



**Submission to Legislative Council Panel on Economic Development
Reponses to Future Fuel Mix for Electricity Generation Consultation Document
12 May 2014**

Hong Kong Nuclear Society (HKNS) supports the Government's commitment to achieving the 50 – 60% carbon intensity reduction target by 2020. As electricity generation is a major source of carbon emissions in Hong Kong, considering a change in our fuel mix is both timely and necessary.

The Government's consultation document put forth two future fuel mix options. Although in neither options did the Government explicitly propose expanding the proportion of nuclear energy, it is by logical deduction that the electricity purchased from China Southern Power Grid (CSG) under Option 1 will be partly generated by nuclear. This is because Guangdong, abided by the Central Government's target to reduce carbon intensity by 40 – 45% by 2020, will need low carbon energy sources to accommodate the additional electricity demand from Hong Kong. Given that hydro and wind resources local to Guangdong are limited, nuclear power is the next logical choice.

Hence, in reality, Option 1 will see an increase in nuclear power in Hong Kong's actual fuel mix. While HKNS supports using more nuclear energy, we view that importing electricity directly from CSG does not provide the desirable level of monitoring and reliability for Hong Kong. As reported by the media, in the first half of 2012, CSG customers experienced an average of 1.5 hours in power outage as compared to about 1 – 2 minutes experienced by their counterparts in Hong Kong. The Government does not say how the grid-to-grid interconnection under Option 1 will ensure the current reliability level in Hong Kong can be maintained in the event of blackouts or network problems at CSG.

As an alternative, we propose a modified Option 1a to increase nuclear power import from a dedicated plant through dedicated transmission lines, mirroring the current arrangement with Daya Bay.

The electricity supply from Daya Bay has been highly reliable over the years. This is because we have the ability to disconnect from the Guangdong power grid in an emergency situation whilst securing the output from Daya Bay to customers in Hong Kong. It will be even more desirable to have Hong Kong's investment in the nuclear power plant, again, based on the Daya Bay model. The establishment of an enhanced public notification mechanism on non-emergency Licensing Operational Events at Daya Bay in 2011 amply demonstrated the advantage of having Hong Kong's involvement in the nuclear power plant that supplies to the territory.

The Government's consultation document described nuclear as a readily available and highly reliable energy source with low emissions and medium price. HKNS concurs that using more nuclear power will offer comparable, if not greater, benefits with regard to energy policy objectives. But if we were to increase nuclear import, it should be done in a way that will give us the greatest safety assurance and reliability with Hong Kong's involvement.

We believe Option 1a should be amongst the choices for the public's consideration when determining Hong Kong's future fuel mix. We urge the Environment Bureau to provide concrete facts and figures that rate Option 1a in terms of safety, reliability, cost and environmental performance to enable a truly informed decision by way of the consultation exercise. HKNS will soon provide the Government a submission with further details on our position and Option 1a.