

## ESE Seminar Announcement

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**Thursday, April 23, 2015  
Green Hall, Room 0120  
10:10AM**

### **LONG-TERM DECARBONIZATION TO ACHIEVE LOW CARBON DEVELOPMENT PATH OF ENERGY SECTOR**

**Abstract:** Sustainable energy is not only an opportunity to transform societies and grow economies, but also a necessity - a prerequisite to meet growing energy demand and reduce the carbon footprint. Balancing the three critical elements that involve energy: (1) secure; (2) affordable; and (3) environmentally sensitive, as the 'energy trilemma', a 21st century policy framework is a strong basis for prosperity and competitiveness of individual countries. Particularly in developing countries, as a common practice, one of the key drivers of energy policy at national level is endowment of energy sources, so the use of all availability energy sources need to be integrated and balanced to secure and sustainable energy future. According to the 3rd ASEAN Energy Outlook under a BAU scenario, the region's primary energy consumption will grow at 4.5% per annum from 2007 to 2030, resulting in a corresponding 5.7% growth in CO<sub>2</sub> emissions. This is largely due to the escalation of carbon-intensive fossil fuels such as coal, as well as oil and natural gas consumption. This increasing primary energy consumption will have a corresponding increase in CO<sub>2</sub> emissions needs to be curbed. Furthermore, the long term Indonesia energy mix target shows that it's expected in 2030 the share of oil will be 22%, coal 30%, natural gas 23% and new renewable energy will be 25%. The 10-year (2015-2024) electricity development plan of Indonesia State Electricity Corporation shows that mostly the additional required power plants would be dominated by steam coal power plant which will be 42.1 GW, or 59.8% of the total additional capacity. The long-term decarbonization to achieve low carbon development path of ASEAN energy sector requires greater EE in supply and demand sides, moves the energy system towards using low-carbon energy sources, and an increasing role for low-carbon and zero-carbon energy technologies to be embedded in the long-term national energy program, such as CCT, and CCS deployment offers great potential for reducing CO<sub>2</sub> emissions from large point source emitters. Integration of climate change policy into national energy policy as a coherent and predictable national energy and climate change policy, associated institutional arrangements, the availability of the policy instruments as parts of robust and enabling environments are also required to be established at national level to accomplish these transformations.

**Host: Dr. Arye Nehorai**