NATIONAL WORKSHOP
BUILDING SECTOR ENERGY EFFICIENCY

NATIONAL ENERGY PLANNING & PERSPECTIVE:
SPECIAL FOCUS ON DEMAND SIDE MANAGEMENT

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Venue : Pullman Kuala Lumpur
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Energy security is the vital cog to sustain economic growth.

Malaysia is blessed with natural energy resources (fossil & renewables).

Major challenge is the governance structure & inefficient usage of energy.

Holistic Management - Focus on efficient use of energy & energy conservation.

Malaysia’s commitment in international arena e.g. COP21.
PRESENTATION OUTLINE

1. Introduction

2. Malaysia Energy Policies

3. 11th Malaysia Plan

4. Conclusion
1974
Petroleum Development Act

1975
National Petroleum Policy

1979
National Energy Policy

1980
National Depletion Policy

2009
National Green Technology Policy

2006
National Biofuel Policy

2000
Five-Fuel Diversification Policy

1981
Four-Fuel Diversification Policy

2010
National RE Policy

2010-2015
10th Malaysia Plan

2016-2020
11th Malaysia Plan


RE Act (2011)

Key initiative

Demand Side Management Master Plan
11th Malaysia Plan

- Part of a systematic planning of national development
- Final leg in the journey towards achieving Vision 2020, and lays the foundation for further growth

New dimensions ...

1. Action driven
   Focus more on the effectiveness of implementation

2. People-centric
   Focus more on people economy – increase access to education, healthcare, housing and reducing income disparity

3. Game changers
   To spur growth and ensure inclusivity

4. Taking the long-term view
   Goes beyond 2020
6 strategic thrusts & 6 game changers to accelerate Malaysia’s development

1. Enhancing **inclusiveness** towards an equitable society

2. Improving **well-being** 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

6 Game changers:

- Uplifting B40 households towards a middle-class society
- Enabling industry-led Technical and Vocational Education and Training (TVET)
- Embarking on green growth
- Enhancing productivity
- Innovation to wealth
- Competitive cities
FOCUS AREA B: Adopting the sustainable consumption & production concept

B2

Increasing share of renewables in energy mix

2,080 MW

a) Exploring new RE sources
   - wind, geothermal, ocean energy
b) Enhancing capacity of RE personnel
   - To create 15,300 jobs (skilled & semi-skilled)
   - Training for 1,740 personnel to create experts in relevant fields
c) Implementing Net Energy Metering
   - To increase the contribution of RE in the generation mix

B3

Enhancing demand side management

a) Formulating a comprehensive DSM Master Plan
   - covers the scope of electrical, thermal including energy usage in the transport sector
b) Expanding DSM measures for buildings, industries & households
   - REEM, EPC
   - ISO 50001 for buildings, MEPS & Energy Labelling
   - Enhanced Time of Use Tariff (EToU)
   - Smart grid & Co-gen
FOCUS AREA E: Encouraging sustainable energy usage to support growth

E1

- Strengthening stakeholder coordination & collaboration in the energy sector
  - a) Fostering greater institutional collaboration on energy planning
    - High-level focal point in the Government
  - b) Engaging end-users on efficient energy consumption
    - Comprehensive & effective communication plan
    - Public awareness programmes

E2

- Ensuring the security & reliability of supply for oil & gas subsector within a market-based approach
  - a) Ensuring security of gas supply
    - Pipelines from Malaysia-Thailand Joint Development Area to Kerteh
    - RGT-2, Pengerang, Johor
    - LNG units – Sabah & Sarawak
  - b) Reducing market distortion
    - Review the pricing structure for gas supply
    - Introduce Incentive-based Regulation (IBR) for gas
    - Expansion of CNG retail infrastructure
FOCUS AREA E: Encouraging sustainable energy usage to support growth

a) Supporting the development of Pengerang Integrated Petroleum Complex (PIPC)
   - Additional 300,000 bpd of oil refining capacity – RAPID
   - 1,220MW co-generation power plant

b) Moving towards third party access for gas supply to allow new entrants
   - Creation of vibrant gas supply market

c) Implementation of clean fuel in the transport sector
   - Introduce environment-friendly fuel - EURO 4M & EURO 5 Standards
   - Bio-diesel programme – B15 by 2020
FOCUS AREA E: Encouraging sustainable energy usage to support growth

Managing supply diversity for security of the electricity subsector

E4

Improving the sustainability, efficiency & reliability of the electricity subsector

E5

a) Ensuring electricity supply security through better management of resources
   - Optimum generation mix guided by HHI
   - Clean & green energy sources in power generation

b) Enhancing alternative energy sources
   - Renewable sources to reach 7.8% (2,080MW)
   - Net Energy Metering (NEM)

c) Augmenting rural electrification
   - Improve national coverage to 99% (including Sabah & Sarawak)
   - Community involvement

a) Creating a sustainable tariff framework
   - Balancing of generation fuel mix to optimise cost of supply
   - Abolishment of Special Industrial Tariff by 2020
   - Implementation of Incentive-based Regulation (IBR)

b) Improving efficiency & reliability of electricity supply
   - New investment - generation, transmission & distribution
   - Improvement of SAIDI for Malaysia

7,626 MW
Policy statement & objectives – covers the scope of electrical, thermal including energy usage in the transport sector

Identify major thrusts for DSM implementation

Specific, Measurable, Achievable, Realistic, Time tagged
  - short-term, mid-term, long-term

National Action Plan for DSM
**SPECIAL FOCUS ON DSM: PROJECTED TARGETS**

**Buildings**
- 700 Registered Electrical Energy Manager (REEM)
- Extend EPC to other govt. buildings
- New govt. buildings to adopt EE Design
- Retrofit 100 govt. buildings (NEEAP)
- Register 70 ESCOs
- 100 companies to implement ISO 50001
- Enforce MS1525 & UBBL

**Industries**
- Introduce Enhanced Time of Use (EToU) tariff
  - 3 different time zones
- Abolish Special Industrial Tariff
- Install 4 million smart meters
- Increase on-grid Cogeneration capacity

**Households**
- Expand the scope of MEPS
- Enhance energy labelling
CONCLUSION

In the 11th Malaysia Plan (2016-2020):

• **Robust** & **holistic** approach is needed to manage the energy sector.

• Urgent need to:
  ✓ Streamline government structure
  ✓ Rationalise subsidy
  ✓ Sustainable usage & product management

• **Demand Side Management Master Plan** will be a paradigm shift in energy management for Malaysia

• DSM will provide a new trajectory to ensure:
  ✓ control rising demand of energy
  ✓ delay construction of new power plants
  ✓ reduce GHGs emission in line with COP-21 commitments
  ✓ prolong lifespan of the countries’ natural resources
  ✓ long-term target – decouple energy consumption from economic growth
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THANK YOU

Market Pricing
- Adoption of market-based energy pricing
- Subsidy decoupling approach - itemization

Supply Side Initiatives
- Development of alternative resources - renewables, coal & LNG, nuclear
- Public awareness

Energy Efficiency Measures
- Encourage efficient use of energy in all sectors
- National Energy Efficiency Master Plan

Holistic Governance
- Governance structure for efficient management of energy sector

Change Management
- Sequenced & gradual implementation of integrated plan to achieve outcome