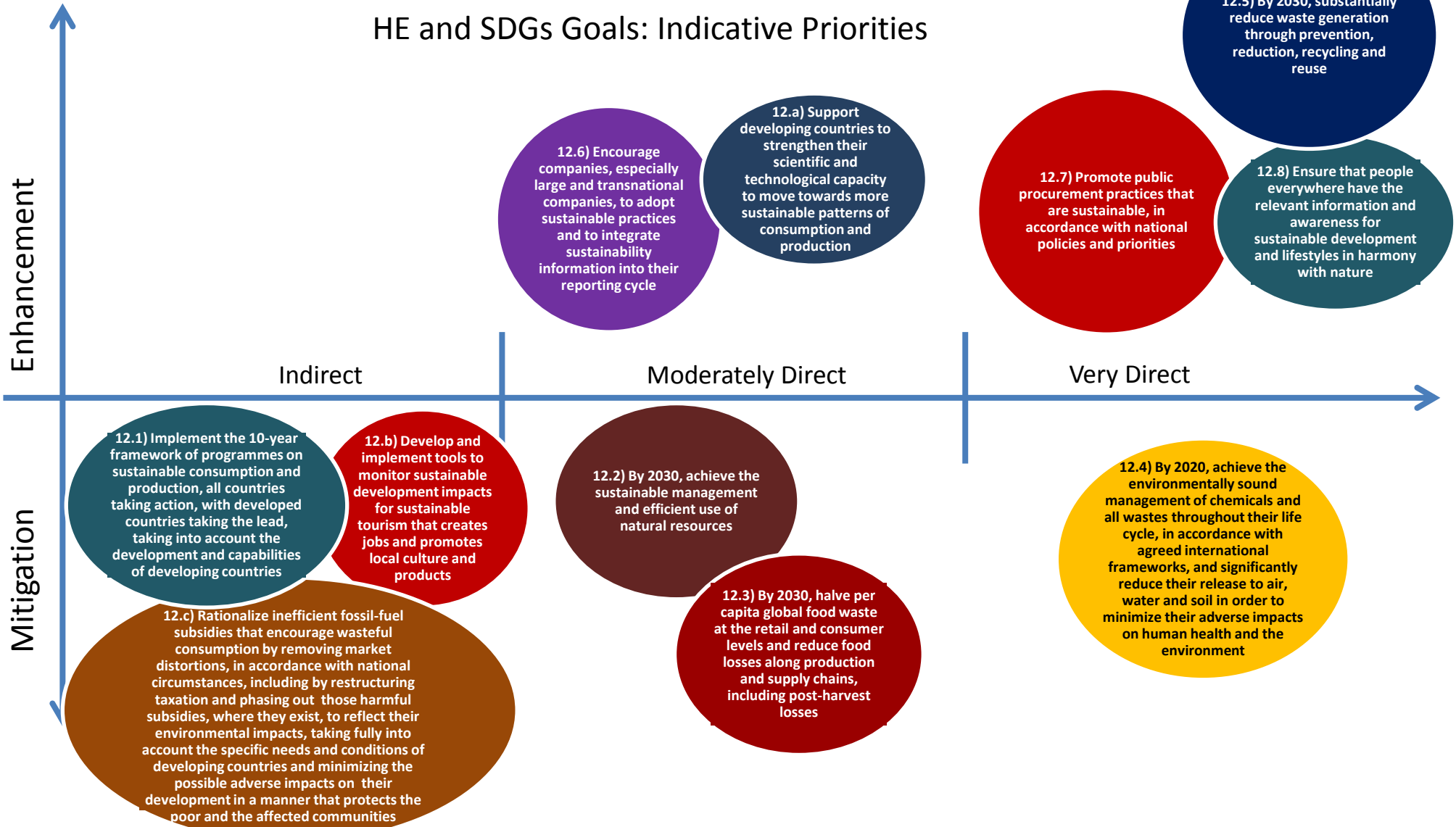
Targets (cont.)

12.b) Develop and implement **tools** to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

12.c) Rationalize **inefficient fossil-fuel subsidies** that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities



HE and SDGs Goals: Indicative Priorities



Malaysia Education Blueprint



HE commitment

Prosperity

- Proper usage of resources is needed in order to achieving economic growth and sustainable development

Planet

- Sustainably managing its natural resources
- Incorporate resources sustainability in every section of education
- Education sector must proactively help in turning waste into sustainable living

People

- Educate people on how to manage consumption and production
- Reduce wastage in education sectors
- Education is the key to shift towards resource-efficient country

SDG

Peace

- Sufficient resources give opportunities in :
 - 1) Improving school finance and efficiency
 - 2) Teaching, leading and learning opportunities
 - 3) Ensuring access to high-quality early childhood education
 - 3) Meeting the needs of students in high-poverty communities
 - 4) Governance and accountability to improve equity and excellence

Partnership

- Addressing global challenges requires a collective and concerted effort, involving all actors. Through partnerships and alliances, and by pooling comparative advantages, we increase our chances success."
- Ban Ki-moon, UN Secretary-General





GOAL 13

TAKE URGENT ACTION TO COMBAT CLIMATE AND ITS IMPACTS



Targets

- 13.1) Strengthen **resilience and adaptive capacity** to climate-related hazards and natural disasters in all countries
- 13.2) Integrate climate change measures into national **policies, strategies and planning**
- 13.3) Improve **education, awareness-raising and human and institutional capacity** on climate change mitigation, adaptation, impact reduction and early warning



Targets (cont.)

13.a) Implement the **commitment** undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible

13.b) Promote **mechanisms for raising capacity for effective climate change-related planning and management** in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities





Take urgent action to combat climate and its impacts

HE and SDGs Goals: Indicative Priorities



Similar to SDGs, 11MP also encompasses economic, social & environmental objectives...

Multidimensional goals, 2016-2020

GDP growth at
5-6%
per annum

Labour productivity increases from RM77,100 (2015) to **RM92,300** (2020)

GNI per capita at **RM54,100** by 2020

Average monthly household income increases from RM6,141 (2014) to **RM10,540** (2020)

Compensation of employees to GDP increase from 34.9% (2015) to **40%** (2020)

Malaysia Wellbeing Index (MWI) to increase by **1.7%** per annum

Thrusts

- 1 Enhancing **inclusiveness** towards an equitable society
- 2 Improving **wellbeing** for all
- 3 Accelerating **human capital development** for an advanced nation
- 4 Pursuing **green growth** for sustainability and resilience
- 5 Strengthening **infrastructure** to support economic expansion
- 6 Re-engineering **economic growth** for greater prosperity

Game changers

- 1 Uplifting B40 households towards a middle-class society
- 2 Enabling industry-led Technical and Vocational Education and Training (TVET)
- 3 Embarking on green growth
- 4 Enhancing productivity to wealth
- 5 Innovation
- 6 Competitive cities

Related SDGs to 11MP



SDGs & 11MP: Strategic Thrust 4
Pursuing green growth for sustainability and resilience

Key initiatives

“Green growth” will be a way of life. This will lead to strengthened food, water, and energy security; lower environmental risks; and ultimately, better wellbeing and quality of life



Do more with less

- Sustainable industry practices
- Green procurement practices



Conservation culture

- Protect biodiversity
 - Intensifying enforcement
 - Undertaking reforestation
 - Enrichment efforts in degraded areas
- Conserve and increase the population of endangered species



Build back better

- Strengthen disaster risk management
- Upgrade detection and early warning systems

13

Related SDGs to 11MP



Related SDGs to RMK-11

Malaysia green growth strategy will ensure

- Resource and energy Intensive into Resource and energy efficient in balancing both supply-side and demand-side considerations and constraints (**Goal 7**)
- Waste to landfill into waste as resource that can be reused through recycling and recovery, for power generation, and other waste to wealth initiatives (**Goal 12**)
- lower environmental risks and ecological scarcities (**Goal 12**)
- ultimately better wellbeing and quality of life that will significantly reduce GHG emission (**Goal 13**)



Related SDGs to “Amanat” MoHE 2017

- ❑ 2017 is as The Year of Translational Research, MoHE will be presented the Research Priority Roadmap 2017 that will be focused on Grand Challenge program, UN Sustainable Development Goals (SDGs) & 4th Industrial Revolution which will be led by research universities in Malaysia. These universities will undertake the projects in partnership with the other IPTs in the focus area of Water & Food Security (**Goal 12**) and Climate Change (**Goal 13**) as well as focus niche research on LED, future internet technologies, transportation & logistics (**Goal 7**).
 - For example, USM had carried out a water treatment research using membrane technology that could be useful during flood disaster (**Goals 12 & 13**).



- https://www.weforum.org/agenda/2016/04/china-wants-to-build-a-50tn-global-wind-and-solar-power-grid?utm_content=buffer3e176&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer
- <https://www.weforum.org/agenda/2016/06/china-green-energy-superpower-charts/>
- <http://www.theverge.com/2016/11/22/13712750/tesla-microgrid-tau-samoa>
- <https://www.bloomberg.com/news/articles/2016-10-31/no-one-saw-tesla-s-solar-roof-coming>
- <http://www.theverge.com/2016/11/29/13780410/antarctica-glacier-ice-sheet-melting-sea-level-rising>
- <http://www.theverge.com/2016/11/29/13785130/google-earth-timelapse-climate-change-effects>
- <http://powertochange-film.com/>





7 AFFORDABLE AND CLEAN ENERGY

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION



Thank You

Terima Kasih

