INPRO Dialogue Forum on Global Nuclear Energy Sustainability:
Long-term Prospects for Nuclear Energy in the Post-Fukushima Era

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Nuclear Technology Development: Malaysian Perspective

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Malaysia Nuclear Path

2021: 5 GW Hydro, up to 1.25 GW Solar, 1 GW Nuclear power

- 1972: PUSPATI (Tun Ismail Atomic Research Centre) → Malaysian Nuclear Agency
- 1982: Reaktor TRIGA PUSPATI (RTP) 1MW commissioned
- 1990s: Reactor Interest Group (RIG) initiated by Nuklear Malaysia
- 2001: Consider nuclear energy as one of the options for electricity generation post-2020 in Peninsular Malaysia
- 2008: ‘Oil crisis’: peaked at USD147.30/barrel in July 2008
- 2009: Lynas (rare earth extraction) processing plant issue
- 2010: Fukushima earth quake/tsunami issue
- 2011: Malaysia Nuclear Power Corporation (MNPC) in Jan 2011 (To plan, spearhead and coordinate the implementation of NPP)
- ETP: Deploying Nuclear Energy for Power Generation

Consider nuclear energy as one of the options for electricity generation post-2020 in Peninsular Malaysia

"Nuclear as last option’ when oil was abundant
Nuclear Energy Development Road Map

1st NPP

Operate & maintain

NPP Project activities

Human Resource Development

RTP

1982

Short Term

Medium Term

Long Term

2021

2021
Four (4) critical path items must be addressed with highest priority to ensure prompt delivery, which are:

1. **Promote public acceptance**
2. **Sign/ratify relevant treaties & conventions**
3. **Put in place detailed regulations**
4. **Acquire approval for plant sites**
   - **Obtain public support in locality**

- **(Nuclear Malaysia)**
- **(Attorney General's Chamber of Malaysia)**
- **(Atomic Energy Licensing Board)**
- **(Malaysia Nuclear Power Corporation (MNPC))**
2. Main lessons learned after Fukushima in Malaysia

- Safety of nuclear power plant is the MAIN concern
  - Needs ready and able human resource to
    - Implement contingency plan
    - Prevent disaster from happening
- Knowledge and expertise is prerequisite in operating and maintaining NPP
- Effect of nuclear disaster is borderless
- International cooperation (e.g. IAEA) is necessary to allay public fear of nuclear disaster
3. **Malaysia's expectations for global Nuclear Power development in the 21st century**

- **National anticipation in the next 100 years:**
  - Self reliance in operating and maintenance of NPP
    - Critical mass in work force
  - Nuclear waste at NPP life cycle
    - Waste repository
    - Waste treatment
  - New/emerging technology in NPP

- **Major policy implications and challenges:**
  - Having sustainable human resource development programme with acceptable quality for NPP
  - Gaining & sustaining momentum in technological development of NPP